Impact of an interactive workshop on community pharmacists’ beliefs toward patient care

Lisa M. Guirguis, Shao Lee & Ravina Sanghera
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Abstract

Background Patient assessment and documentation are less than optimal in pharmacy practice as preparing and dispensing medications is still a major part of community pharmacy practice. Pharmacists’ attitudes, specifically self-efficacy and role beliefs, toward practice have been shown to predict practice change. Objective This study will determine the impact of an interactive workshop on pharmacists’ attitudes toward assessment and documentation in routine pharmacy practice. Specific objectives included how (1) pharmacists’ role beliefs and self-efficacy toward assessment and documentation change after training and rehearsal and (2) frequently do pharmacists assess patient therapy and document patient care? Setting: “Chat, Check and Chart: patient assessment and documentation demystified” workshop Alberta College of Pharmacists Annual General Meeting in Calgary, Canada. Methods This study is pre–post evaluation. Quantitative data on self-efficacy and role beliefs toward assessment and documentation was gathered from a validated written survey. Surveys were completed before and after the intervention. The intervention, an interactive workshop, focused on the use of three tools practice and was designed to support pharmacists in achieving the assessment and documentation required by the Alberta College of Pharmacists Standards for Practice. Main outcome measure: Pharmacists’ role beliefs and self-efficacy toward assessment and documentation in patient care. Results Of the 61 eligible pharmacists, the response rate was 61 % (37 pharmacists) with complete data. In the past 2 weeks, 54 % of pharmacists were assessing patients and 32.6 % of pharmacists were documenting greater than half the time. Prior to the workshop, pharmacists “agreed” (5.42 ± 1.41) with their role in patient assessment and they were “quite sure” (4.75 ± 1.10) they could assess patients. Pharmacists “agreed” (5.13 ± 0.890) with their overall role in documentation of patient interactions and reported lower self-efficacy (3.88 ± 1.32) for their ability to document patient interactions. After the interactive workshop, there were statistically significant increases in pharmacists’ self-efficacy and role beliefs in regards to both patient assessment and documentation (p < 0.05). Conclusion This brief interactive workshop increased both self-efficacy and role beliefs towards assessment and documentation, indicating these pharmacists are likely to change future practice. Future research will assess practice uptake and implementation.

Keywords Community pharmacy · Intervention · Patient assessment · Prescription refill · Pharmacist role-beliefs · Pharmacist self-efficacy · Pharmacist training

Impact of findings on practice statements:

• A workshop with practical patient care tools, which were aligned to current pharmacy practice standards, enhanced pharmacists beliefs about patient care of time of dispensing.
• Pharmacists may need to consider refill prescriptions as opportunities to solve drug related problems and tailor health information.

The study examines the frequency community pharmacists assess patient therapy and document patient care; the study also demonstrates how training on the “Chat, Check, and Chart” tools significantly increased the community pharmacists’ ability and attitude toward completing patient assessments and documentation in routine pharmacy practice.

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• Pharmacist should reflect on how to balance some patients’ preferences for fast service with the pharmacists’ duty to evaluate the appropriateness of medications.
• When introducing routine documentation, pharmacists may be most comfortable and likely to document when drug-related problems are evident.

Introduction

In the Canadian health care system, it is estimated that 5–10% of hospitalizations are medication-related [1, 2] as are a significant proportion (4–28%) of all emergency department visits [3, 4]. In addition to compromising care quality, it has been estimated that the overall financial cost of poor adherence totals 290 billion USD per year, or 13% of the total US health care expenditures [5]. Drug-related morbidity and mortality has been estimated to cost $177 billion US dollars in 2000 [6].

Health care providers have been asked to become diligent in preventing adverse drug events [7, 8]. Pharmacists’ care enhances safe medication use and improves patient outcomes [9–13]. Much of the prior research on enhancing pharmacists’ patient care has focused on services delivered outside of the time of dispensing. Patient services, such as medication therapy management in the US and medication reviews in Canada, are funded by third party payers and government plans; even so the majority of pharmacy practice remains focused on dispensing medications [14–17].

