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Analytical Report

Ethnicity and Health Inequalities:

A Social and Epidemiological Analysis of Type 2 Diabetes
Among South Asian Adults in East London



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Part 1: Social Epidemiological Analysis

Topic: Ethnicity and Health Inequalities – Type 2 Diabetes Inequality Among South Asian Communities in the UK

Title

Ethnicity-Based Health Inequality: Type 2 Diabetes Among South Asian Communities in the UK

Introduction

The disparity is worsened within South Asian populations in the UK, one of the largest, fastest growing ethnic minority groups. Similar and consistent evidence show that they experience disproportionate health inequalities, especially in relation to NCDs, than the White British population. T2D in South Asians. One of the biggest health inequalities, therefore, is that South Asians are two to four times more likely to get T2D than the white population, and often at a younger age and lower body mass index (BMI). Because of structural factors, socio-cultural barriers, socioeconomic deprivation and genetic predisposition. Rather this inequality inevitably arises from a much smaller list of forces: interlocking structural disadvantages and socio-cultural barriers. It describes the main disease-related and social features affecting this group, and includes figures about national responses and organisations which focus on supporting affected communities.

Disease/Illness Inequality 1: Higher Prevalence of Type 2 Diabetes

National prevention efforts in the UK do not target South Asians as a high prevalence population for T2D, despite their having one of the highest rates. South Asian adults are up to four times more likely to develop T2D than are White British adults (Diabetes UK, 2023). For a variety of reasons, including higher visceral fat, increased insulin resistance and an apparent genetic tendency for T2D even at lower B.M.I., members of these groups are generally at higher risk of

developing the disease at lower B.M.I.s.

Why at risk: Adding to that risk is a combination of metabolic risk and a shift away from more traditional diets coupled with reduced physical activity and, in some communities, deprivation.

Solutions: And while culturally adapted prevention programmes (NHS England, 2021; Diabetes UK, 2022) and community-based health education must be part of the solution, early screening at lower BMIs is essential. (NHS England, 2021; Diabetes UK, 2022).

Disease/Illness Inequality 2: Cardiovascular Disease (CVD)

When they do develop T2D, South Asians have an excess risk of CVD mortality. Heart disease also occurs a decade earlier than for those in other ethnic groups (British Heart Foundation, 2021; Sattar et al., 2020).

Why at risk: Dyslipidaemia, high rates of hypertension, delayed access to primary care (Mathur et al., 2021).

Solutions: Culturally tailored risk-reduction interventions, improved access to cardiac screening, and enhanced GP referral pathways (BHF, 2021; NHS England, 2019).

Disease/Illness Inequality 3: Earlier Onset of Diabetes-Related Complications

South Asians experience earlier onset of complications such as retinopathy, nephropathy, and neuropathy. NHS Digital (2022) reports significantly higher rates of kidney disease among Pakistani and Bangladeshi adults with diabetes.

Why at risk: Late diagnosis, low awareness of early symptoms, and reduced engagement with routine diabetes monitoring (Greenhalgh et al., 2020).

Solutions: Increasing culturally sensitive GP outreach, annual diabetes checks, and community health support workers (NHS Digital, 2023).

Social Issue 1: Socioeconomic Deprivation

South Asian communities are more likely to live in deprived urban areas, including Birmingham, Bradford, Leicester and East London. Median incomes for Pakistani and Bangladeshi

households are among the lowest in the UK (ONS 2023) and this is mirrored by local data (Tower Hamlets Council 2021).

Why at risk: Poverty limits access to good food, exercise opportunities and health care, and leaves metabolic health compromised (Mindell and Shelton, 2020).

Solutions: Publicly funded affordable community exercise facilities, government food programmes and health promotion in poorer neighbourhoods is an important and necessary public health intervention (LGA, 2021).

Social Issue 2: Language and Cultural Barriers

A significant proportion of older South Asian adults have limited English proficiency, affecting access to healthcare information and communication with clinicians (Razaq et al., 2020).

