Patient use of the internet for diabetes information

In this article...

- How patients with diabetes use the internet
- Why patients may turn to the internet rather than health professionals

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The internet can provide excellent health information to support people with diabetes in self-management and care. This small-scale study reports how 30 people with long-term diabetes accessed general health information relating to their condition, and the type of information they sought.

Aim To determine the preferred method for people with long-term diabetes to access information about their condition, and what type of information they require.

Method A convenience sample of 30 individuals with either type 1 or type 2 diabetes, aged 22-64 years, participated in an email pilot survey.

Results Thematic data analysis identified two main themes: the internet was preferred for finding answers to general diabetes health questions; but health professionals tended to be asked about specific diabetes self-management issues, such as insulin dosage adjustments.

Conclusion The internet was seen as a fast, convenient source of answers to general diabetes health questions; but health professionals tended to be asked about specific diabetes self-management issues, such as insulin dosage adjustments.

5 key points

1. Patients with diabetes need structured education on self-care
2. Those with long-term diabetes generally use the internet to find generic information
3. They are more likely to speak to health professionals about individual or complex concerns
4. Patients and health professionals should be wary of inaccurate information on the internet
5. Using the internet for information enables nurses to support patients with long-term conditions

People with diabetes need structured, high-quality education and support to enable them to develop self-care skills and knowledge (Department of Health, 2003). This information can have a profound effect on biomedical outcomes, and can significantly improve quality of life and patient satisfaction (DH, 2005).

However, delivering structured education to improve individuals' knowledge, skills and confidence in effectively self-managing their diabetes only appears to meet the needs of those not currently knowledgeable about self-managing their condition. It is not helpful to those who are already proficient in self-management and who may require specific information on certain topics.

A growing number of people use the internet to find health-related information (Kaiser Family Foundation, 2005; Cotton and Gupta, 2004; Gerber and Eiser, 2001). Evidence shows patients are not looking to over-rule their doctor, or their role in the doctor-patient consultation, but see the internet as a source of additional health-related information and support (Stevenson et al, 2007; Kivits, 2006). As it becomes more available in outpatient clinics and hospital wards, the internet is also becoming an increasingly important clinical tool to assist doctors in diagnosing difficult cases (Tang and Ng, 2006). The Diabetes Information Jigsaw report (2006) investigated information access for people with diabetes and highlighted gaps in information provision for those without easy access to the internet such as older people, those with visual disabilities and those from poorer households.

The NHS is increasingly using technology in diabetes care, for example, the use of insulin pumps and continuous glucose sensors to improve glycaemic control. Technology-based care has also led to changes in communicating with patients,
Aim
To identify how people with long-term diabetes prefer to access information about their condition, and what type of information they require.

Method
Data collection
Information was collected using an emailed pilot survey in February 2012. A convenience sample of 30 people with type 1 or type 2 diabetes took part (Table 1). They were selected by contacting a random sample of 35 by email; the sample was selected by identifying every fifth person on the Insulin Pump Therapy group’s database of members.

The survey questions were:
» Do you use the internet to access diabetes health information?
» Can you give an example of the type of information you have searched for?
» Does this information supplement what you gain from health professionals?
» Can you give an example of the type of information you ask health professionals for?

Participants were also asked to provide a brief description of how they had gained the information they need. For a Nursing Times Learning unit on diabetic foot problems, go to www.nursingtimes.net/diabeticfoot

