It is well established that diabetes may be preventable through lifestyle measures. Two studies from Finland and the USA, for example, demonstrated a 58% reduction in the incidence of diabetes in high-risk individuals randomised to intensive lifestyle intervention, compared with those randomised to a control group (Tuomilehto et al, 2001; Knowler et al, 2002).

People of south Asian origin are at particularly high risk of developing diabetes, and develop it at a younger age. This is partly because of genetic resistance to insulin and partly because of lifestyle factors including lower physical activity levels and (in some subgroups) higher prevalence of obesity. Insulin resistance in south Asians is linked to the metabolic syndrome, which includes (as well as hyperinsulinaemia) hyperlipidaemia, truncal obesity and hypertension (Whincup et al, 2002; Barnett et al, 2006; Chowdhury and Hitman, 2008).

Yet, despite the fact that people of south Asian origin account for a high proportion of attendees of many diabetes clinics in the UK (authors’ observations, unpublished), there has been remarkably little research on what they know about diabetes prevention, and how they feel about changing lifestyles.

The idea for this study was based partly on the authors’ impression (as clinicians and public health advisers) that some clinicians saw South Asian (especially Muslim) people as resistant to lifestyle advice because of...
“fatalism” and “cultural pressures”. The authors wanted to study systematically whether this was indeed the case.

The current study was designed to explore the attitudes of British people of Bangladeshi origin without diabetes to the risk of developing diabetes, and the opportunities for preventing it. The authors consulted religious leaders and scholars, healthcare professionals, and community workers about diabetes prevention in the Bangladeshi community.

**Study design and methods**

The study methodology has been reported in detail elsewhere (Grace et al, 2008). Briefly, first- and second-generation Bangladeshi immigrants were asked by healthcare professionals working in primary care and voluntary sector organisations in east London if they wished to take part in a focus group, and given appropriate information if so.

In the first phase of the study, 10 single-gender focus groups (five male groups and five female groups) were held with 80 lay people of Bangladeshi origin, each for a different age range (18–50 years), socio-economic group and educational background. Five groups were held in deprived areas with mainly first-generation immigrants with low levels of formal education who spoke no English. Three groups were held in a slightly more affluent area and comprised first-generation immigrants from a wider range of socio-economic backgrounds. Two (one male, one female) were oriented to second-generation immigrants who spoke fluent English, most of whom had completed secondary education, and some of whom had received further or higher education. The groups were shown pictures of different body sizes, and asked them to comment on the aesthetic qualities and health risks of slim, medium and large sizes. Food photographs and pictures of active and inactive people formed the basis of discussions on lifestyle choices, disease causation and prevention.

In the second phase, four focus groups were held, comprising 29 Bangladeshi religious leaders and Islamic scholars (including two groups of female religious advisers), and asked them to comment on diabetes prevention in their community, partly by discussing vignettes (Box 1).

In the final phase, the authors held focus groups and interviews to explore the attitudes and experiences of healthcare professionals working with the Bangladeshi community on managing weight, lifestyle or diabetes. One focus group was held for nurses (four practice nurses, two diabetes specialist nurses, all female), one for dietitians (two community and four secondary care, all female), and one for bilingual health advocates (six female and one male). Gender balance reflected the gender composition in the professional groups. As recruiting busy GPs to focus groups proved impossible, the study design was changed to one-to-one semi-structured interviews. Statements and vignette-style clinical scenarios were used to explore views. In all these settings vignette-style prompts (for example, “a Bangladeshi woman with body mass index 35kg/m² attends your clinic asking for help to lose weight”) were used to explore perceptions and attitudes.

All focus groups and individual interviews were tape recorded, translated if necessary, and entered into NVivo (QSR International Pty Ltd, Australia – a software package for storing, coding and analysing qualitative data). Transcripts were coded and qualitative thematic analysis was used to explore the range of issues raised. A “progressive focusing” technique was also used to inform the selection of participants and discussion prompts for subsequent groups. For example, after analysing the data from the focus groups with lay people, fictional vignettes about the influence of Islam on lifestyle choices were constructed (Box 1), which were used as discussion prompts in the phase 2 focus groups.

**Main findings**

In contrast to much of the existing literature that suggests poor diabetes knowledge in
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1. In contrast to much of the existing literature which suggests poor diabetes knowledge in south Asian people, the authors found that many lay people of Bangladeshi origin – even first-generation immigrants who spoke no English and had little formal education – showed good knowledge about healthy lifestyles, and believed that following such lifestyles would help to prevent diabetes. They were aware, for example, about the importance of maintaining a healthy weight; of not adding too much oil to food when cooking; and of taking regular physical exercise (Box 2). One or two participants were confused that some obese people do not have diabetes and that some “skinny people” do, but, in general, the link between obesity and diabetes was well understood, and participants were keen, in principle, to stay slim. Almost all participants found the medium-sized body pictures attractive and described the obese pictures as unattractive (see Figure 1), and that people of this size would be likely to develop health problems like diabetes and heart disease, confirming the findings of previous studies (Greenhalgh et al, 2005).

