

Influence of differing professional opinion on foot care education

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ARTICLE POINTS

1 Guidelines stress the need for foot care education in diabetes, but there is little evidence of its efficacy and little guidance on what it should contain.

2 A questionnaire devised to assess the extent to which patients follow good foot care practice was piloted on professionals to obtain a consensus on the 'correct' answers.

3 Responses revealed differing professional opinion on what should and should not be done.

4 Professionals need to ensure that they give consistent advice.

5 Inconsistent advice may confuse patients and lead to the avoidance of recommended foot care behaviour.

KEY WORDS

- Diabetic foot care
- Patient education
- Professional opinion

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Introduction

As part of the process of validation of a new patient questionnaire on foot protection behaviour, a questionnaire was piloted on health professionals attending a specialist diabetic foot conference in 2004. The aim was to explore the extent to which interested professionals differ in their opinion of what constitutes good foot care behaviour. The results revealed surprising discrepancies between different healthcare professionals regarding the 'correct' answers to the questionnaire. This article describes the study and discusses the results.

It is widely accepted that targeted education plays an important part in the prevention of foot ulcers in diabetes, and the need for repeated education concerning protective foot behaviour is stressed in guidelines for professionals (McIntosh et al, 2003). Despite the emphasis placed on such structured education (McIntosh et al, 2003), there are limited data available to demonstrate its efficacy (Mason et al, 1999; McIntosh et al, 2003; Valk et al, 2005; Radford et al, 2006), and little guidance on what, or how, educational information should be imparted. The choice of what is said is left to professional judgment and opinion.

Pilot study

As part of a study in which we devised and validated a questionnaire for use as a measure of how much people with diabetes regularly follow good foot care practice, we explored the extent to which interested professionals differ in their opinion of what should and should not be done.

Method

A questionnaire was devised to assess the extent to which people with diabetes adopt good protective foot care practice. Questions were based on advice given in all the various information sheets and foot care advice leaflets available

and distributed by different healthcare professionals in the Nottingham area. Duplication was eliminated and the remaining 49 questions were converted into the following three domains:

- foot care
- foot wear
- accident prevention.

Responses were recorded on a categorical scale according to the frequency of occurrence of the behaviour: 'Never', 'Rarely', 'Sometimes' and 'Often', or 'About once a week', 'About once a month', 'Less than once a month' and 'Never'. Examples of questions from each of the three domains are given in *Table 1*.

As part of the validation process, a pilot version of the questionnaire was distributed to healthcare professionals with a specialist interest in management of the diabetic foot who were attending the biennial Diabetic Foot conference held at Malvern, UK, in May 2004. Two hundred copies of the questionnaire were distributed at a plenary session and delegates were asked either to complete the questionnaire immediately after the session, or to do it later and return it by post.

Participants were asked, both verbally and in a written note attached to the questionnaire, to answer the questions as if they themselves were a patient with diabetes who was well informed about how best to care for his or her feet. The

PAGE POINTS

1 Responses from nurses and doctors were combined, partly because the sample was small (19 doctors, eight nurses) and partly because the principles underlying their professional training were similar.

2 Comparison of the responses from doctors and nurses with those from podiatrists revealed significant differences in the replies to 13 questions.

3 This indicated a lack of agreement on the 'correct' answer between professional groups.

aim of the exercise was to determine, by consensus, the 'correct' answer for each question. Respondents were also asked to answer a brief set of anonymous questions about themselves, their training and their country of work. Data were analysed using SPSS version 11 (SPSS, Chicago, IL).

Results

One hundred completed questionnaires were returned (50% response rate): 72 were from professionals based in the UK, 18 from those working overseas, and 10 from respondents whose place of origin was not recorded. Questionnaires were completed by 19 doctors, eight nurses, 71 podiatrists and one 'other'. In one case the respondent's profession was not given.

The distribution of responses obtained for each question was checked to determine whether it differed significantly from that which could have occurred by chance. Because of the relatively small sample size, responses were grouped into just two categories: high frequency (e.g. 'Often' or 'Sometimes') and low frequency (e.g. 'Rarely' or 'Never') as the correct response. A distribution of responses between professional groups that was significantly different from that which could have occurred by chance would reflect lack of agreement on the 'correct' answer for the question.

In order to compare different professional groups, responses from nurses and doctors were combined. This was partly because the groups were small (19 doctors, 8 nurses), and partly because it was felt that the principles underlying their professional training were similar.

When the responses from doctors and nurses were compared with those from podiatrists using a two-way chi-squared test, there was a significant difference in the responses to 13 questions at the $P < 0.05$ level of significance; this indicated a lack of agreement on the right answer between professional groups. The results are summarised in *Table 2*.

Responses were also compared between those who did and did not work in the UK. There were significant differences in the replies to five questions ($P < 0.05$). Those

working in the UK more often endorsed the use of surgical spirit or witch hazel between their toes (44% versus 5%) and recommended that the toenail should be cut to the shape of the toe rather than straight across (62% versus 15%) and that seamless socks/stockings/tights should be worn (72% versus 33%) or that seamed socks/stockings/tights should be worn inside out (61% versus 28%). More respondents working in the UK thought it was acceptable to wear trainers (90% versus 65%).

Discussion

This small study was undertaken as part of the process of validation of a new patient questionnaire on foot protection behaviour.

It revealed some surprising discrepancies between what was regarded as the 'correct' answer by different professionals. It is possible that some of these discrepancies may have resulted from respondents misunderstanding the instruction that they should complete the questionnaire as if they were the 'ideal' patient. Thus it would seem unlikely that any professional would consider that patients should never check their shoes before putting them on, and yet one respondent put this down, and 10 indicated that patients should do it rarely. It is possible that these 11 answered this question as themselves, rather than as a well-educated patient.

