

## The role of a community pharmacist in diabetes education

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A pharmacist is one of few medical professionals in the world to whom a patient or anyone else can go for a consultation or advice without an appointment. They are easily accessed and knowledgeable about a myriad of aspects concerning patients and their medication. It is thus of the utmost importance to take these skills into consideration when it comes to diabetic education. Pharmacists have long-term relationships with most of their chronic patients, which sets a good foundation for mutual trust and respect and better patient compliance.

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### Definition of a pharmacy

Pharmacy is a dynamic, information driven, patient-orientated profession whereby the pharmacist, through his competence and skills is committed to meeting the health care needs of patients by being the:

- custodian of medicines
- formulator, manufacturer, distributor and controller of safe, effective and quality medicine
- advisor on the safe, rational and appropriate use of medicine
- provider of essential clinical services including screening and referral services
- provider of health care education and information
- provider of pharmaceutical care by taking responsibility for the outcome of therapy and by being actively involved in the design, implementation and monitoring of pharmaceutical plans
- Provider of cost-effective and efficient pharmaceutical services

### Diabetes and disease state management (DSM)

Type 2 diabetes is an escalating epidemic with predictions of worldwide prevalence exceeding three million by 2030.<sup>1</sup> There is now irrefutable evidence that strict control of type 2 diabetes can delay the onset of the complications of this disease,<sup>2</sup> is cost-effective, and brings about improvements in overall quality of life.<sup>3,4</sup> These findings highlight the need for disease state management (DSM) approaches which focus on intensive management of type 2 diabetes involving regular monitoring, follow-up, and continuity of care. Such approaches have been shown to be effective in improving disease control in a recent meta-analysis of disease management programmes.<sup>5</sup>

The majority costs of diabetes are associated with the possible complications of the disease including amputations, blindness, cardiovascular conditions, stroke, and renal disease. In patients with diabetes, cost of therapy, severity of disease, presence of co-morbid conditions and complexity of drug regimen have all been shown to be factors associated with medication adherence.<sup>6,7-9</sup>

### Pharmacists and their role in DSM

Community pharmacies have an important role to play in DSM.<sup>10-15</sup> In addition to dispensing prescription medications, their involvement shows beneficial effects in patient education and disease management.<sup>16,17</sup> Community pharmacies are ideally placed to contribute to DSM programmes and assist in the detection, education and referral of individuals at risk of diabetes.<sup>18</sup> They are widely accessible, available, in frequent contact with the public and able to access people who are apparently healthy. DSM in both clinics<sup>18-22</sup> and community pharmacy settings<sup>23-27</sup> are highly effective and a high proportion of consumers currently support pharmacist provision of health testing services. Such programmes may include a range of services:

- Support of self blood glucose monitoring (SBGM)
- Monitoring and promoting patient adherence with medication and other components of self-management
- Identifying and resolving drug-related problems
- Providing targeted education
- Monitoring blood pressure, weight and lipids
- Reminding patients of the importance of regular examinations for the presence of diabetic complications, for example, eye and feet examinations or drug therapy management.
- A new role of the pharmacist (educator) as tutor and facilitator has emerged out of study circles.

Attitudes were significantly more positive towards diabetes and medication, towards communicating with a pharmacist and patients perceptions regarding knowledge about medication among patients who had been in contact with a pharmacist.<sup>15</sup> Patient satisfaction and patient-pharmacist relationships are important because these factors typically lead to positive health behaviours, such as improved adherence and disease management, subsequently leading to improved disease outcomes.<sup>12,13</sup>

### Study Circle (SC)

Another idea for involving the pharmacy in diabetes disease management programmes might come from the so-called Study Circles (SC).<sup>13,14</sup> SC was originally a small group of people interested in the same subject: they invited lecturers, did literature searches and had discussions in the group. The aim of studies in an SC is to gain knowledge that does not only include learning facts about the subject, but also enables one to understand and change ones existence. An SC for diabetes should be built on this tradition, thus a participatory approach to education should be used; knowledge should be sought by group members in texts as well as from their own experiences. The long-term goal of an SC for diabetes should be to develop a diabetes education programme to teach glucose control and help participants cope with their diabetes. The pharmacy is a good setting since it is a widely distributed service.

