Physician Satisfaction With Clinical Pharmacist Services in an Obstetrics and Gynecology Teaching Clinic

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Abstract

Objective: To evaluate physician satisfaction with clinical pharmacy services in an obstetrics teaching clinic. **Study Design:** A 35-question survey was created to evaluate demographics and provider satisfaction with clinical pharmacy services using 5-point Likert scale and open response questions. Surveys were administered to all clinic attendings, maternal fetal medicine fellows, and OB/Gyn residents in June 2014 via Survey Monkey. **Results:** Thirty-one physicians (83.8%) completed the survey. The first set of questions utilized a 5-point Likert-type scale ranging from “poor” (1) to “excellent” (5) and evaluated respondents’ impressions of the clinical pharmacists’ clinical knowledge and professional behavior. The median score was 5 (“excellent”) on all items in the survey, and many demonstrated an average response of 4.81 to 4.9 or higher, demonstrating that almost all respondents chose “excellent.” The next set of questions assessed the clinical pharmacist’s role with the clinic’s multidisciplinary team and asked respondents to answer questions based on a 5-point Likert-type scale ranging from “strongly disagree” (1) to “strongly agree” (5). The majority of responses to questions in this section were between 4.19 and 4.84. Reasons for referring patients to the clinical pharmacist were smoking cessation, asthma management, psych medication use/issues, adherence/polypharmacy, medication reconciliation, counseling on medication safety in pregnancy, insulin/heparin administration, and substance abuse. **Conclusions:** Overall, the survey identified a positive response and high level of physician satisfaction with clinical pharmacy services. Clinical pharmacy has the capacity to enhance pregnancy care and should be more routinely integrated into the prenatal care team.

Keywords

pharmacist, provider, satisfaction, obstetrics

Pharmacist participation in multidisciplinary disease state management has grown significantly in the past 2 decades. As stated in the 2011 Surgeon General Report,

Pharmacists’ formal education appropriately prepares them to successfully perform clinical services related to the prevention and control of disease through medications. Pharmacists are also well-positioned (through accessibility, expertise and experience) to play a much larger primary care role in the U.S. health care system to meet these demands and improve health care delivery (and the health) of the nation.^{1(p12)}

Numerous studies have shown that pharmacist interventions can result in significant improvements in many chronic disease states including diabetes, hypertension, and hyperlipidemia.^{1,2} However, few studies have evaluated physician satisfaction with pharmacy services. One study evaluated physician satisfaction with outpatient anticoagulation services. All respondents felt confident in the care their patients

received; however, only 4 physicians were included in the survey.³ The Indian Health Service Clinical Pharmacy Specialist Program developed a survey to evaluate physician perceptions in terms of impact and effectiveness of the clinical pharmacists working in disease management roles.¹ A total of 356 physicians were invited to participate; of the 118 that responded, 96% reported seeing positive patient and health system outcomes from pharmacy involvement in patient care services and 88% felt collaborative practice with

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pharmacists in their facilities helped them improve overall primary care.

To our knowledge, pharmacist involvement in prenatal care has not been formally evaluated. Pregnant women often have complex medical histories and require a multidisciplinary approach to help control chronic conditions and decrease the risk of adverse maternal and fetal outcomes. The clinical pharmacist is in a unique position to augment the care of the physician with sufficient time to ensure the patient is comfortable and compliant with the therapeutic plan.

SSM Health St. Mary's Maternal & Fetal Care Center (MFCC) is an obstetrical referral center for Missouri and Illinois. Patients can be referred by outside physicians for transfer of care, comanagement of care, or a consult during medically low- or high-risk pregnancies. The standard of care includes requesting records from the referring physician, managing the referred patient for an agreed duration of time throughout the pregnancy, and providing the primary care provider with feedback on the patient's status. The clinical pharmacist and pharmacy resident have been highly involved with disease state management and patient education during pregnancy at the MFCC for 9 years. Provider satisfaction with these services has not previously been assessed. In non-obstetrics/gynecology settings, the literature reflects that clinical pharmacy services have been shown to improve patient outcomes and satisfaction in a variety of areas, including hyperlipidemia and anticoagulation.^{4,5} However, there is an absence of data in the obstetrics/gynecology (OB/Gyn) setting.

This study assessed provider satisfaction with general pharmacy services in the MFCC. The results of this study may be used to identify ways to improve provider satisfaction with clinical pharmacy services, as well as to help promote the role of clinical pharmacists in the OB/Gyn setting.

