



Contents lists available at ScienceDirect

Canadian Journal of Diabetes

journal homepage:
www.canadianjournalofdiabetes.com

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CANADA**



Perspectives in Practice

Top 10 Things Pharmacists Should Consider When They Interact with Patients with Type 2 Diabetes

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Key Messages

- 1 Evaluate the patient's knowledge of and perspectives on the situation before making any decisions.
- 2 Set patients up for success by explaining the benefits of the treatment regimen, its mode of action, the treatment targets and when to expect to reach them.
- 3 Keep an eye on adherence to treatment regimen at each encounter.
- 4 When working with patients with diabetes, make sure that you are dealing with a patient as a whole being rather than being glucocentric only.

ARTICLE INFO

Article history:

Received 29 May 2017

Received in revised form

22 August 2017

Accepted 23 August 2017

Introduction

Currently, 3.5 million Canadians are living with diabetes (1). Approximately 90% of them have type 2 diabetes (2). The number of type 2 diabetes cases is growing rapidly; with more than 5000 new diagnoses every month (2). High rates of obesity, sedentary lifestyle and the aging population are considered to be the main contributors to this drastic growth (3).

As a chronic condition with potential severe complications, diabetes carries health and financial burdens on the individuals and the health-care system (4). Indeed, it has been reported that diabetes cost the Canadian health-care system \$3.4 billion dollars in 2016 alone (1).

Despite the risk for microvascular and macrovascular complications and the advancements in diabetes treatment, poor glycaemic control is still highly prevalent. In fact, it has been reported that

nearly 50% of patients living with type 2 diabetes are not achieving their glycaemic control targets (5,6).

Community pharmacists are frontline primary health-care providers who see patients with diabetes frequently (7). Their role in diabetes management is well supported in the literature. Indeed, high-level evidence demonstrates that pharmacists' interventions in outpatient settings (e.g. community pharmacies, diabetes clinics, ambulatory care clinics) improve glycaemic control and other aspects of diabetes care (e.g. medication adherence) (4,8–13). This evidence, combined with their interest in providing care to patients with diabetes (14), puts pharmacists in a prime position to join the fight against diabetes.

This article presents a case study and discusses the top 10 things (according to the authors' opinions, based on their experience) that pharmacists should consider when interacting with patients who have type 2 diabetes.

Clinical Case

MB is a 42-year-old male carpenter, married and with 3 young children. He has been experiencing very low energy levels and

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symptoms of hyperglycemia. He decided to visit his physician after unintentional weight loss.

He presented to the pharmacy on December 22, 2016, with a first-time prescription for rosuvastatin, 5 mg, once daily; irbesartan, 150 mg, once daily; and metformin, 1000 mg, twice daily.

As part of routine care, the pharmacist checked his laboratory test results (available through the provincial electronic health records). Pharmacists in certain jurisdictions in Canada can order and interpret laboratory tests (15). MB's tests, completed on December 19, revealed the following:

- Random glucose level: 14.4 mmol/L
- Sodium level: 126 mmol/L
- Chloride level: 95 mmol/L
- Glycated hemoglobin (A1C) level: 10.7%
- Serum creatinine: 129 μ mol/L (estimated glomerular filtration level: 61 mL/min/1.73 m²)
- Blood pressure: 155/90 mm Hg

At first glance, the pharmacist recognized that MB's current prescription will not help him achieve the recommended treatment targets (16). However, before taking any further actions, it is paramount to understand what the patient knows about his diagnosis and medications. Therefore, we recommend the following actions.

Evaluate the patient's knowledge of and perspectives on the situation

MB indicated that he had been informed that he had type 2 diabetes and that his doctor wanted to start him on multiple medications. MB was worried about his diagnosis and the medication costs because he did not have any enhanced provincial or third-party coverage. The pharmacist reassured him that diabetes could be controlled and explained that a combination of medications (which may include insulin) might help MB feel better faster and reduce the risk for long-term complications. The pharmacist promised MB that he would assist him to gain additional medication coverage.

