Addressing barriers in Type 2 Diabetes Mellitus management among South Asian communities in the UK

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Introduction

According to Diabetes UK, there are over 420,000 South Asian people living with diabetes, and over 230,000 are at risk of developing type 2 diabetes mellitus (T2DM) (Diabetes UK, 2024). Inequalities in diabetes care are affecting prevention and optimisation of diabetes, leading to poor health outcomes (Kilvert and Fox, 2023). Current UK policies do not adequately address the health inequalities or the barriers faced by South Asians. This paper aims to analyse some of the barriers faced by South Asian communities, which include the lack of culturally tailored diet and lifestyle advice, as well as the language barrier. The research will be used to evaluate the extent to which the current diabetes guideline and education programme are efficient in addressing these barriers.

T2DM and South Asian Communities

T2DM is a condition where there is a high level of glucose (sugar) in the blood (NHS, n.d.). This occurs when the body is unable to produce a sufficient level of the hormone, insulin, which enables the body to utilise glucose in the blood for energy production and store extra glucose to maintain optimum blood glucose levels (NHS, n.d.). A HbA1c (glycated haemoglobin) blood test is done to diagnose diabetes (Diabetes UK, n.d.). This measures the amount of blood glucose attached to haemoglobin, which is part of the red blood cell that carries oxygen from the lungs to the body (Diabetes UK, n.d.). The risk factors of diabetes include obesity, high blood pressure, ethnicity, and family history (Diabetes UK, n.d.). There is also an increased risk of diabetes due to certain foods such as processed meats, salt, and refined carbohydrates (Diabetes UK, n.d.). Treatment for T2DM includes medications to lower blood glucose levels, lifestyle changes such as eating a healthy diet, physical activity, smoking cessation, limiting alcohol intake, and losing weight if overweight (NHS, n.d.). T2DM is more prevalent among South Asian communities, and lifestyle factors have been identified as significant contributors to the increase in diagnoses and complications (Ali *et al.*, 2020). Furthermore, they face barriers that hinder effective management of T2DM, such as language barriers, low health literacy, and cultural practices (Rahim *et al.*, 2024).

NICE guidelines and diabetes education programmes

Currently, there are National programmes for the prevention and remission of diabetes, including the ‘Healthier You’, a nine-month NHS programme to reduce people’s risk of developing T2DM and the ‘NHS Type 2 diabetes path to remission programme’ suitable for people with obesity (Public Health England, 2018). To support people with T2DM, healthcare professionals utilise the National Institute for Health and Care Excellence (NICE) guideline on the management of type 2

diabetes, which is also available to the public (NICE, 2015). Nice outlines recommendations for healthcare professionals to provide an individualised approach by considering the patients' needs and to offer structured education programmes and individualised nutritional advice (NICE, 2015). Furthermore, there is also a NICE guidance for diabetes structured education programmes outlining that it should be evidence-based and consider the needs of the community, such as cultural, literacy, linguistic and cognitive (NICE, 2023). The DESMOND (Diabetes education and self-management for ongoing and newly diagnosed) is an NHS Education programme created based on the NICE guidelines (Troughton et al., 2016). This is a 6-hour virtual or in-person course which aims to educate people on the causes, risk factors, complications of diabetes and how to monitor and manage their condition with medications and lifestyle choices (Desmond, n.d.).

Lack of culturally sensitive dietary and lifestyle advice

The NICE guidelines recommend that healthcare professionals provide individualised and ongoing nutritional advice sensitive to a person's needs, culture and beliefs. The guidelines available to the public include general healthy eating advice such as carbohydrates from fruit, vegetables and whole grains, low-fat dairy, and to control intake of saturated and trans fatty acids. It also recommends avoiding food marketed for T2DM as it is expensive and may not be effective.