Table 1. Information Sought by Participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age</th>
<th>Diabetes type/duration</th>
<th>Treatment</th>
<th>Information sought via the Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>22</td>
<td>Type 1 for 22 years</td>
<td>Pump therapy</td>
<td>Blood pressure targets for people with diabetes</td>
</tr>
<tr>
<td>Female</td>
<td>29</td>
<td>Type 1 for 21 years</td>
<td>MDI</td>
<td>Is the contraceptive pill safe if you’re diabetic?</td>
</tr>
<tr>
<td>Female</td>
<td>30</td>
<td>Type 1 for 21 years</td>
<td>Pump therapy</td>
<td>What do statins do?</td>
</tr>
<tr>
<td>Male</td>
<td>31</td>
<td>Type 1 for 23 years</td>
<td>MDI</td>
<td>What’s the lowest blood glucose when it’s safe to drive?</td>
</tr>
<tr>
<td>Male</td>
<td>35</td>
<td>Type 1 for 25 years</td>
<td>MDI</td>
<td>What’s the best thing to eat before exercise?</td>
</tr>
<tr>
<td>Male</td>
<td>38</td>
<td>Type 1 for 27 years</td>
<td>MDI</td>
<td>What are the symptoms of a heart attack?</td>
</tr>
<tr>
<td>Female</td>
<td>38</td>
<td>Type 1 for 28 years</td>
<td>MDI</td>
<td>What are the symptoms of diabetic kidney failure?</td>
</tr>
<tr>
<td>Female</td>
<td>40</td>
<td>Type 1 for 31 years</td>
<td>MDI</td>
<td>Diabetes and celiac disease</td>
</tr>
<tr>
<td>Male</td>
<td>41</td>
<td>Type 1 for 33 years</td>
<td>MDI</td>
<td>Do thyroid tablets affect blood glucose levels?</td>
</tr>
<tr>
<td>Female</td>
<td>41</td>
<td>Type 1 for 33 years</td>
<td>Pump therapy</td>
<td>What should my cholesterol level be?</td>
</tr>
<tr>
<td>Female</td>
<td>42</td>
<td>Type 1 for 30 years</td>
<td>MDI</td>
<td>Does a racing pulse mean I’ll have a stroke?</td>
</tr>
<tr>
<td>Male</td>
<td>44</td>
<td>Type 1 for 29 years</td>
<td>MDI</td>
<td>What is my risk of increased foot problems with diabetes?</td>
</tr>
<tr>
<td>Female</td>
<td>44</td>
<td>Type 1 for 35 years</td>
<td>Pump therapy</td>
<td>How to quit smoking with diabetes</td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>Type 1 for 25 years</td>
<td>MDI</td>
<td>What are the different kinds of blood fats?</td>
</tr>
<tr>
<td>Female</td>
<td>46</td>
<td>Type 1 for 27 years</td>
<td>MDI</td>
<td>Alternative blood glucose sites to rest fingers</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>Type 2 for 12 years</td>
<td>Insulin</td>
<td>How often should blood glucose levels be checked?</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
<td>Type 1 for 25 years</td>
<td>MDI</td>
<td>Can aspirin be used to lower blood glucose levels?</td>
</tr>
<tr>
<td>Male</td>
<td>51</td>
<td>Type 1 for 42 years</td>
<td>Pump therapy</td>
<td>Shoulder adhesive capsulitis and diabetes</td>
</tr>
<tr>
<td>Female</td>
<td>52</td>
<td>Type 2 for 5 years</td>
<td>Metformin</td>
<td>Why does exercise often increase my blood glucose?</td>
</tr>
<tr>
<td>Female</td>
<td>53</td>
<td>Type 1 for 43 years</td>
<td>MDI</td>
<td>The symptoms of congestive heart failure</td>
</tr>
<tr>
<td>Male</td>
<td>54</td>
<td>Type 1 for 46 years</td>
<td>MDI</td>
<td>Advances in diabetes treatment technology</td>
</tr>
<tr>
<td>Male</td>
<td>56</td>
<td>Type 1 for 46 years</td>
<td>Pump therapy</td>
<td>Is liver cancer associated with diabetes?</td>
</tr>
<tr>
<td>Female</td>
<td>57</td>
<td>Type 2 for 12 years</td>
<td>Insulin</td>
<td>Can I take fish oils and aspirin with diabetes?</td>
</tr>
<tr>
<td>Male</td>
<td>57</td>
<td>Type 2 for 6 years</td>
<td>Metformin</td>
<td>Why do some people with type 2 diabetes take insulin?</td>
</tr>
<tr>
<td>Female</td>
<td>58</td>
<td>Type 2 for 8 years</td>
<td>Metformin</td>
<td>Why is heart disease more common in people with type 2?</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>Type 2 for 14 years</td>
<td>Metformin</td>
<td>Losing weight to reverse type 2 diabetes</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>Type 2 for 13 years</td>
<td>Metformin</td>
<td>Obesity and type 2 diabetes</td>
</tr>
<tr>
<td>Male</td>
<td>62</td>
<td>Type 2 for 9 years</td>
<td>Metformin</td>
<td>Taking several medications and how they interact with diabetes</td>
</tr>
<tr>
<td>Female</td>
<td>63</td>
<td>Type 2 for 10 years</td>
<td>Insulin</td>
<td>How many units of alcohol a day is safe?</td>
</tr>
<tr>
<td>Male</td>
<td>64</td>
<td>Type 1 for 46 years</td>
<td>MDI</td>
<td>How much exercise should I be doing a week?</td>
</tr>
</tbody>
</table>

MDI = multiple daily injections (of insulin); pump therapy = insulin pump therapy

such as using text messages to inform patients of their test results, which has been especially useful in accessing hard-to-reach groups, such as teenagers (Cole-Lewis and Kershaw, 2010). These newer forms of communication increasingly enable patients to access health information, especially with the growing diabetes epidemic; 400 people per day are currently diagnosed with the condition (Diabetes UK, 2012).