Why at risk: Reduced screening participation, misunderstanding of clinical advice, and poor health literacy.

Solutions: Translation services, bilingual health workers, community-based education delivered through mosques, temples, and cultural centres (Diabetes UK, 2022).

Social Issue 3: Cultural Dietary Practices

Traditional South Asian diets can be high in refined carbohydrates, saturated fats, oils, and sweets. Cultural celebrations often involve calorie-dense foods (Barnett et al., 2019).

Why at risk: Diet-related risk increases insulin resistance and contributes to rapid progression from pre-diabetes to T2D (O'Neill and O'Driscoll, 2019).

Solutions: Nutrition programmes using South Asian foods (not Westernised diets), culturally tailored recipe modifications, and training community leaders to promote healthier eating (Diabetes UK, 2022).

National Responses to Reduce Inequalities

1. NHS Diabetes Prevention Programme (NHS DPP)

The NHS Diabetes Prevention Programme (DPP) is the largest national programme of its kind to target those at high risk of type 2 diabetes, including focusing on the South Asian population. The programme offers lifestyle advice, including on exercise, but also tangible support to improve diet. The platform offers a translated and culturally adapted version of the content, with tools and examples. Studies have shown that attendees achieve significant weight reductions and improvements in glycaemic control, bringing about meaningful clinical improvements (NHS England, 2019).

2. NHS Long Term Plan (2019) – Reducing Ethnic Health Inequalities

The Plan specifically commits to addressing ethnic inequalities in diabetes, including:

- earlier screening for high-risk ethnic groups,
- digital diabetes tools,
- targeted community outreach in deprived regions.

This policy recognises structural inequality and prioritises prevention in ethnic minority communities.

Organisations Supporting South Asian Communities

Diabetes UK

Diabetes UK plays a central role in supporting ethnically diverse populations. Its work includes:

- culturally relevant dietary guidance for South Asian foods,
- education campaigns in Urdu, Bengali, Punjabi,
- research funding on ethnic disparities,
- advocacy for equitable access to diabetes care.

Goals: Improve early detection, reduce complications, and influence policy regarding ethnic inequalities.

South Asian Health Foundation (SAHF)

SAHF supports research, delivers community interventions, trains healthcare workers, and develops culturally appropriate resources.

Wider role: tackling inequalities, reducing stigma, improving screening uptake, and advocating for ethnic representation in clinical guidelines (SAHF, 2022)..

Conclusion

South Asian communities experience Type 2 diabetes at higher levels than most other ethnic groups. This inequality is due to a combination of biological susceptibility, heightened metabolic risk, poverty and food culture and barriers to accessing health care. Implementing national initiatives like the NHS Diabetes Prevention Programme (DPP) and the NHS Long Term Plan as they are intended to address these inequalities. Charities such as Diabetes UK and the South Asian Health Foundation (SAHF) are important, too. To close the health disparity, interventions must reach communities with programs that are culturally appropriate and accessible, based on epidemiologic.

PART 2 – Epidemiological Analysis

Disease: Type 2 Diabetes

Population: South Asian Adults in East London

Perspective: Regional Epidemiologist

Title

Epidemiological Analysis of Type 2 Diabetes Among South Asian Adults in East London

Introduction

One major NCD that remains a particular problem in ethnic minority populations, including those with a large proportion of individuals from South Asian family origin, is type 2 diabetes (T2D) (Barnett, Dixon and Bellary, 2019; Diabetes UK, 2022). This condition is characterized by abnormal insulin action and chronic hyperglycaemia with the long-term risk of organ damage (e.g. renal, ocular and cardiovascular). Beyond its minimized biomedical phenotype, T2D also involves immense social, cultural and economic dimensions. Those affected are burdened with diminished quality of life, stigma, formidable financial costs and heavy treatment burdens. Recent evidence shows that this disease represents a large, under-recognized burden on primary care services, social care systems and emergency services in the community (NHS Digital, 2023; East London Health and Care Partnership, 2021).

