Integrating a brief pharmacist intervention into practice: Osteoporosis pharmacotherapy assessment

Leah Phillips; Robert Ferguson; Katherine Diduck, BSP; Darcy Lamb, BSP, ACPR, MSc(Pharm); Derek Jorgenson, BSP, PharmD, FCSHP

Introduction

Pharmacy practice is in the midst of a change that is both necessary and long overdue. This change is driven by evidence that medication mismanagement and preventable adverse drug events occur at an alarming rate and the fact that pharmacists have the potential to positively impact these patient outcomes if their expertise were fully utilized.¹⁻³

Unfortunately, some pharmacist interventions proven effective in the literature have not been integrated into practice. For example, the SCRIP study was terminated early after the intervention was associated with improvements in cholesterol management, deeming it unethical not to treat the control group.⁴ Despite this evidence, the SCRIP intervention has not been widely implemented.

Several barriers that limit the integration of new interventions have been identified, including lack of time, disruption of workflow, requirement of additional training and lack of reimbursement.⁵⁻⁸ Lengthy or intensive pharmacist interventions are particularly difficult to integrate, as they are impacted by all of these barriers. Alternatively, brief and focused interventions may be more readily integrated into practice. Unfortunately, we identified no examples in the literature describing these types of brief interventions.

The purpose of this paper is to provide an example of how a brief intervention can be integrated into a contemporary pharmacist practice without disrupting workflow or requiring training, by describing an intervention that was piloted at West Winds Primary Health Centre in Saskatoon, Saskatchewan. The goal is not to evaluate this

intervention, but rather to use it as an illustration. Ethics approval was unnecessary, as no formal evaluation was performed and no patient data were used.

Description of the intervention

New Canadian osteoporosis guidelines were released in 2010 and significant changes were made in regards to pharmacotherapy.⁹ The target daily calcium intake (diet and supplements combined) for adults over age 50 was lowered to 1200 mg per day (from 1500 mg) due to concerns that excessive supplementation may lead to an increased risk for cardiovascular events.⁹ In addition, the recommended process to assess the need for osteoporosis pharmacotherapy was altered considerably.⁹ The new guidelines suggest using a global assessment of fracture risk (using FRAX or CAROC tools) to identify suitable candidates for pharmacotherapy, instead of basing the decision solely on bone mineral density (BMD) scores.⁹ Consequently, we were unsure if our patients were taking optimal pharmacotherapy based on these guidelines. Specifically, we were concerned that our patients might be taking excessive calcium supplement doses and that some might no longer meet the requirements for osteoporosis drug therapy. To address these concerns, we developed a brief intervention to assess our osteoporosis patients.

Our goal was to develop a standardized intervention that could be performed during a short telephone conversation with a patient. The objectives of the pharmacist assessment were to determine overall calcium intake and to collect informa-

tion regarding osteoporosis fracture risk, enabling the calculation of a FRAX score.^{9,10}

The telephone intervention that we developed consisted of the following 3 steps. Steps 1 and 2 were performed with the patient on the telephone and Step 3 was performed after the telephone interview was complete. A paper-based checklist was created to prompt the pharmacist during the process.

Step 1: Determine patient's overall calcium intake

The pharmacist used a web-based calcium calculator during each interview to estimate the patient's daily dietary calcium intake.¹¹ This value was added to the current calcium supplement dose reported by each patient (including intake as part of etidronate therapy, if applicable) to determine total daily intake. Patients with intakes above or below 1200 mg were instructed to adjust their supplement dose accordingly (unless it was required to manage other conditions).

Step 2: Collect information regarding fracture risk

The data relating to osteoporosis fracture risk required to calculate a FRAX score (available on the FRAX website)¹⁰ was collected directly from the patient. The only element in the calculation that could not be collected during the interview was the BMD score; however, this is not mandatory for FRAX calculation.¹⁰ When available in the patient's chart, the BMD was used to calculate a more accurate FRAX score.

Step 3: Calculate FRAX score and assess need for osteoporosis treatment

Using data from Step 2, the web-based FRAX tool was accessed to estimate each patient's 10-year risk of major osteoporotic fracture.¹⁰ This risk score was used to determine if the patient still qualified for osteoporosis treatment (algorithm available in guideline).⁹ Recommendations to change osteoporosis treatment were forwarded to the family physician.

Implementation of the intervention

The intervention was piloted at West Winds PHC, which is an interprofessional team in Saskatoon. West Winds has 2 part-time salaried pharmacists on staff (total of 3–4 days per week) who work directly with the family medicine team and have no dispensing role. Two undergraduate pharmacy students performed the intervention.

