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Conference on 'Nutrition and health: cell to community'

Symposium 3 (Jointly with the British Dietetic Association): Nutrition management in special populations
Nutrition-related health management in a Bangladeshi community

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The British Bangladeshi community is one of the youngest and fastest growing ethnic minority groups in the UK. Many report poor socio-economic and health profiles with the existence of substantial health inequalities, particularly in relation to type 2 diabetes. Although there is compelling evidence for the effectiveness of lifestyle interventions in the prevention of type 2 diabetes, there is little understanding of how best to tailor treatments to the needs of minority ethnic groups. Little is known about nutrition related lifestyle choices in the Bangladeshi community or the factors influencing such decisions. Only by exploring these factors will it be possible to design and tailor interventions appropriately. The Bangladeshi Initiative for the Prevention of Diabetes study explored lay beliefs and attitudes, religious teachings and professional perspectives in relation to diabetes prevention in the Bangladeshi community in Tower Hamlets, London. Contrary to the views of health professionals and previous research, poor knowledge was not the main barrier to healthy lifestyle choices. Rather the desire to comply with cultural norms, particularly those relating to hospitality, conflicted with efforts to implement healthy behaviours. Considerable support from Islamic teachings for diabetes prevention messages was provided by religious leaders, and faith may have an important role in supporting health promotion in this community. Some health professionals expressed outdated views on community attitudes and were concerned about their own limited cultural understanding. The potential for collaborative working between health educators and religious leaders should be explored further, and the cultural competence of health professionals addressed.

Nutrition: Bangladeshi: Diabetes prevention: Qualitative

British Bangladeshis account for approximately 0·5% of the UK population making it one of the largest, youngest and fastest growing ethnic minority communities in the country[1]. Migration to the UK occurred primarily in the 1970s with the majority of migrants originating from rural Sylhet in Bangladesh[2]. Many settled in Tower Hamlets, East London, where the community today accounts for over 34% of local residents (174 000)[3]. Other large communities now exist in Birmingham, Oldham, Luton and Bradford. Sylheti is the language spoken by the majority[4] and is a dialect with no accepted written format, hence the strong oral tradition of this population. In general, this is a homogenous community with close knit intra ethnic social networks[5]. Over 93% of the community self-identify as Sunni Muslim and self-report this to be a central component of their identity[6]. Many in the community report poor socio-economic and health profiles with the existence of substantial health inequalities[7]. They report the highest rates of illness in the UK, with Bangladeshi men three times more likely to visit their GP

Abbreviations: BIPOD, Bangladeshi Initiative for the Prevention of Diabetes.

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compared to the general population[1]. As with other South Asian communities type 2 diabetes is prevalent; Bangladeshi men and women are six times more likely to be diagnosed with diabetes than white Europeans[8]. Greater susceptibility to CHD[9] and cancer are also evident[10]. This disproportionate burden to the community[11] and the treatment costs to the NHS of lifestyle related conditions are likely to continue as the prevalence of diabetes and obesity grow at epidemic proportions[12].

There is now compelling evidence for the effectiveness of lifestyle intervention in the prevention of type 2 diabetes[13] and effective strategies must target high-risk groups[14]. However, there is limited research on how best to implement such approaches in the Bangladeshi, or indeed other South Asian communities[15,16]. The purpose of this overview is to summarise current knowledge on nutrition related lifestyle choices in the Bangladeshi community and the factors influencing such decisions. It considers the implications for the design and delivery of nutrition interventions in this community with a particular focus on the prevention of type 2 diabetes. It presents findings from recent research including work undertaken by the author and others on diabetes prevention in the Bangladeshi community in Tower Hamlets, East London.