Materials and Methods

This study was conducted in June 2014 at the MFCC in St. Louis, Missouri. The MFCC is an interdisciplinary teaching clinic that serves an uninsured and underinsured population. The interdisciplinary team includes attending and resident physicians, medical students, one clinical pharmacist, pharmacy resident, pharmacy students, advanced practice nurses, dietician, certified diabetic nurse educators, genetic counselors, and ultrasound technicians. In the MFCC, low-risk obstetrics clinic services are provided by medical students, medical residents, OB/Gyn attending physicians, and nurse practitioners 4 half-days per week. High-risk obstetrics clinic services are provided by medical residents, medical fellows, maternal fetal medicine attending physicians, and nurse practitioners 3 half-days per week. The clinical pharmacy team participates in the interdisciplinary care

during all high-risk obstetrics, a high-risk subspecialty clinic, and 1 to 2 low-risk obstetrics clinics. Additionally, the pharmacist will provide care during nonscheduled clinic times if available and patients can be added to the pharmacist's schedule.

Reasons for referrals to the pharmacy team include but are not limited to asthma, psychiatric disorders, smoking cessation, complex medication regimens, nonadherence, diabetes, anticoagulation, and hypertension. The clinical pharmacist visits include medication reconciliation, review of social history, vaccine history, allergies, disease state-specific review of systems, limited physical exam as needed, evaluation of pregnancy-induced conditions such as nausea and vomiting, constipation, and gastrointestinal reflux, in-depth medication and disease state education, assessment for all medical conditions and medications, and recommendations for optimizing management and monitoring.

The clinical pharmacy team includes 1 pharmacist, 1 pharmacy resident, and 2 advanced pharmacy practice experience students. The pharmacist is a full-time faculty member that provides direct patient care at least 5 half-days per week. Currently, the position is funded by both the college of pharmacy and the hospital system. There are 2 advanced practice pharmacy students at the site 6 to 7 modules (of 9 total) per year. Currently, the pharmacy resident is in this service at least 16 weeks per year but can choose to complete electives in this area as well.

Patients can be referred to the pharmacist for an appointment the same day as a provider appointment, same day as a future appointment, or pharmacy-only appointment. Because of the frequency of obstetric appointments (provider, ultrasound, nonstress testing, and other team members), distance some referred patients travel to our facility, and other transportation issues, patients often prefer to schedule pharmacy appointments the same day as other care. After the patient has vitals checked, the pharmacist visit commonly occurs before the medical resident or nurse practitioner appointment. The pharmacist summarizes the visit findings and recommends changes in therapy and/or monitoring at this time. Additionally, the pharmacist will be consulted by the resident physicians, attending physicians, or nurse practitioners after the provider appointment to help manage any additional issues. The pharmacist still completes a full visit as described above. Each pharmacy visit is approximately 30 to 45 minutes long.

A 35-question survey was created by the research team to collect demographics such as provider type, age, and gender as well as provider satisfaction with clinical pharmacy services using 5-point Likert-type scale and open response questions. Items were rated on a 5-point Likert-type scale from 1, "strongly disagree," to 5, "strongly agree." Provider satisfaction surveys were administered over 2 weeks in June 2014 to all maternal fetal medicine

Table 1. Sample Characteristics of 31 Physicians.

Characteristic	n	%
Practice level		
PGY 1 (n = 6)	4	12.9
PGY 2 (n = 6)	5	16.13
PGY 3 (n = 6)	6	19.35
PGY 4 (n = 6)	6	19.35
Fellow (n = 3)	3	9.68
Attending (n = 7)	7	22.58
Gender		
Male	9	29.03
Female	22	70.97
Age (years)		
25-29	13	41.94
30-34	8	25.81
35-39	4	12.90
40-44	1	3.23
45-49	1	3.23
50-54	3	9.68
55-59	0	0.00
60-64	1	3.23

Abbreviation: PGY, postgraduate year.

and OB/Gyn attendings who regularly provide services in the clinic, maternal fetal medicine fellows, and OB/Gyn residents in the MFCC via Survey Monkey. Informed consent was provided as a cover letter at the beginning of the survey, and completion of the survey signified consent. Participants were informed about the survey via email and in person via announcement during clinic and at an education session, and were sent 2 email reminders (1 week apart) to complete the survey. The data were analyzed using descriptive statistics. Categorical variables were expressed as frequencies and percentages. Continuous variables were expressed as means and standard deviations. This study was approved by and conducted in compliance with the institutional review boards at Saint Louis University and St. Louis College of Pharmacy.