A systematic review conducted by Zeh *et al.* (2014) to investigate the cultural barriers to diabetes management highlighted the lack of culturally sensitive dietary information for South Asians and African Caribbeans. Participants reported that tailored dietary information was unavailable in their own language. They also noted the lack of ethnically and culturally concordant healthcare providers. Similarly, another study by Sohal *et al.* (2015) highlighted South Asian patients' concerns about the lack of time with physicians to receive detailed diabetes advice and their limited understanding of patients' social, cultural, and economic factors and how they influenced their ability to manage and optimise their condition. Moreover, barriers to following a healthy diet included a lack of information on the types of food that would be culturally appropriate and the components of the diet (Sohal *et al.*, 2015). Additionally, a study conducted in Northwest England found that many healthcare professionals reported a lack of training on providing tailored care to minority ethnic groups, taking into consideration their culture, religion and social needs (Patel *et al.*, 2023). Furthermore, a study conducted in the UK to assess the effectiveness of a culturally adapted version of the DESMOND programme for South Asian participants found that it was not effective in optimising diabetes control amongst this group. The programme offered pictorial leaflets, culturally appropriate food models, and an interpreter for some groups, i.e. Urdu, Punjabi and Gujarati (Dallosso *et al.*, 2022). The reduction in HbA1c in the intervention group was not statistically significant in comparison to the control group, and the difference

in HbA1c was higher in White European group compared to the ethnic minority group (Dallosso *et al.*, 2022).

If we review the NICE guidelines recommendations on diet and lifestyle, there are clearly some limitations. Firstly, it only gives generalised dietary advice; however, some people may not understand what trans fatty acids are, as no example or explanation is provided. Further, there are no culturally sensitive diet options or alternatives specified in the guideline, leaving these people to rely on healthcare providers, dieticians and education programmes to support them. If we look at the recommendations for healthcare professionals, we can see that they are expected to provide patients with individualised dietary information, taking into consideration their needs. There is also minimal specific dietary guidance or examples offered to their patients by healthcare providers. This may be that certain healthcare providers are trained to offer advice, but based on the findings, we need to ensure that they are available to support patients. Moreover, the findings of the Desmond study suggest that the content or delivery may have been inadequate. The findings demonstrate that there are some challenges or obstacles to implementing the guidance, such as training healthcare professionals, a lack of resources and limited time.

Language barrier and lack of awareness

The NICE guidelines are available online only in plain English, and there are some visual summaries for healthcare professionals on choosing medications. The education programmes, such as Desmond, are delivered in a limited number of languages depending on the area, educators' language and sometimes have translators available.

In the study by Patel et al. (2023), healthcare professionals noted that language was a barrier when providing care to South Asian patients, but despite using a translation service, they found that the key issue was communicating the "complex language associated with diabetes" as it may confuse and affects patients' understanding of their condition (Patel *et al.*, 2023). Moreover, in the study by Dallosso et al. (2022) evaluating the adapted version of the DESMOND programme delivered to South Asian participants, they found that the programme lacked interpreters for other languages and educators of the same ethnicity as participants. The programme had an interpreter for some groups, i.e. Urdu, Punjabi and Gujarati (Dallosso *et al.*, 2022).

A study by Sohal et al. (2015) revealed patients' lack of knowledge and misconceptions around physical activity interventions. For example, some people perceived it as potentially worsening their illness and reported uncertainty about ways it could be implemented in their regular lifestyle and lack of confidence in attending the exercise sessions (Sohal *et al.*, 2015). Additionally, in a study by Sharry et al. (2019) to investigate barriers to attending diabetes education programmes (DESMOND, CODE

and X-PERT), it was found that attendees reported receiving limited information during diabetes consultation as it was more focused on medication rather than lifestyle changes or education (McSharry *et al.*, 2019). Educators of the programmes highlighted that the low attendance could be due to education not being integrated into standard diabetes care (McSharry *et al.*, 2019). A barrier identified was the lack of knowledge about the existence of the diabetes education programme, which led to people not being referred by certain GPs (McSharry *et al.*, 2019). This study highlighted the 'poor system flow' due to a lack of referral and promotion of education programmes and incorporation into the diabetes treatment plan or routine care (McSharry *et al.*, 2019).

The NICE guidelines have some limitations in terms of accessibility. It is unlikely to be beneficial for some South Asian communities, as it is only available in English, there is a lack of visual summaries to make complex information easy to understand, and it sometimes includes technical language. In addition, the culturally adapted Desmond programme also has some limitations, including the lack of other languages spoken by South Asian communities, which would have hindered the full participation of some attendees and been less beneficial for them. So, the programme failed to consider the needs of all participants to ensure that everyone would receive equal benefit. The studies also demonstrated the need for further training for healthcare professionals in educating their patients on diabetes care, not only prescribing and monitoring their condition. This will enable patients to make informed decisions and take control of their own health and avoid misconceptions. There is also a need to improve the way complex health information is communicated to patients, avoiding technical language.