Food and nutrient intake in the UK Bangladeshi community

The rural diet of Bangladesh is based primarily on rice, which is eaten at least twice daily and provides up to 80% of daily energy intake. Small amounts of vegetables, pulses and fish are eaten but expensive items like meat, oil and fat are reserved for special celebrations[17]. The extent to which the traditional diet has changed as a consequence of migration, and its contribution to the elevated risk of lifestyle related diseases, is unclear and merits further exploration particularly in second and third generations. The National Diet and Nutrition Survey fails to distinguish between ethnic groups and so provides little insight into the nutritional composition of the Bangladeshi diet in the UK[18]. However, an epidemiological survey that compared the 7-d weighed food intake of British South Asian diets with White Europeans in North London, reported no differences in total fat and % saturated fat and concluded that the elevated coronary risk could not be explained by dietary factors[19]. However, the majority of South Asian participants were Sikhs and the minority of Muslim participants casts doubt on how applicable this is to the Bangladeshi community. One dietary study that focused solely on Bangladeshi men and women in East London reported total and saturated fat intakes to be high when compared with the general population due primarily to the frequent consumption of lamb and beef[20]. Others have suggested that high fat intakes in South Asian communities are due to cooking methods, and the detrimental impact of fast foods has also been implicated[21]. A recent study in South Asian children aged 9–10 years found marked differences, particularly in Bangladeshi children, compared to white Europeans. Higher intakes of total fat, polyunsaturated fat and protein and lower intakes of carbohydrates, vitamins C and D, Ca and Fe were reported. This suggests ethnic differences in the nutritional composition of children's diet may exist and could play a part in future inequalities in disease risk[22].

Findings from qualitative research in first-generation Bangladeshis over a decade ago suggest a high retention of key aspects of the traditional diet, with little incorporation of Western foods, but an increase in the use of meats and fats. This increased fat and meat intake reportedly relates to lower costs and greater availability in the UK compared to Bangladesh[23].

There is limited information on the dietary intake of second-generation Bangladeshis, and the extent to which they have incorporated the dietary patterns of the host nation. This is clearly an important area of future research.

One of the key challenges in understanding and improving the dietary habits of the Bangladeshi community, particularly the first generation, is to utilise methods that can be delivered verbally in Sylheti, while also acknowledging differences in food preparation and serving practices.

Dietary beliefs in the UK Bangladeshi community

In developing nutrition interventions which target a specific community, it is important to understand and consider the food beliefs and dietary practices of that community. Qualitative work undertaken in East London in first-generation Bangladeshis with type 2 diabetes suggest foods are not grouped according to Western notions of health or nutrition[23,24]. Rather foods were sorted according to their perceived strength and digestibility[24]. Strong foods, which included sugar, lamb, beef, ghee and spices, were believed to have 'health giving properties' in those who were well, but should be avoided in those with chronic disease (such as type 2 diabetes). Conversely weak foods such as parboiled rice were deemed suitable for 'the elderly and infirm'. This strong/weak concept seems akin to the hot/cold classification system popular in other South Asian communities[25]. Cultural perceptions of digestibility were also evident with raw foods, root vegetables, and baked and grilled foods considered indigestible. More recent qualitative research in first- and second-generation Bangladeshis (without diabetes) did not specifically explore the existence of this classification system; however, participants did not raise this concept during discussions relating to food, health and diabetes prevention[26]. This may reflect a change in the importance afforded to the system over the last decade, or the need to explore this in more detail in younger Bangladeshis. In the study by Grace *et al.*, lay participants' knowledge in relation to diet and nutrition was higher than anticipated and they clearly recognised the central role of dietary choices, particularly high fat and sugar intakes, to the development of overweight and hence diabetes[26]. Some believed that Kerala and other bitter foods were protective and could prevent diabetes, a notion that has been described elsewhere[27]. Rice was consistently seen as an important component of the traditional Bangladeshi diet although there was some confusion over the optimum type and quantity[26].