Importantly, only a small minority of people of Bangladeshi origin saw the onset of diabetes as “the will of Allah” and outside the control of the individual. When such views were raised, they were usually quickly challenged by other lay participants, who often cited the teachings of the Prophet Mohammed to support a more active and responsible role of the individual in his or her own care. As in the Christian, Jewish and Sikh religions, greed and a lack of self-control were seen as against religious teachings. Most people of Bangladeshi origin saw their religion as supporting positive lifestyle choices rather than getting in the way of such choices.

The interviews and focus groups with healthcare professionals revealed a wide range of views, which included many negative and stereotypical perceptions of people of Bangladeshi origin as

**Box 1. Examples of vignettes used to prompt discussion in focus groups of religious leaders.**

Mr Ali has just been told he has diabetes and he has much fear of what will happen to his health now that he has the condition. He thinks he might die at any moment and there is nothing he can do to protect his health. He comes to you seeking advice and support. What would you say to Mr Ali?

Mrs Nessa has diabetes and is very keen to save her 16-year-old daughter Forida from the same fate if possible. Her doctor advised that exercise is important to protect health and, as Forida regularly offers namaz [kneeling prayers], Mrs Nessa thought this was sufficient activity to protect her health. However, her doctor explained that extra activity like swimming or walking are needed to benefit health. Would you agree with the doctor’s advice?

Mrs Ali and her family enjoy healthy foods and feel this is important to protect their health. However, guests who visited recently did not like the food and complained it had too little oil and too few chillies. Mrs Ali is now worried about what people think of her hospitality and what they might say to others about the meal that was served. How would you advise Mrs Ali?
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ignorant, fatalistic, and resistant to healthy lifestyle education (Box 2). Some wrongly believed that this population view obesity as attractive and a sign of wealth. While healthcare professionals held many inaccurate perceptions about people of Bangladeshi origin, they also willingly acknowledged their ignorance of Bangladeshi culture and the Muslim religion, and called for more training in cultural awareness.

Discussion: The bottom line for diabetes nurses

This study raises important action points for numerous professional groups, including policy makers, public-health experts and GPs. In this article the authors have limited their comments to the implications for diabetes nurses in both hospital diabetes care and general practice.

First, a key finding of this study was that the barrier to changing behaviour in the lay community was rarely poor knowledge – although this was almost exclusively what healthcare professionals focused on. Hence, there is an urgent need to move beyond simple information provision in diabetes prevention, and also provide better cultural education for healthcare professionals.

Second, the study illustrates a principle that is increasingly demonstrated in contemporary cultural studies: that the similarities between different ethnic and cultural groups are often more important than their differences. For the most part, for example, people of Bangladeshi origin are not driven by cultural norms that celebrate obesity as a symbol of affluence and success. Rather, they have almost identical aesthetic perceptions and are susceptible to the same temptations and barriers to implementing a...
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Box 2. Quotes from focus group participants to illustrate key themes raised.

**Bangladeshi people usually but not always understand prevention of diabetes through healthy lifestyle choices:**

“He has diabetes due to being overweight.”  
[lay person, first generation male]

“I don’t agree with that [above comment] because there are examples of people having diabetes without being overweight. Even skinny people seem to have diabetes. Some people could have developed it due to being overweight. How it happens we don’t yet know. My parents have diabetes but we don’t know yet what is the source of diabetes? My father has serious problems from diabetes for last 3 years and we need to take him to hospital frequently. We don’t know how it happened.”  
[lay person, first generation male]

“One of my sons is overweight. I need to take measure in cooking his food, how much he requires and how much he does not. On top of that I have bought exercise equipment for him, I have scheduled time for his exercise. I warn him that if he does not take exercise then he might develop diabetes in the future and alert him about its consequences, including heart attacks. He needs to be pushed. I feel bad in giving a reduced amount of food to my son, but I know having a reasonable amount is important for his future life.”  
[lay person, first generation female]

**Healthy lifestyle choices are seen to be in keeping with the teachings of Islam:**

“Firstly, if someone is praying the obligatory prayers five times and thinks that’s enough exercise that’s not right. And the point is that with prayers Prophet Mohammed at various times did lots of other things to keep fit and healthy and advised his companions to do so as well.”  
[religious leader, first generation male]

“Our prophet instructed us to fill one part of the stomach with food, one part with water and one part empty. Never to fill the stomach full with food.”  
[lay person, first generation male]

**Unhealthy lifestyle choices are common but not directly due to religious prohibitions:**

“Her sons and daughters are all grown up. I have never seen the lady go out one day. Do you see? She doesn’t go out of the house. I said to her once ‘you never go out of the house’ and she said that she doesn’t like to go out. I asked why. She said because her husband brings everything home, she does the cooking, feeds the boys […]. I have never seen the lady go out, not even one day. And she’s growing fatter and fatter until she is this big. She is a London girl.”  
[Laughter]  
[lay person, first generation female]