While some researchers and pharmacists consider dispensing and patient care activities incompatible, others have argued that preparing and dispensing medications is an integral part of patient care in community pharmacies. [18, 19] Building patient care services into medication dispensing, may allow pharmacists to build on existing strengths and workflow. By enhancing care at time of dispensing, pharmacists may identify patient needs that require pharmacist services beyond those that can be provided at the time of dispensing. The CCC model could be a first step in establishing an advanced community pharmacy practice.

Currently, pharmacists identify patient care issues for 0.77–6.4% of prescriptions dispensed in a community pharmacy [20–24]. Mandt found that pharmacists who performed active dispensing (i.e., reviewed patient histories, spoke with the patient, and used electronic resources), were more likely to increase the number of medication interventions when compared to pharmacists who only used traditional software to prepare the medication. [25] In Alberta, the Health Professions Act—Standards of Practice for Pharmacists and Pharmacy Technicians require pharmacists to assess the appropriateness of prescriptions on the basis of information gathered from a conversation with the patient along with a review of the patient’s medication history and electronic health record. Furthermore, all patient care must be documented. Still, pharmacists often practice the mode of fast dispensing where they do not consider complete information and do not document patient care [25].

Realizing that change is challenging; the Chat, Check, and Chart (CCC) model for assessment and documentation was designed. In both current practice and CCC model, pharmacists assess the prescription for accuracy and review the patient profile to check for medication allergies and medical conditions to ensure the therapy is safe and that all dispensing information is documented. In the current dispensing practice, it is recognized that pharmacists intermittently assess patients’ understanding of the medication purpose, directions for use, and monitoring but often this information is presented to the patient in the “counselling” interaction [26]. In the CCC model, pharmacists would use a consistent approach for assessing patients (i.e., chat), evaluating medication therapy (i.e., check), and documenting the patient assessment (i.e., chart).

Pharmacists’ self-efficacy and role beliefs have been shown to predict their patient care behaviours [27]. Self-efficacy theory suggests that pharmacists who have the skills and confidence in assessment and documentation will be more likely to assess and document in the future. Role theory suggests that pharmacists with more positive role beliefs toward assessment and documentation and monitoring will have greater intentions to use these skills in caring for patients in the future [28]. Through rehearsal during workshop training, it was posited that pharmacist self-efficacy and role beliefs towards assessment and documentation would increase over baseline.

Aim of the study

The overall research question is: How does the CCC training on pharmacists’ beliefs towards and behaviours around patient assessment and care documentation? Specific objectives included:

1. How do pharmacists’ role beliefs and self-efficacy toward assessment and documentation in patient care change after training and rehearsal?
2. How frequently do pharmacists assess patient therapy and document patient care?

Methods

This study was a pre–post evaluation that studied pharmacists’ beliefs and behaviours around patient assessment and documentation of care. Training focused on the use of 3 tools: 3 Prime Questions (3PQs), 4 Questions to Evaluate
Therapy (4QET), and efficient documentation of Data, Assessment and Plan (eDAP). These tools were intended to help pharmacists in collecting and documenting information regarding the appropriateness, effectiveness, safety of, and patient usability/adherence to medication therapy and will be explained in detail below.

**Recruitment**

Pharmacists who were enrolled in the “Chat, Check and Chart: Patient assessment and documentation demystified” workshop held on May 15, 2010 were asked to participate in the study while attending the workshop. This workshop was held as part of the Alberta College of Pharmacists (ACP) Annual General Meeting.

Pharmacists attending the workshop were provided with the study information sheet, and were asked to provide consent for the study. Consent was obtained during the baseline assessment session, and pharmacists did not feel compelled to participate. Pharmacists self-selected a confidential study binder number by self-selecting binders from a registration table. Inside each binder, there was a confidential study ID number which was written on the pre and post surveys to link the responses. By maintaining anonymity, we hoped to increase confidentiality and encourage honest responses.