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Healthy eating interventions in South Asian communities

The evidence base for the effectiveness of healthy nutrition interventions in minority ethnic communities is poor[28] although there are a number of trials underway exploring dietary interventions in the prevention of diabetes in the UK Bangladeshi community[29]. Much of the research published on healthy eating interventions in minority ethnic communities has been undertaken in the US and is limited by poorly described interventions and ill-defined ethnic groups. There exist a number of innovative community based projects delivering nutrition education to minority ethnic communities, but these are commonly hampered by inadequate formal evaluation and thus providing little evidence of effectiveness[28].

Health professionals have reported substantial challenges in promoting healthy nutrition and communicating basic lifestyle information to Bangladeshis with limited health literacy and poor English fluency. They attribute this to time pressures, the difficulties of the interpreted consultation and their limited knowledge of the traditional Bangladeshi diet[26]. This is further compounded by the inadequacy of the evidence base underpinning how best to tailor interventions to the needs of individual communities and the effectiveness of those interventions.

Given this poor evidence base there is an urgent need for more research on the needs of specific ethnic minority communities living in the UK, the factors that underpin their lifestyle choices and the effectiveness of healthy eating interventions[28]. Only with this greater understanding will it be possible to truly tailor interventions to meet the needs of specific communities.

Factors influencing lifestyle choices in Bangladeshi community

The aim of the Bangladeshi Initiative for the Prevention of Diabetes (BIPOD) study was to explore the factors which influenced lifestyle choices in the Bangladeshi community in Tower Hamlets (London), and their attitudes towards preventing type 2 diabetes through changing lifestyle choices[26].

Materials and methods

Study design

The study comprised seventeen focus groups running across three phases: phase 1, ten focus groups in lay people (men (*n* 37); women (*n* 43)), phase 2, four focus groups in religious leaders (men (*n* 14); women (*n* 15)), phase 3, three focus groups and eight individual interviews in health professionals (dietitians, nurses, health advocates and GP). To allow progressive focusing of the research, the findings were analysed at the end of each phase and findings incorporated into the design of subsequent phases. Specific methodological details of each phase have been published elsewhere[26].

Phase 1: Bangladeshi men and women (without diabetes) were purposively selected to achieve maximum variation by gender, age, BMI and family history of diabetes. Recruitment occurred through community centres, mosques and general practices. Single-sex focus groups were run by the same gender investigator, with first-generation groups run in Sylheti and second-generation in English, at the request of the participants. A topic guide was used to introduce different issues and prompts were used to explore certain responses in more detail. Perceptions of body size and health were discussed using Stunkard's figure rating scale[30].

Phase 2: Religious leaders and scholars were recruited through mosques, Islamic forums, Islamic schools and Islamic study circles. Vignettes based on findings from phase 1 were presented to the religious leaders and their views explored focusing primarily on their interpretation of Islam.

Phase 3: Health professionals' attitudes and experiences of working with the Bangladeshi community on issues relating to the promotion of healthy lifestyle messages, management of weight or diabetes were explored. Statements and vignettes, developed in response to findings from phases 1 and 2 were used to explore views.

Data analysis

Transcripts from each focus group were transcribed verbatim and where necessary translated from Sylheti to English. A sample of translations was cross checked for accuracy by independent translators and any indiscretions resolved through team discussion. The transcripts were analysed by thematic content analysis using the constant comparison method to cover identified and emerging themes[31]. NVIVO, a software programme for supporting qualitative analysis was used to organise the transcripts.

Results

Attitudes toward the prevention of diabetes

The concept of preventing a chronic disease by changing dietary and lifestyle choices was well accepted by first- and second-generation Bangladeshi men and women, with diabetes risk perceived as modifiable through diet and physical activity changes. Their belief model on the causality of diabetes was generally in agreement with the medical model, and the community was more knowledgeable than previously reported, with very limited discussion around folk models. There was a strong theme about personal responsibility for making changes to diet and activity and thereby reducing risk. Caring for one's body was an important aspect of Islamic teaching. Religious leaders believed the messages inherent in any diabetes prevention programme are those which all Bangladeshis should be following as part of their compliance to the teaching of Islam.