Results

Thirty-one of 37 physicians completed the survey for a response rate of 83.8%. Sample characteristics are displayed in Table 1. Over half of respondents were resident physicians (67.7%) followed by attending physicians (22.58%) and fellows (9.68%). A majority of respondents were female (70.97%) and between the ages of 25 and 34 years (67.7%).

Responses to the first set of satisfaction items were overwhelmingly positive, with all items having an average rating between 4.8 and 5.0 (Table 2). The lowest rating given by a respondent was 3.0 (neutral). This rating was given on 2 items: one item evaluating the ability of pharmacy to

Table 2. Mean Pharmacist Satisfaction Scores for 31 Physicians.

Item	Mean $\pm$ SD	Range
Availability to see patients, accept referral, and perform pharmacy consults	4.84 $\pm$ 0.37	4-5
Ability to accurately answer drug information questions in a timely fashion	4.90 $\pm$ 0.39	3-5
Documentation of assessments and patient care interventions in the medical record	4.81 $\pm$ 0.47	3-5
Sufficient knowledge base to function in this setting	4.94 $\pm$ 0.25	4-5
Ability to assess medication-related problems (ie, detect nonadherence, adverse events, etc)	4.90 $\pm$ 0.30	4-5
Ability to resolve medication-related issues (ie, med reconciliation, refill info, prior authorizations, formulary issues, etc)	4.93 $\pm$ 0.25	4-5
Ability to recommend appropriate therapy	4.97 $\pm$ 0.17	4-5
Empathy with patients	4.87 $\pm$ 0.34	4-5
Commitment to patient care	4.97 $\pm$ 0.18	4-5
Sense of responsibility and accountability	4.97 $\pm$ 0.18	4-5
Effective verbal and written communication	5.00 $\pm$ 0.00	5
Professionalism	4.97 $\pm$ 0.18	4-5
Ability to effectively educate patients on medications and disease states	4.87 $\pm$ 0.34	4-5
Ability to recommend preventative therapy (calcium, vaccines)	4.87 $\pm$ 0.34	4-5
Ability to recommend appropriate monitoring parameters	4.90 $\pm$ 0.30	4-5
Ability to identify issues beyond the scope of initial referral to pharmacy	4.97 $\pm$ 0.18	4-5
Ability to coordinate pharmacy visits in a timely and efficient fashion with physician visits	4.84 $\pm$ 0.37	4-5

accurately answer drug information in a timely fashion and the other item assessing documentation of assessments and patient care information in the medical record. The item evaluating effective verbal and written communication was rated most positively with all respondents providing the highest rating of 5.0 ("excellent").

Responses to the second set of satisfaction items were positive, with all items having an average rating between 4.2 and 4.9, except items where lower scores represented higher satisfaction (reverse-worded items; Table 3). Reverse questions were included to increase validity of the survey. These 2 questions were rated most negatively (1.68 and 1.48); however, 3 respondents identified "agree" or "strongly agree" that the clinical pharmacist is not needed

Table 3. Mean Pharmacist Satisfaction Scores for 31 Physicians.

Item	Mean $\pm$ SD	Range
The clinical pharmacist enhances my understanding of medication use in the treatment of disease states	4.84 $\pm$ 0.37	4-5
The clinical pharmacist enhances my understanding of medication use during pregnancy	4.74 $\pm$ 0.44	4-5
The clinical pharmacist performs services that help me with patient care	4.94 $\pm$ 0.25	4-5
The clinical pharmacist is an asset to have available during clinic	4.97 $\pm$ 0.18	4-5
The clinical pharmacist is nice to have in clinic but is not a necessity	1.68 $\pm$ 1.09	1-5
The clinical pharmacist is not needed in clinic	1.48 $\pm$ 1.01	1-5
The clinical pharmacist's services are missed when not present in clinic	4.73 $\pm$ 0.44	4-5
I would like to see pharmacy's role expanded in clinic	4.19 $\pm$ 0.78	3-5
I would like to have a pharmacist in my clinic after residency/fellowship, or at other practice sites if currently an attending	4.63 $\pm$ 0.55	3-5
The clinical pharmacist provides accurate medication lists that help clarify patients' medication usage	4.61 $\pm$ 0.55	3-5
The clinical pharmacist provides a unique service to the maternal fetal care clinic	4.81 $\pm$ 0.40	4-5

in the clinic, whereas the statements about the clinical pharmacist being an asset during clinic and performing services that help with patient care were rated most positively (4.97 and 4.94, respectively).