**Training**

Pharmacists attended a daylong workshop. A 1-h didactic session outlined the assessment and documentation standards for practice and illustrated how the three tools could help pharmacists’ practices meet these requirements. Next, pharmacists viewed two real-time scenarios that replicated assessment and documentation of a new and refill prescription with the use of the three tools in a community pharmacy environment.

In facilitated small groups, pharmacists were provided with screen shots of pharmacy software commonly used in practice to assist in the development and customization of an action plan to integrate assessment and documentation into their practices. They were given an opportunity to get some hands-on experience with pharmacy documentation software or review the assessment and documentation software that is currently available in their pharmacies. Pharmacists practiced using the three patient care tools based on a case study. Research articles and lab values pertaining to the case were furnished upon request in order to allow pharmacists to practice their assessment and evaluation skills using the tools.

The clinical approach to the case using the tools was then discussed within the group. Finally, examples of pharmacy action plans outlining the dispensing work flow and integration of patient assessment and documentation of a new prescription, a refill and an OTC consultation were provided. As follow-up, pharmacists designed their own pharmacy-specific action plans to integrate patient care activities into their dispensing workflow. A wrap-up panel discussion provided opportunities for pharmacists to address any perceived implementation barriers in a safe environment before trying these tools in real practice.

**CCC patient care tools**

There are many different approaches to assessment and documentation; however, we chose to focus on three patient care tools to help support assessment and documentation, which would help pharmacists meet their standards of practice and were feasible to integrate into daily practice.

We strongly encouraged pharmacists to tailor all tools to their own practice. First, the 3PQs are a patient-focused assessment approach which centres on the pharmacist asking three key questions about a medication (i.e., what are you using this medication for? How were you told to use it? What were you told to expect?). The 3PQs were...
designed to efficiently assess the patients’ knowledge and identify information needs [29–31]. This approach can be adapted to the patient for both new and refill prescriptions. Data gathered from the 3PQs assessment along with other patient information helps pharmacists evaluate the quality of patients’ medication therapy.

The second tool is the 4QET [32]. The four questions are: Is the therapy appropriate? Is the therapy effective? Is the therapy safe? Will the patient take the therapy? These questions have also been called the Pharmacotherapy Workup and were designed to support therapy in order to identify related problems [32].

We chose to adapt the DAP (Patient Data, Pharmacist Assessment, and Care Plan) documentation approach [33]. We titled it the Efficient DAP (eDAP) which includes the pharmacist’s credentials and signature/initials. Again, DAP is widely taught in North America. The eDAP is a brief adaptation that is intended for the limited space in current pharmacy dispensing software and time available. Pharmacists were provided with examples of the integration of eDAP in predominate software systems. The three patient care tools were combined into an approach called “Chat (i.e., 3PQs), Check (i.e., 4QET), and Chart (i.e., eDAP)”.

Data collection

All pharmacists completed the self-assessment before (time 1) and at the conclusion (time 2) of the workshop. Demographics were collected at time 1. The self-assessment allowed pharmacists to become aware of their beliefs towards their role and their confidence in assessment and documentation. Pharmacists who consented to participate in the research shared these self-assessments with researchers. The self-assessments consisted of 26 questions on beliefs, two questions on past behaviours, and seven demographic questions for a total of 35 close-ended questions. Nine role beliefs (Table 3) and four questions on self-efficacy (Table 4) toward assessment and documentation (i.e., the 26 questions on beliefs) were adapted from a previously developed instrument [34]. Both used a 7-point Likert scales which are detailed in Tables 3 and 4. The behaviour questions asked: “In the past 2 weeks, how often did you [assess patients/document patient interactions]?” with 7 response options from never to always.