Attitudes to obesity

Men and women from first and second generations chose medium body sizes as being associated with 'good health'. Obese and underweight images were described as 'weak'.

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They were believed incapable of carrying out their family or religious duties and perceived as being at greater risk of ill health and diabetes. The perception of obesity being valued was reported as an 'out of date' belief which had previously been held by some members of the community in the last decade. When health professionals were asked to indicate which body sizes they believed the community would associate with health they thought Bangladeshis would associate obesity with health and wealth. As a consequence of this perception (and other difficulties relating to communication) health professionals reported treating and raising the issue of overweight less frequently.

Factors influencing food and lifestyle choices

Structural and practical constraints. A number of barriers reported by this community, such as lack of time, money and difficulties finding childcare, have previously been reported as common barriers in the general population[32–34]. The reluctance to travel beyond the immediate neighbourhood because of poor English fluency, or fears about safety, were reported by first-generation Bangladeshi men and women. Concerns about neighbourhood safety have also been reported as a barrier to physical activity in women from lower socio-economic groups[35]. Traditional fruits and vegetables were perceived to be expensive which restricted their consumption. Western alternatives were often not used by first-generation women due to lack of awareness on their preparation and cooking.

Social norms and expectations. Social norms appeared central to the lifestyle choices made by some male and female members of the community. In some focus groups, women felt strong pressure to conform to these traditional expectations, while other women described the importance of resisting such norms and making choices to protect one's own health. The important social role of food in Bangladeshi culture was a prominent theme for men and women. Certain foods (plain rice, dhal, dry curries; one or two dishes for each meal) were considered everyday items and were often distinct from 'special menu' foods (pilau rice, biryani, mistee; six or seven dishes for each meal) served to guests. Cooking a curry for guests with a reduced oil or spice content (sometimes called 'white' or 'pale' curries) was considered inhospitable and shameful to the host and the social sanction of gossip and laughter was feared. A number of other social norms were described which were at odds with efforts to adopt healthier lifestyle choices, including the expectation for women to remain at home, dress modestly, and prioritise family and community ahead of independence and social freedom.

Health literacy and English fluency. Lay participants reported an inability to speak English fluently as a strong barrier to making healthier lifestyle choices. This was influential in two distinct ways: first through the need to rely on others to access and interpret health information on their behalf, and second by the limitations it placed on the ability to travel beyond the immediate neighbourhood. Being unable to ask for directions, or read road names, resulted in a total reliance on the local provision of healthy food and opportunities for activity, frequently described as inadequate. Education was seen as the solution to this barrier and a route to independence for women. There was also a recognition that education could lead to a more liberal interpretation of religious teachings and the ability to resist traditional cultural norms.

Islamic teachings and healthy lifestyle messages. Lay participants and religious leaders both emphasised the resonance between Islamic teachings and healthy lifestyle messages, such as eating a diet high in vegetables, fruit and fish; portion control; looking after one's body; and participating in physical activity. Faith was linked to a person's confidence and motivation to change lifestyle behaviours, and faith related education was thought to be an important route through which preventative messages could be delivered. A number of misinterpretations of religious teachings have been raised during focus group discussions which religious leaders were keen to address. They were enthusiastic about working in partnership with health professionals for mutual education with a view of developing initiatives within the community for diabetes prevention.

Discussion

The BIPOD study highlighted a number of positive findings in relation to nutrition interventions and the prevention of type 2 diabetes within this community. The notion of reducing the risk of a chronic lifestyle related condition, like type 2 diabetes, through changing diet and activity was well accepted. This may be an important indicator in terms of health-seeking behaviour and the receptiveness of the community to future interventions. The relevance of behaviour-change messages for some members of this community may be strengthened by the incorporation of Islamic teachings, reported by lay members and religious leaders, as supportive of the prevention of type 2 diabetes. Religious leaders were keen to explore the potential for collaborative working between health educators and religious leaders. There is a need to address the low cultural understanding expressed by health professionals and this may be one route through which support could be provided.