Access to information is especially important when the NHS does not have the capacity to see everyone face-to-face. I examined the type of information patients with diabetes access on the internet and explored their views on gaining the information they need.

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any further information they thought was relevant.

Date analysis
I analysed the results thematically, before re-analysing them for key themes using winMAX analysis software (Kuckartz, 1998); this reduced the possibility of subjective bias in identifying emerging themes.

Ethical issues
Formal ethical approval was not necessary for this study. I did not have any clinical involvement with the participants and all gave informed consent to participate in the study. I ensured that participants’ rights were maintained, that they were treated with respect and sensitivity at all times, and that any information provided remained confidential.

Results
Thematic data analysis identified two main themes:

» Participants preferred the internet over speaking to health professionals for answers to general diabetes questions; and

» They tended to ask health professionals questions relating to specific diabetes self-management issues, such as insulin dosage adjustments.

Each of the 30 participants had accessed the internet at some stage for information on diabetes (Table 1). Their reasons for doing this rather than speaking to a health professional were on a similar theme of the internet being immediately available when they needed the information, easier and less time consuming than making an appointment to see the GP or practice nurse.

Two participants used the internet to find the answers to specific questions:

» Are blood pressure targets different for people with diabetes?

» What is the safe daily alcohol limit for people with diabetes?

Almost one-third of participants (nine) stated that their GP had advised them to look something up on the internet for more information, supplementing that given by health professionals. A minority of participants sought information from the internet after asking a health professional; this may be a reflection on the effectiveness of the service. Patients may not be aware that other health professionals, such as pharmacists, can provide relevant health information.

Discussion
The internet can provide excellent information for people with diabetes, supporting self-management and care. By increasing knowledge of issues affecting self-management, such as the effects of aspirin and fish oils on blood glucose levels, or the symptoms of celiac disease – which is strongly associated with diabetes, participants attempted to increase their self-management skills by gaining information, as recommended by the DH (2005).

They preferred to access general diabetes information via the internet as it was a fast resource.

Other studies, mainly based in the US, have highlighted concerns about internet searches being unable to provide the depth of information required in context, but have also reported that the information contained on these sites is generally accurate (Kannampilly et al, 2002; Berland et al, 2001). However, I found examples of websites offering inaccurate information such as one claiming that type I diabetes is caused by eating too much sugar.

However, for those who are knowledgeable about their diabetes and know how to find the information they need, the internet can be a useful tool.

However, for those who are less educated, or groups such as older people or those with multiple health problems, information on the internet is not specifically tailored to their needs. This has been emphasised in a number of studies examining the quality and effectiveness of health information sourced from the internet by patients with long-term conditions (Kerr et al, 2006; Kivits, 2006; Henwood et al, 2003; Benigeri and Pluye, 2003).

This study has limitations concerning the relatively small sample size and the fact that only one researcher undertook thematic data analysis. Further future research following on from this pilot study could involve a larger sample and examine levels of satisfaction with health information sought on the internet for people with long-term diabetes.

Conclusion and recommendations
Since this pilot study has shown that some people with diabetes prefer to access health information via the internet rather than through face-to-face interactions, health professionals should be aware of its potential to provide supplementary information to those who might not make specific appointments to see them. Whatever the reasons people use the internet as a source of information, it can be used to maximise general health information cost-effectively and on a widespread scale to the diabetes population.

Using the internet to provide information enables nurses to reach and support patients with long-term conditions. This promotes self-learning so patients can focus on what they want to learn and not what they think they need to learn. Some of the information sought by patients surveyed was basic and should have been provided during the care review and planning process with the diabetes health professional; this may be a reflection on the effectiveness of the service. Patients may not be aware that other health professionals, such as pharmacists, can provide relevant health information.

References