### The pharmacist as SC facilitator

It is now well recognised that patients with chronic diseases must know how to handle their situation and that the long-term outcomes very much depend on how successful they are in their endeavour. The group setting promotes learning through peer help and gives emotional support to participants. Facilitators should be trained to promote learning and be able to handle conflict that might arise out of group discussions. For some it can be hard in the beginning to abstain from lecturing and let the group do the work and it is therefore imperative that some knowledge of group dynamics is present. In SC for diabetes, specially trained pharmacists can act as facilitators and teach patients how to self-monitor glucose, interpret the results and act upon them.<sup>13</sup>

The patients can join a study circle for one year and the goal is that they should learn to normalise their blood glucose values and have the opportunity to discuss psychological reactions following the diagnosis. This can be achieved with 10–12 sessions of three hours each held at your pharmacy. During these sessions participants should discuss:

- self monitoring of glucose
- how to interpret the results
- how to act upon the results
- personal implications of diabetes
- advice on physical training
- foot care and eye controls as warning signs when a visit to a physician is due both by participants to one another and by the group leaders<sup>13</sup>

### Effective DSM

The key to effective diabetes management is the adoption of a systematic approach of collecting, interpreting, and acting on blood glucose data.

*Collecting* – Glucose profiling has consistently been associated with improved glycaemic control, whether evaluated as part of an intensive insulin management strategy or as a component of management of patients not treated with insulin.<sup>28–30</sup> Intensive insulin therapy guided by SMBG performed at least four times per day was associated with a > 2.0% reduction in HbA1c.<sup>28</sup> Similar findings were observed in patients with type-2 diabetes.<sup>29</sup>

*Interpreting* – Traditionally, people with diabetes keep handwritten blood glucose (BG) logs. Although useful, and a necessary component of diabetes management, logbooks can be incomplete, inaccurate and illegible, which may lead to faulty analyses of BG trends associated with meals, medications and daily activities. The use of data-management software may help both patients and health care professionals manage these profiles and achieve glycaemic control.

Ascensia®, WinGLUCOFACTS®, Professional Software from Bayer HealthCare was developed to assist in diabetes management by providing text and graphic presentations of downloaded data. It has a unique Data Wizard™ tool that automatically identifies BG trends.<sup>31</sup> The use of WinGLUCOFACTS:

- helped in the management of patients' diabetes
- increased their knowledge of diabetes
- increased SMBG frequency
- improved overall glycaemic control
- increased patients' satisfaction with their care
- is cost effective

The primary care physicians confirmed the benefit afforded by this software in the real-world management of diabetes.<sup>31</sup> To download this software free of charge, go to <http://software.ascensia.com>

*Acting* – By using a systematic approach based on pre- and post-meal targets, it is possible to continually evaluate the effectiveness of the diabetes management protocol by analysing the blood glucose data to assess for specific patterns.<sup>32</sup> Blood glucose meter downloads may aid in the recognition of these patterns. If certain patterns emerge (e.g. significant postprandial glycaemic excursions following breakfast) the management plan can be reassessed, and appropriate action taken, by both the health care professional and the patient.<sup>32</sup> The ability of the patient, as well as the health care provider, to recognise patterns and implement changes is a critical component of affecting positive outcomes using glucose profiling.

Taken as a whole, clinical evidence strongly suggests that the systematic use of glucose profiles from SMBG data improves glycaemic control in patients with diabetes. It is important, however, that SMBG data be accurately obtained and reviewed so that patterns of glycaemic variability can be addressed through changes in patient management plans. Patient education regarding SMBG, interpretation of glucose profiles, and adjustments to the management plan may facilitate adherence to appropriate treatment regimens and improve outcomes.

## Conclusion

Evidence suggests that strict control over diabetes results in improvements in overall quality of life; is cost effective and can delay complications. This highlights the need for DSM approaches which focuses on intensive management of diabetes involving regular monitoring, follow-up and continuity of care. This is an area of expertise where the pharmacist can play a profound role. Pharmacists are easily accessible and share long-term relations with most of their chronic patients, which set a good foundation for mutual trust, respect and better patient compliance.

Community pharmacies are ideally situated to contribute to DSM programmes and assist in the detection, education and referral of individuals at risk of diabetes. Since chronic patients visit their pharmacies at least once a month for their follow-up medicine, this is the ideal opportunity for a pharmacist to use data- management software to download a diabetic's glucometer and to analyse their glucose trends. Following this, the pharmacist can give advice and educate the patient to manage his condition more efficiently.

Another plan of action where a pharmacist can get involved with DSM programmes is to make use of SC. The goals of SC are to organise training sessions in diabetes management and care for people of all ages with the disease in order to promote independence, equity and self-sufficiency. SC held at pharmacies is a feasible way of educating persons with diabetes. The role of the group leader (in this case a pharmacist) is to promote learning through active participation rather than to force a lot of facts. Participants improved their perception of diabetes and gained subjective control over their disease. Patients gave and received emotional support in the groups which were described as a stimulating environment for learning self-care.

Pharmacists could, in fact, play a more active role in quality diabetes care. Systematically educated pharmacists could perform group education for diabetes patients, thus easing the burden on the primary health care centres and giving participants the time they need. Mutual respect between medical professionals and the pharmacist for each other's competence could lead to a well-functioning system for all parties involved.

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