MB was aware of the importance of controlling his blood pressure and lipid levels after his conversation with the physician.

MB also mentioned that he had been consuming copious amounts of regular pop and energy drinks to quench thirst and increase energy levels. MB indicated that he could switch to water if it would help.

Set the patient up for success with medications

When reviewing a treatment regimen with a patient, focus on the benefits of each medication and its mode of action. Give advice on treatment targets and when they should be reached. The A1C target should be reached within 3 to 6 months of treatment initiation or adjustment (16).

A discussion about up-titrating the dose (to prevent or reduce the gastrointestinal adverse events) should accompany every new metformin prescription (17).

MB needed a combination of metformin and another antihyperglycemic medication in order to achieve the recommended A1C target (16). The choice of the other agent should be based on the patient's clinical and financial situations and other aspects of life (e.g. work environment). As such, MB's treatment combination should effectively reduce A1C levels, have low risk for hypoglycemia and not require frequent self-monitoring of blood glucose (SMBG). The pharmacist discussed the available treatment options: dipeptidyl peptidase 4 inhibitors, glucagon-like peptide-1 receptor agonists or sodium-glucose cotransporter-2 inhibitors (16) with the patient and

the physician. Ultimately, dapagliflozin was chosen because it has blood pressure-lowering effects and blood glucose-lowering effects. The chosen starting dose was 5 mg once daily. Dapagliflozin's adverse events were also discussed with MB. MB started to up-titrate the metformin and dapagliflozin doses with the pharmacist's guidance in order to reach the maximum tolerated dose.

Watch for adherence issues at each encounter

We recommend assessing adherence at each encounter with the patient (18). Conversation about adherence may help address any questions or concerns that patients may have about their condition or treatment. Indeed, it has been reported that patients appreciate the information and compassion that they receive from pharmacists (19).

The pharmacist contacted MB 10 days after starting the new treatment regimen in order to assess his adherence. During the call, the pharmacist confirmed that MB was taking the medications as prescribed and assessed their efficacy and safety. MB reported that he was feeling better (his preprandial blood glucose levels were between 7.5 and 9.5 mmol/L) and that he would pick up his next prescription refill on schedule.

Give simple and useful advice on blood glucose testing

It is crucial to ensure that all patients are able to conduct blood glucose testing successfully when dispensing a metre or strips. Testing before and after the same meal provides information about prandial control (20). Bedtime-to-morning testing provides indications about basal control (20). SMBG plans should be individualized, based on the patient and the treatment regimen (21).

The pharmacist was able to provide MB with a metre and test strips. The pharmacist explained the best way to get the most from SMBG and limit the use of the strips. MB was asked to contact the pharmacy in a few weeks to discuss his results.

Several weeks later, MB called to say that he was getting occasional high bedtime readings. The pharmacist reviewed all readings, reminded MB that he was doing very well and explained how to determine the carbohydrate content of a particular meal. MB was advised to look at trends rather than individual readings.

MB's SMBG frequency could be reduced once his blood glucose had stabilized and reached target (21). This frequency could increase again if:

- He is prescribed a medication that could affect his blood glucose levels
- He has acute illness
- His diabetes treatment regimen is changed (21).

Supply written sick-day instructions

MB phoned the pharmacy to say that he was vomiting excessively. He found the sick-day management information sheet that the pharmacist had given him and wanted to confirm that he should withhold irbesartan, dapagliflozin and metformin. The pharmacist confirmed, asked him to test more frequently and advised him when to seek medical attention. MB was reminded to increase his sugar-free fluid intake and to restart the medications once he recovered.

The abbreviation SADMANS has been used to refer to the classes of medications that should be withheld during periods of potential dehydration. This includes: sulfonylureas, angiotensin converting enzyme inhibitors, diuretics, direct renin inhibitors, metformin, angiotensin receptor blockers, nonsteroidal anti-inflammatory medications and sodium-glucose cotransporter-2 inhibitors (24).

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