Research Paper

Confidence in skills applied to patient care among PharmD students in telehealth medication management programs versus other settings

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ABSTRACT

Introduction: Exposure to medication therapy management (MTM) courses has demonstrated to increase student pharmacist's confidence in the application of patient care skills. The purpose of this study was to evaluate the effects of student pharmacists' work experience in a telehealth MTM program, versus hospital or community settings, on their confidence in skills applied in patient care.

Methods: This was a cross-sectional multicenter survey. Confidence in patient care among student pharmacists was assessed between those who worked in a telehealth MTM program versus other settings. The data was evaluated using Chi-Square, Fisher exact, unpaired-t, Kruskal-Wallis, and Mann-Whitney U tests.

Results: 282 surveys were completed. First-year student pharmacists who worked in the telehealth MTM programs, versus other settings, were more confident in the provision of a comprehensive medication review (CMR) ($p < .001$), interviewing patients ($p < .001$), identifying medication errors ($p < .001$), and making therapeutic recommendations to patients ($p = .04$) and prescribers ($p = .04$). Second and third-year student pharmacists who worked in telehealth MTM programs, versus other settings, were more confident in the provision of a CMR ($p \le .005$). Fourth-year student pharmacists who worked in the telehealth MTM programs, versus other settings, were more confident in the provision of a CMR ($p = .003$), interviewing patients ($p = .02$), and identifying medication errors ($p = .04$).

Conclusion: Student pharmacists' participation in a telehealth MTM program may markedly increase their confidence in skills applied in patient care. MTM work experience should be offered to student pharmacists during their PharmD programs to enhance their confidence in the provision of patient care.

Introduction

The expenditure associated with unnecessary medication use presents an opportunity for healthcare professionals to find innovative solutions to lower overall costs in patient care. Iuga and McGuire[1] found $100–300 billion dollars in avoidable healthcare costs may be attributed to medication nonadherence. Pharmacists provide patient care services such as medication therapy management (MTM) to improve adherence and the appropriate use of medications among patients.[2] MTM services are designed to optimize a patient's medication regimen and improve therapeutic outcomes through the evaluation of their therapeutic regimen by a qualified healthcare professional.[3] MTM services incorporate competencies essential for the delivery of patient care such as interprofessional collaboration, identification of medication related problems, and problem solving.

The Medicare Modernization Act of 2003 introduced prescription drug coverage by Medicare plan providers and emphasized the importance of patient care services such as MTM.[4] The Centers for Medicare and Medicaid Services (CMS) required Medicare Part D providers to establish MTM programs to ensure optimal outcomes for beneficiaries, and to reduce the risk of adverse events.[5] Some of the services offered through MTM programs are: medication reconciliations, comprehensive medication reviews (CMR), and targeted medication reviews (TMR).[6] In the provision of MTM, a pharmacist is able to apply skills necessary for patient care, such as identification of errors and safety concerns in medication regimens, making therapeutic recommendations, and communicating with patients and physicians to coordinate patient care.[7] By facilitating student pharmacist participation in MTM, colleges of pharmacy are able to further develop student pharmacists in their confidence and ability to provide patient care, and collaborate with healthcare providers.

Several studies have demonstrated the benefits of MTM and its impact on the confidence of student pharmacists in their ability to perform MTM services.[8–12] Poole et al.[10] found the implementation of MTM in a core pharmacy curriculum improved proficiency, confidence, and competence in the provision of MTM related patient care services among student pharmacists. Exposure to a MTM course increased a student pharmacist's perceived confidence in providing MTM patient care services.[8,9] Student participation in an elective Medicare Part D course increased the confidence of students in providing Medicare Part D assistance and MTM services.[11] Training student pharmacists using MTM platforms significantly increased their confidence in performing MTM consultations and their knowledge in ambulatory care disease states such as osteoporosis, diabetes, and hypertension.[12]

Little has been studied; however, on how a student's occupational setting outside of classroom activities may affect their confidence in skills pertinent to patient care. This study sought to evaluate the differences in confidence of student pharmacists in skills applied in the provision of patient care between students who worked in a telehealth MTM program versus those who worked in other settings, such as a community or hospital pharmacy.

Methods

The Ohio State University Institute of Therapeutic Innovations and Outcomes Medication Management Program (ITIO-MMP) and The Medication Management Center at the University of Arizona (UA-MMC) utilize software from SinfoníaRx to offer patient care nationally through a variety of telehealth MTM services. Telehealth services function as a modality to overcome the geographical limitations of face-to-face encounters. This is done through the use of electronic information and telecommunications to support long distance health care, patient health related education, public health, and health administration.[13]

The telehealth MTM programs utilize pharmacists, pharmacy technicians, and student pharmacists to offer comprehensive, and targeted, medication reviews to patients. Student pharmacist interns communicate with patients and providers, address identified medication therapy problems, and make therapeutic recommendations based on their level of training. These programs provide student pharmacists with the opportunity to provide patient care through immersion and patient engagement in a telehealth setting.

In the telehealth MTM programs, the student pharmacists receive multiple forms of training and feedback to improve their confidence in providing patient care and efficiency in utilizing the unique proprietary software developed by SinfoniaRx. Student pharmacists utilize a training manual, and participate in live presentations, to learn how to engage patients and perform CMRs as well as TMRs. The training manual includes clinical pearls, call scripts, and situational workflows that teach about reconciling medications, identifying medication therapy problems, counseling patients, and when to escalate patient concerns to a pharmacist. Student pharmacists then shadow and train with experienced pharmacists, pharmacy interns, and pharmacy technicians. Finally, student pharmacists begin to perform CMRs with patients and have their interventions reviewed by a training pharmacist. Once student pharmacists are deemed proficient by the training pharmacist, student pharmacists call patients and execute CMRs under the supervision of the staff pharmacists. They continually receive feedback and evaluations by all pharmacists who review their completed CMRs. MTM and patient care training outside of ITIO-MMP and UA-MMC may vary among the different community and hospital settings.

A literature review was performed using Pubmed and Google Scholar. This was a cross-sectional multicenter study approved by the Institutional Review Board at The Ohio State University. The survey was prepared and validated by educators from The Ohio State University College of Pharmacy. The populations evaluated were student pharmacists at The Ohio State University and the University of Arizona. Students were stratified by their academic year and divided into two groups: those who worked in a telehealth MTM program versus those who worked in other settings such as community and/or hospital pharmacy setting. Student pharmacists were sent an announcement about the survey using their school email addresses. The survey was developed and managed within Qualtrics© and was accessible via an electronic link between January 31, 2016 and March 1, 2016. Upon completion of the survey, the participants were given the opportunity to enter a raffle, through a separate survey link, as an incentive for their participation.

The survey was divided into three sections: demographics and MTM exposure, an evaluation of confidence in key patient care