Contrary to the views of health professionals and earlier research[36–38] poor knowledge was not the main barrier to healthy lifestyle choices but related to the powerful and complex influence of social norms on individual behaviour. This is important as traditional dietary intervention and health promotion rely on awareness raising and education as a means of eliciting change; within the Tower Hamlets Bangladeshi community this seems unlikely to be sufficient, as knowledge deficit was not the primary barrier reported. However, it is also important to recognise the enthusiasm expressed by lay participants for support and reassurance on practical aspects of changing behaviour, which related to skills development such as recipe modification and menu planning. There is a need for novel strategies which could address social norms and create a milieu in which, for example, eating oily curries becomes less desirable, less acceptable and less accessible.

Practical and structural barriers to healthy lifestyle were clearly evident in this study (lack of time or money,

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difficulties with childcare, poor housing, fear of crime, reduced access options due to limited fluency in English). These are frequently reported barriers in the UK population with lack of time reported as the most common internal barrier to changing behaviour[34,39]. Other barriers such as poor housing or fear of crime relate to levels of deprivation experienced by participants in the BIPOD study and have been reported in other low income groups[40]. These common practical barriers should not be overlooked in future interventions designed for the Bangladeshi community in the UK.

A lack of evidence on current dietary habits in the Bangladeshi community, how best to tailor lifestyle treatments, and the effectiveness of such approaches hampers health professionals in their efforts to deliver culturally relevant dietary and lifestyle advice for chronic disease prevention and treatment. This compounds, and may partly explain, the poor confidence expressed by health professionals participating in BIPOD to deliver culturally tailored dietary and lifestyle education. The importance of cultural competence in the care of non-English speaking patients has been previously highlighted[41] with suggestions that poor cultural understanding of patients may adversely influence the elicitation and responsiveness to their concerns by practitioners, and poorer patient satisfaction ratings[42]. Given the increasing prevalence of overweight and diabetes, and the importance of effectively addressing lifestyle related disease, it seemed critical that professional education on culturally competent lifestyle interventions is addressed.

The education component of dietary interventions is often provided in a written format, designed by health professionals for middle-income non-minority populations, and requires high levels of literacy[43]. The outdated views expressed by some health professionals participating in BIPOD (e.g. obesity is valued by Bangladeshis) highlights the importance of community and stakeholder engagement in the design and evaluation of healthy lifestyle strategies to improve their cultural relevance and effectiveness. Given the strong oral tradition in this community it may also be important to consider alternative means of delivering healthy lifestyle messages. Previous work in first-generation Bangladeshis has identified stories told by a member of the community in an informal setting as contributing positively to their motivation to change behaviour[44]. Peer educators and the use of ethnic specific media (television and radio) have also been used to disseminate healthy lifestyle messages in various ethnic minority communities[45,46].

From a research perspective the British Bangladeshi community has often been classified as 'hard to reach' owing to poor English fluency and cultural barriers. The success of the BIPOD study was attributed to including bilingual Bangladeshi researchers who were key gatekeepers in terms of accessing the community, investing time and energy in establishing trust, identifying and engaging with key stakeholders across the health and wider economy, and choosing a research method that capitalised on the communities strong oral tradition. These will be key elements to take forward in future work to develop and evaluate lifestyle interventions in this community.

Diversity is inherent within all communities and the London Bangladeshi community is known to have undergone substantial social transition over the last 20 years[1]. For the younger generation, born and educated in the UK, health literacy is less challenging than for their parent's generation. As such the needs of second and third generations may be met through mainstream health education approaches. However, for those in the community with poor English fluency targeted lifestyle interventions are important to improve their access to, and cultural relevance of, healthy lifestyle interventions.

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