**Healthy lifestyle advice is not always culturally congruent:**

“I feel so difficult wearing trousers and shoes, and for someone who’s always wearing traditional saris for them to get into like men’s wear and trainers in a way its like going against what their dress code is. That’s the whole reason I don’t go to the gym because I have to wear trackies and all that”.  
[lay person, second generation female]

**Healthcare professionals may have negative stereotypes of Bangladeshi people and consider them resistant to lifestyle advice:**

“I know that in Bangladesh the cultural norm is actually that to be of a heavier build is actually a sign of wealth so that’s a cultural issue you have to keep in mind really because they might be quite resistant to taking on information about, you know, it’s healthier to be thinner when they’ve got these kind of ingrained beliefs about weight and especially for men I think and boys because it’s a sign of a wealthier family.”  
[dietitian, female]

**Religious leaders are widely respected and could play a key role in diabetes prevention education:**

“… because Ramadan is coming up again, and the Iman has such an influence over them. They have been saying to me the Iman says I can do this, I can do that, and if it’s giving them the right message then you know, it’s quite good, more than I would [be] telling them.”  
[nurse, female]
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healthy lifestyle as other populations. Like many people, they would like to be slim, because this will increase their attractiveness and social standing, as well as reducing their health risks. However, they enjoy food and find it difficult to say no when, for example, they are offered tasty delicacies in polite company.

Data from the lay focus groups showed that, in common with their Caucasian British counterparts, Bangladeshi mothers may find themselves finishing up the kids’ leftovers, or eating when bored during the day – and they also tend to regret this later. Likewise, when a person of Bangladeshi origin takes no regular exercise, this is more likely to be due to the inability to find time to “walk a mile a day” than a belief that exercise is against the teachings of Islam. In situations like this, cultural awareness is mostly about recognising the commonalities across cultures rather than seeking to define groups by their differences and dream up “special” interventions for people of Bangladeshi origin.

Third, while unhealthy lifestyle choices are common among people of Bangladeshi origin, and may have complex personal and cultural explanations, they may be amenable to change. Lack of exercise in women may be due to dependent relatives or unavailability of childcare. Box 2 shows an example of a woman of Bangladeshi origin who is housebound entirely by choice (due perhaps to shyness, lack of confidence, or just a habit that has formed from years in the role of housewife and mother). Sensitive input from a nurse, advocate or health trainer may allow women like this to overcome the barrier of social isolation, and take the first steps on the road to a healthier lifestyle.

Fourth, the Islamic religious community is an important potential partner in any initiative to promote healthy lifestyles. The Imams in this study were all extremely concerned about the devastating impact of diabetes in their community, and wanted to actively help in reducing this impact. The word “Imam” means teacher, and the Mosque, like the Church or the Synagogue, is an ideal forum for community-based education. The authors did not get any sense that Imams would be offended if approached by healthcare professionals offering to work with them in promoting healthy lifestyles. On the contrary, they were keen to build partnerships and work together.

Fifth, nurses must distinguish carefully between the core interventions needed to prevent diabetes (broadly speaking, reduction in energy intake and increase in energy expenditure) and the culturally bound recommendations that are all too common in health education materials and advice sessions. For example, reluctance to take certain forms of exercise only rarely means reluctance to exercise at all. Islam values modesty highly, especially in women. Behaviour that is “showy” is seen as irreligious and is discouraged.

The data showed that many women (and even more men, on behalf of their wives and daughters) interpret this religious norm to mean that exercising in public is unacceptable. However, there are many ways of exercising in private, ranging from exercise in the home supported by DVDs or home exercise equipment to women-only swimming sessions, and these should be routinely added to the menu of options discussed in health education.

Home-based exercise may be difficult to achieve by women living in overcrowded conditions, but professional advice may help them develop strategies. Furthermore, safe and modest outdoor exercise, such as organised walking sessions for groups of women, is increasingly seen as acceptable by religious teachers and lay people alike. Thus, simple advice oriented to reducing sedentary behaviour (such as getting off the bus one stop early) may prove both culturally acceptable and highly effective.

In order to provide culturally congruent exercise advice, nurses should make themselves aware of community-based services and activities that are close to people’s homes and frequented by members...
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1. In order to provide culturally congruent exercise advice, nurses should make themselves aware of community-based services and activities that are close to people’s homes and frequented by members of their community who speak the same language. For example, some larger mosques are beginning to offer gym or exercise facilities; many leisure centres now offer single-gender classes or time slots; and local voluntary-sector organisations may offer a trusted venue for exercise or supervised walks in local parks. While some of this information is not easy to collect, working closely with local interpreting and advocacy services may provide important opportunities for information exchange and service improvement.

2. Diabetes can be prevented, and racial and religious stereotyping by healthcare professionals can block effective preventive action.

Finally, if you have read this article, you probably now know more than most healthcare professionals about measures that are likely to help prevent diabetes in people of Bangladeshi origin. Arguably, given the findings of this study, the most urgent priority is not educating lay people but enlightening fellow healthcare professionals. Diabetes can be prevented, and racial and religious stereotyping by healthcare professionals can block effective preventive action. We must all take responsibility for dispelling such stereotypes.