Case-study: An effective diabetes management intervention involving community health workers

A study by Islam et al. (2013), conducted in New York City, explored the effectiveness and feasibility of community health care workers (CHW) in improving T2DM control among Bangladeshi American individuals. The intervention consisted of six months of group sessions with community healthcare workers for 2.5 hours and 3 one-on-one visits from CHW scheduled at 3, 6, and 9 months. During the group sessions, the CHW covered information about diabetes, such as symptoms and risk factors, myths and blood glucose levels. The subsequent sessions covered information on nutrition about calorie control, fibre, avoiding sugar, carbohydrate counting, reducing salt, controlling cholesterol and fat intake and label reading. They also provided culturally tailored diet advice, e.g. Bengali alternatives to high-fat foods, health substitutions for ghee, whole wheat/grain options for rice and chapatis. The CHW also covered the benefits of physical activity and tailored cultural guidance, including discussion about common sports in Bangladesh, as well as home-based exercises for women. Other topics covered included social support and stress management, and accessing healthcare. The one-on-one visits by the CHW facilitated discussions regarding challenges and strategies for T2DM

management and were conducted at convenient locations for the participant. A calendar was also provided to participants to remind them to track their behaviours and attendance. All the group sessions were conducted in Bengali and separated by gender.

The qualitative findings of this study indicated high acceptability as people were able to develop trust and rapport with the CHWs, and as it removed the language barrier. By having CHW visit the participant sometimes in their home setting, it was useful as they were able to get more tailored advice regarding physical activity and diet. The participants shared positive feedback, especially on how the programme was linguistically and culturally tailored. There were significant improvements and an increase in the participants' knowledge of T2DM, exercise, diet, medication adherence, mental health and a decrease in HBA1c and weight. This was an effective intervention tailored for the Bangladeshi community as it not only supported the individuals in optimising their condition but also empowered them to take control (Islam et al., 2013).

A similar intervention could be implemented in the UK to cover different South Asian communities. Further, the group sessions and one-on-one sessions could also be delivered virtually or via phone calls when participants are unable to attend the sessions. Another study implementing a similar intervention involving CHWs in Georgia to support South Asian communities in controlling their blood pressure and diabetes offered additional support, such as referrals to social services, community resources, domestic violence support, and food pantries (Shah et al., 2024). Incorporating social support would be beneficial for these communities as it also addresses other factors which may act as a barrier to optimising their condition, which in turn would lead to better health outcomes and empower them. Moreover, participants are more likely to gain benefits from longer sessions, which allows patients to put theory into practice and receive guidance to overcome challenges they may encounter.

Policy Recommendations

Improvement in the quality of diabetes care delivered in primary care

Primary care health professionals play an important part in optimising patients' health; therefore, it is crucial that quality care begins from there. The studies indicated that there is a need for further training for healthcare professionals to provide personalised care as well as facilitate shared decision-making. The training should equip healthcare professionals with an understanding of the diverse cultures, religions, and ways patients can adapt their lifestyle and diet. It would be beneficial to ensure education is embedded in diabetes consultation to enable patients to make informed decisions as well as feel empowered. However, an obstacle to this is the limited time healthcare professionals have with patients due to the shortage of staff and the high number of patients. A way to mitigate this is by

ensuring patients are educated from the start of their diagnosis and by using resources such as visual summaries and providing patients with information translated into their language to read in their own time. Another way to overcome this barrier is to inform patients of the education programmes available and refer them promptly. But it is also important that patients who are referred to short-duration education and physical activity programmes are monitored to ensure they are useful and to identify challenges in order to improve the programmes. As a result, this can ensure that the funding allocated to educational programmes is used efficiently.

Improving Diabetes Education programmes

There is a need to modify existing education programmes to ensure they are beneficial to all. Further research involving ethnic minority groups in the development of diabetes education programmes would be useful in identifying the limitations and ensuring that it is culturally tailored. Furthermore, the programmes would be more efficient if they could monitor patients' progress, such as virtually, by telephone, or face-to-face. This would enable educators as well as professionals to assess the effectiveness of the programmes. In addition, it is important that it addresses barriers such as language and literacy levels to ensure all participants feel included and are treated equally.

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