Responses to open-response items were reviewed and are summarized below. Reasons for referring patients to the clinical pharmacist were smoking cessation, asthma management, psych medication use/issues, compliance/polypharmacy, medication reconciliation, counseling on medication safety in pregnancy, insulin/heparin administration, and substance abuse. Responses to the item assessing the number of patients referred in low- and high-risk clinic varied greatly. For low- and high-risk clinics, responses ranged from 2 patients/clinic to 2 patients/year (average 1-2 patients/clinic) and 10 patients/clinic to 10 patients/year (average 3-4 patients/clinic), respectively. Last, when asked how pharmacy could improve their services, the most common responses were to be present at every clinic or have more hours.

Discussion

As demonstrated by the results of the physician satisfaction survey, there is an overall high level of provider satisfaction

with the range of clinical pharmacy services provided in the MFCC. Providers appear to have a high level of both confidence and satisfaction in the ability of clinical pharmacy to provide quality patient care and education, as well as medical resident education. While the results were all very positive, there are some potential areas for improvement based on some of the lower scores and comments provided.

One of the areas for improvement frequently brought up in the free text comments was having the clinical pharmacy team be available during more clinics or having more hours. This is truly a reflection of how valued the services are but may not be achievable at this time due to the position being shared faculty with a college of pharmacy. Continuing to encourage referrals during visits when clinical pharmacy is available and providing offsite contact information may help support increased access. Increasing the amount of time that a pharmacist is available or creating a second position would help improve this concern; however, this is not a likely option currently. Other methods to increase access is to have established criteria that would automatically schedule select new patient to have a pharmacy appointment on the same day as their new physician appointment. This allows pharmacy to help with initial decisions. Another potential area for improvement could be to expand the number of disease states in which clinical pharmacy regularly plays a role, since all of the responses were positive and there was no opposition to expanding the role of clinical pharmacy. Since this survey, pharmacy has helped initiate 2 subspecialty services of Women and Infants Substance abuse Help clinic for opioid addiction during pregnancy and low-risk obstetrics psychiatry clinic. Additionally, pharmacy has expanded services with epilepsy and immune-related diseases.

Some other potential areas that could be improved on based on these results are increasing efficiency and flow during clinic. While this is difficult since new pharmacy students rotate onsite every 5 weeks and there are other efficiency and flow issues within the clinic as a whole, discussing potential strategies as a multidisciplinary team could help address this issue. Another area that scored slightly lower involved medication reconciliation. This task is always completed by the clinical pharmacy team but is sometimes not updated in the electronic medical record until later that day. Making an effort to update this information immediately on receiving it will help provide this information in a more useful and timely manner and give pharmacy more recognition for this effort. Computers have recently been installed in each exam room, which should make real-time documentation of medication reconciliation possible. Last, improving written documentation of pharmacy services and making sure that providers know where to find this documentation would likely be of benefit.

There were various limitations to this survey. Only about half of the respondents answered the free text questions. Sending the survey via email was also a limitation if respondents were not present for the verbal reminder and do not

frequently check their email. There was also a very wide variety of practitioners included in the study in terms of practice level, age, and how often the practitioner is actually practicing at the MFCC. These variables could affect the results when looked at as a whole. Additionally, there are a limited number of clinical pharmacists in OB/Gyn practices in the United States, which limits the external validity. However, a few pharmacy residencies are available that include training for this population as a part of the overall residency program. Physicians can also partner with colleges of pharmacy around the United States to create a joint position for a faculty clinical pharmacist in their practice.

Conclusions

Overall the physician satisfaction survey identified a high level of satisfaction with clinical pharmacy services, a need and appreciation for these services, and confidence in the abilities of the clinical pharmacy team. These results not only help validate the role of clinical pharmacy within the MFCC but also demonstrate the need for clinical pharmacy in the obstetrics setting in general. Pharmacist care is important especially for high-risk obstetrics patients with medical problems. A few potential areas for improvement were also identified through this study.

Authors' Note

This study was presented at the 82nd Central Association of Obstetricians and Gynecologists Meeting; October 21-24, 2015; Charleston, SC.

Declaration of Conflicting Interests

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