Analysis

Data were analyzed using SPSS (Version 17.0, 2008). Descriptive analyses were used to calculate the means, frequencies, and standard deviations. The overall score for role beliefs and self-efficacy were calculated by taking the mean of the four role beliefs and nine self-efficacy questions separately for assessment and documentation. Paired t-tests were used to compare belief and self-efficacy scores between time 1 (before the workshop) and time 2 (after the workshop).

Results

The workshop was well received with 104 participants. There were 43 non-practicing pharmacists (e.g., managers, government employees, and educators) who were not eligible for the study. Of the 61 eligible pharmacists, the
response rate was 69% (42 pharmacists) consenting to participate and 61% (37 pharmacists) who completed both surveys. Three pharmacists did not complete the survey at time 1 and two at time 2. The pharmacists were predominately female and worked in community pharmacy setting (Table 1).

At baseline, pharmacists indicated their level of assessment and documentation for the last 2 weeks. Pharmacists were more likely to perform assessment over documentation (Fig. 1) though levels of both were below optimal.

Prior to the workshop (time 1) pharmacists “agreed” (5.42 ± 1.41) with their overall role in patient assessment and (5.13 ± 0.890) with their overall role in documentation of patient interactions (Table 2). Before the workshop, pharmacists reported higher scores for beliefs about assessment and documentation with new medications (5.86 ± 1.75; 5.46 ± 1.04 respectively) compared with refill prescriptions (4.97 ± 1.30; 4.49 ± 0.93; Table 3).

At time 1, pharmacists reported that they were quite sure (4.75 ± 1.10) they could assess patients while they reported lower self-efficacy for (3.88 ± 1.32) their ability to document patient interactions. Prior to the workshop pharmacists reported they were “very sure” that they could assess when there is an evident drug-related problem (6.05 ± 1.10) or if a patient had a prescription for new medications (5.38 ± 1.23) or had time (5.78 ± 1.27; Table 4). Pharmacists reported lower self-efficacy toward assessments for patients during medicine refills (4.46 ± 1.39), OTC consults (4.46 ± 1.39), and when a drug-related problem is not evident (4.30 ± 1.45; Table 4). Finally, pharmacists reported the lowest self-efficacy toward assessing patients when the patient was in a hurry or the pharmacist was busy (Table 4). Pharmacists were statistically significant increases in pharmacists’ belief in their abilities and the importance of their role in regards to both patient assessment and documentation.

Table 2  Pharmacists role beliefs and self-efficacy toward patient assessment and documentation

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Beliefs Scale*</td>
<td>5.42 ± 1.41</td>
<td>5.84 ± 1.07</td>
</tr>
<tr>
<td>Self Efficacy Scale*</td>
<td>4.75 ± 1.10</td>
<td>5.01 ± 1.08</td>
</tr>
</tbody>
</table>

Table 3  Individual scale questions for pharmacists’ role beliefs toward patient assessment and documentation

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community pharmacists should routinely assess all patients</td>
<td>5.49 ± 1.45</td>
<td>5.73 ± 1.35</td>
</tr>
<tr>
<td>Community pharmacists should assess patients at every prescription refill</td>
<td>4.97 ± 1.30</td>
<td>5.27 ± 1.19</td>
</tr>
<tr>
<td>It is the community pharmacists’ responsibility to assess patients**</td>
<td>5.35 ± 1.42</td>
<td>6.05 ± 1.08</td>
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** Difference in paired t test between time 1 and 2 significant at \( p < 0.05 \)
very sure” that they could document if drug problems were evident or if they had time (Table 4). Pharmacists had low self-efficacy towards documenting patient interaction involving new or refills prescriptions. Finally, pharmacists rated their self-efficacy the lowest when documenting patient interactions for OTC consults, when the patient is in a hurry, when the pharmacist is busy, and when a drug-related problem is not evident.

After the interactive workshop (time 2), there was a statistically significant increase in pharmacists’ self-efficacy in regards to both patient assessment and documentation (Table 2). At time 2 pharmacists reported similar trends in their beliefs and self-efficacy towards assessment and documentation, but the variances in individual items were less marked.