Some respondents highlighted problems with the structure of the draft questions, including the use of subjective terms ('vigorously', 'gradually') in two questions. Others commented that the responses to questions on footwear would depend on the weather, while others indicated that checking the temperature of the bath water was not appropriate in those who always used a shower.

There tended to be greater consistency in the replies given by podiatrists, and hence apparent agreement about what constituted the 'correct' answer – although it should be noted that the comparator group comprised both doctors and nurses. In general, there was good agreement also between the podiatrists and the combined doctors and nurses group – with the

Table 1. Functional assessment of foot care: sample questions from the pilot questionnaire.

DOMAIN: FOOT CARE					
<i>Do you examine your feet?</i>	More than once a day	Once a day	2–6 times a week	Once a week or less	
<i>Do you check your shoes before you put them on?</i>	Often	Sometimes	Rarely	Never	
<i>Do you wash your feet?</i>	More than once a day	Once a day	2–6 times a week	Once a week or less	
<i>Do you use moisturising cream on your feet?</i>	Daily	Once a week	About once a month	Never	
<i>Do you use surgical spirit or witch hazel between your toes?</i>		Daily	Once a week	About once a month	
<i>Do you cut your toenails straight across?</i>	Often	Sometimes	Rarely	Never	
<i>Do you cut your toenails to the shape of your toes?</i>	Often	Sometimes	Rarely	Never	
<i>Do you put a dry dressing on a blister when you get one?</i>	Never	Rarely	Sometimes	Often	
DOMAIN: FOOT WEAR					
<i>Do you wear sandals?</i>	Most of the time	Sometimes	Rarely	Never	
<i>Do you wear slippers?</i>	Most of the time	Sometimes	Rarely	Never	
<i>Do you wear lace-up shoes?</i>	Most of the time	Sometimes	Rarely	Never	
<i>Do you wear flip-flops?</i>	Most of the time	Sometimes	Rarely	Never	
<i>Do you break in new shoes gradually?</i>	Always	Sometimes	Rarely	Never	
DOMAIN: ACCIDENT PREVENTION					
<i>Do you wear seamless socks/stockings/tights?</i>	Often	Sometimes	Rarely	Never	
<i>Do you walk around the house in bare feet?</i>		Often	Sometimes	Rarely	Never
<i>Do you use a hot water bottle in bed?</i>	Often	Sometimes	Rarely	Never	
<i>Do you check the temperature of bath water with your elbow?</i>		Never	Rarely	Sometimes	Often
<i>Do you use corn remedies/corn plasters/paints when you get a corn?</i>	Never	Rarely	Sometimes	Often	

following two notable exceptions.

- A significant proportion of podiatrists reported that patients should apply witch hazel or surgical spirit between the toes on a weekly basis, whereas the doctors and nurses would have advised against it. Witch hazel is an astringent leaf extract which was traditionally part

of the family pharmacopoeia, although many doctors and nurses trained in recent decades have not heard of it.

- Podiatrists also favoured cutting toenails to the shape of the toe, whereas doctors and nurses did not.
- Some differences of opinion were also found between those working in the UK

Table 2. Results for questions in which there was a significant difference between the combined responses from doctors and nurses and those from podiatrists.

Question	Doctors or nurses (%*)	Podiatrists (%*)	Significance (chi-squared)
Do you use surgical spirit or witch hazel between your toes?	11	44	P<0.001
Do you cut your toenails to the shape of your toe?	23	67	P<0.001
Do you put a dry dressing on a blister when you get one?	63	93	P<0.001
Do you check your shoes before you put them on?	78	94	P<0.03
Do you dry between your toes?	85	99	P<0.05
Do you use moisturising cream on your feet?	73	94	P<0.01
Do you put moisturising cream between your toes?	26	9	P<0.05
Do you file your own toenails?	46	75	P<0.05
Do you wear sandals?	62	35	P<0.05
Do you wear lace-up shoes?	84	99	P<0.05
Do you wear seamed stockings/socks inside out?	37	66	P<0.05
Do you wear seamless stockings/tights?	48	71	P<0.05
Do you use corn remedies/corn plasters/paints when you get a corn?	17	1	P<0.05

* Percentage refers to the proportion of doctors and nurses or podiatrists who indicated that the identified action should be done frequently or usually, or was acceptable.

PAGE POINTS

1 The finding of such differences in opinion highlights the need for professionals to take steps to ensure the consistency of the advice they give.

2 Professionals should be aware of the advice given by others, and when there is uncertainty should avoid being inappropriately dogmatic.

3 Disagreement between professionals may lead to perplexity, uncertainty and even avoidance of recommended foot care behaviour by people with diabetes.

and those working overseas. However, the structure of this study meant that it was not possible to dissect how much of these apparent differences related to the confounding influence of respondents' professional training. A higher proportion of UK, as opposed to overseas, respondents were podiatrists (P<0.003, chi-squared).

The finding of such differences in opinion highlights the need for professionals to take steps to ensure the consistency of the advice they give, especially in a field in which management is intrinsically multidisciplinary. While it is inconceivable that every educational point will ever be established beyond doubt by experimental evidence, it is nevertheless important that professionals should be aware of the advice given by others, and when there is uncertainty should avoid being inappropriately dogmatic. Disagreement between professionals may lead to perplexity, uncertainty and even avoidance of recommended foot care behaviour by people with diabetes. ■

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