Using the electronic health record, patients were identified by generating a list of individuals currently receiving any osteoporosis treatment (e.g.,

bisphosphonates, raloxifene, calcitonin, teriparatide). Patients were identified in this manner as the patient record was not capable of generating a list of people with a diagnosis of osteoporosis. A total of 71 patients were identified to receive the intervention and none were excluded.

Although a detailed evaluation of this intervention was not the purpose of this paper, we can share some anecdotal observations of the outcome. During a 10-week period, the intervention was completed on 35 of the 71 patients. Contacting patients by telephone proved to be a challenge, as many were at work during the day when our clinic was open. The intervention took approximately 10–15 minutes per patient, including the telephone call, communication with the physician (when required) and documentation. The students performed the assessments (making 1–2 phone calls every 2–3 days) during slow periods in the day, prioritizing them around more urgent tasks. Patients were receptive to the calls and many expressed gratitude that pharmacists were watching out for them. Changes to osteoporosis medications were made in almost all cases. The majority of changes were made to calcium supplementation (i.e., lowering doses), but we also made several recommendations to discontinue bisphosphonates. The physicians' responses were overwhelmingly positive and they have asked us to apply this model to other disease states in the future.

Discussion

This paper provides an example of a pharmacist intervention that is generalizable and could potentially be integrated into a variety of practice environments. It was brief (i.e., 10–15 minutes per patient) and not time sensitive (i.e., no appointment required), allowing pharmacists the flexibility to prioritize assessments around more urgent tasks and not disrupt workflow. It was also an intervention targeting a known patient care need, coupled with algorithm-based recommendations that do not require additional pharmacist training. Based on the high level of patient and physician satisfaction observed, we feel it is unlikely that pharmacists will encounter resistance to implementing this type of intervention.

We chose osteoporosis as a target for this intervention because it is a chronic disease that is prevalent and associated with significant morbidity.⁹ In addition, patients with osteoporosis can be identified in a variety of practice settings (e.g., by identifying patients receiving osteoporosis medications) and the steps required to assess for optimal pharmacotherapy (i.e., calcium intake and FRAX score)

VIEW FROM THE COMMUNITY

Recent years have seen a major shift in the pharmacy profession, with pharmacy technicians taking over the technical aspects of dispensing, so the pharmacist can spend more time involved with patient care activities. Multiple factors have been identified as potential barriers to implementing a variety of patient-focused interventions, including lack of time, workflow interruptions, limited pharmacist knowledge, no private patient education area and no access to patient medical records. So it is encouraging to see a simple intervention such as this, which can be easily implemented by any interested pharmacist regardless of his or her practice site, and could even be done as a pharmacy student project. The positive feedback from patients and physicians alike, as mentioned in the article, demonstrates the valuable contribution that pharmacists can make with patient care and would provide an avenue for other potential pharmacist collaborative interventions.

— Mary Nelson, BScPhm
CPJ Editorial Board member

do not require access to the medical chart.

There are limitations to this intervention. Our method of identifying patients will miss people with osteoporosis who are not currently receiving therapy. Also, the pharmacists who developed this intervention had a strong pre-existing relationship with the physicians on the team. This likely influenced the lack of resistance we received and may affect the generalizability of this intervention to pharmacists without this pre-existing relationship. In addition, salaried, clinic-based pharmacists without a dispensing role performed the intervention, potentially limiting the generalizability to pharmacists who spend a significant amount of time dispensing.

Despite the limitations, we believe this inter-

vention could be integrated into a wide variety of practice settings, particularly if remuneration was available. The pharmacists were able to integrate this activity into their workflow, despite having many other competing tasks (e.g., seeing patients, answering drug information questions), which is similar to pharmacists in other settings, including those in a dispensary. The fact that this process is quick, not time sensitive, and does not require additional training or access to the patient chart, allows it to avoid many of the barriers that have prevented previous interventions from being broadly adopted. We hope that our experiences will assist pharmacists to integrate similar brief interventions into their practices. ■

From the College of Pharmacy and Nutrition (Jorgenson, Ferguson, Phillips), University of Saskatchewan, Saskatoon, Saskatchewan; the Department of Pharmaceutical Services (Lamb), Saskatoon Health Region, Saskatoon, Saskatchewan; and the Yorkton Regional Health Centre (Diduck), Yorkton, Saskatchewan. Contact derek.jorgenson@usask.ca.

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