**Discussion**

Pharmacists’ role beliefs and self-efficacy towards assessment and documentation increased after an interactive workshop that discussed the practice standards for assessment and documentation, modelled practical tools, and provided case exercises for practice.

Role beliefs and self-efficacy are robust predictors of enhancements in pharmacists’ practice. [27, 35] Assessment scores were higher than those of documentation as pharmacists are more likely to assess than document patient care services in routine community pharmacy practice; this aligns self-reported frequency in the prior 2 weeks. A belief that the implementation of these tools is important and that one has the capability to do so are important steps in enhancing practice. However, a change in beliefs is not equivalent to a change in skill performance and/or translating assessment and documentation skills into practice [36]. This research does not establish if pharmacists implement the CCC model and continue to use it in practice. Furthermore, individual changes are often insufficient to sustain changes in practice. [16, 37–39] Still, pharmacists beliefs are a common barrier cited to practice change. Enhancing those beliefs may be initial steps toward practice change [27, 40, 41].
In order to understand pharmacist’s level of confidence in assessment and importance placed on assessment was lower for refill prescriptions and is congruent with prior research [42–44]. Refills may be an ideal opportunity for pharmacists to monitor patients’ goals, identify any adverse events and establish the patient’s experience with medications. Pharmacists who prioritize assessment at new prescriptions may miss opportunities to solve drug related problems and tailor health information to the patient’s specific needs.

Self-efficacy for assessment and documentation were lowest when the pharmacists faced time constraints or for patients in a hurry. Pharmacists appear sensitive to patient preferences in order to maintain a positive patient encounter [45]. While this may appear patient-centred, it is not clear how pharmacists are balancing some patients’ preferences for fast service with the pharmacists’ duty to evaluate the appropriateness, effectiveness, safety, and usability of medications.

Overall, pharmacists had lower beliefs and low confidence in documenting patient care which is in line with the low level of documentation reported in community pharmacies [15, 46, 47]. It was encouraging that pharmacists had more positive beliefs towards documenting evident drug related problems. As community pharmacists’ workflow can be routinized, it can be challenging to integrate a new element. Fortunately, workflow enhancements in community pharmacy have been shown to provide pharmacists additional time to devote to patient care activities [48].

Strengths and limitations

This study was designed around practical tools that pharmacists could incorporate into practice without restructuring the physical pharmacy. The study had a robust educational structure with both modelling and role rehearsal. The instruments have evidence for validity and reliability. Its partnership with the Alberta College of Pharmacists allowed for legitimacy and careful review in light of the Standards of Practice for Pharmacists and Pharmacy Technicians. This study is limited by its moderate sample, lack of a control group, self-report measures, and short duration of follow-up. Future research should further explore the psychometric properties of the questionnaire. These shortcomings will be addressed in future research with larger sample and follow-up to determine if changes are sustained over time. Currently, we are analyzing a quantitative and qualitative follow-up of pharmacists who participated in this research.

Conclusions

The Chat, Check, and Chart workshop demonstrated that pharmacists’ self-efficacy and role beliefs regarding patient assessment and documentation increased after one intervention. Sustaining the integration of patient care activities into dispensing activities requires further assessment of pharmacy workflow and patient attitudes towards pharmacist involvement in providing care at dispensing.

Acknowledgments Anita Cumbleton and Andrew Wong, pharmacy students from the University of Alberta, Canada, were instrumental in conducting the research and analysis.

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Conflicts of interest None.

After the workshop, there were statistically significant increases in pharmacists’ belief in their abilities and the importance of their role in regards to both patient assessment and documentation.

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37. Blake KB, Madhavan SS. Perceived barriers to provision of medication therapy management services (MTMS) and the likelihood of a pharmacist to work in a pharmacy that provides MTMS. Ann Pharmacother. 2010;44(3):424–31.