Some 537 million adults around the world are estimated to have diabetes. The fastest increase in the burden of diabetes is in South Asia, where dense populations with a high genetic risk are undergoing rapid lifestyle changes. Around 4.3 million people in the U.K. have diabetes, and Type 2 diabetes (T2D) accounts for about 90 percent of all cases (NHS Digital, 2023). Importantly, T2D is two-to-fourfold more common in South Asian versus White British populations. South Asian people in particular develop the disease at a younger age and at lower B.M.I.s than other populations, sometimes as much as 10 years earlier.

East London is home to one of the largest South Asian communities in the United Kingdom, especially in boroughs like Tower Hamlets, Newham and Redbridge. They represent some of the highest rates of diabetes mellitus in the country, driven by deprivation, urban environmental stress and cultural lifestyle habits. Epidemiological paper on the burden of T2D among South Asian adults in East London, including public health surveillance and intervention.

Public Health Measures in the Target Population (3 P's: Prevention, Protection, Promotion)

Prevention

East London CCGs running the NHS DPP will boost take up of the programme among their south Asian residents. The programme focuses on weight, diet and exercise. Routine screening is typically delayed and only starts at a lower B.M.I. ($\geq 23 \text{ kg/m}^2$ for South Asians), and primary prevention programs are recommended.

Protection

Clinicians focus protection to prevent complications. The general practices, all in East London, run annual diabetes and blood pressure checks, as well as retinal screening and podiatry examinations. They help prevent more dire consequences, such as amputations, kidney failure and blindness.

Health Promotion

Mosques which offer classes and awareness campaigns, staffed by bilingual health workers, can help promote health in the community. These programs, which are currently small-scale and council-run, promote lifestyle change by providing culturally appropriate media, recipes and cooking classes that are reflective of a Bangladeshi, Pakistani and Indian diet.

Key Determinants and Risk Factors

T2D risk among South Asians in East London results from an interplay of biological, social, and behavioural factors.

Biological Factors

South Asians have greater visceral adiposity and insulin resistance than other groups even at lower B.M.I.s. These conditions typically begin early in life and are strongly associated with family history. Early-life undernutrition is common in South Asian populations, which often show the epigenetic changes associated with early deficits

Behavioural Factors

Kids and their parents also may not understand exactly what healthy eating means. In many Asian households, for example, the diet is centered on refined carbohydrates, fried snacks and sugary desserts.

Environmental Factors

East London's densely populated neighbourhoods often lack accessible green spaces and affordable sports facilities. Fast-food outlet density is significantly higher in deprived boroughs, reinforcing obesogenic environments.

Socioeconomic Determinants

According to the ONS's deprivation indices, Tower Hamlets and Newham are in the poorest 20% of boroughs. Living in a deprived environment doesn't just mean low income, insecure employment and over-crowded housing

Cultural and Health Literacy Barriers

Language barriers, mistrust of services, and generational differences in health literacy contribute to delayed diagnosis and lower engagement with screening.

Epidemiological Studies and Evidence from the Target Population

Study 1: East London Primary Care Cohort (Cross-Sectional)

The primary care data, from routine records in general practices in East London, shows that Bangladeshis and Pakistanis have far greater prevalence of diabetes than the White British

residents. This high risk remained even after scientists controlled for age and socioeconomic deprivation.

Strengths:

- Large and ethnically diverse dataset
- Reflects real-world clinical data

Limitations:

- Cross-sectional design cannot establish causation
 - Potential underdiagnosis due to healthcare access barriers
-

Study 2: UK Prospective Diabetes Study (Cohort)

Although national in scope, the study included substantial representation from South Asian populations. It found that South Asians develop T2D earlier, at lower weight, with higher postprandial glucose responses.

Strengths:

- Longitudinal design allows causal inference
- High-quality clinical measurements

Limitations:

- Under-representation of certain subgroups (e.g., Afghan, Sri Lankan)
 - Cultural behaviours not fully captured
-

Study 3: Tower Hamlets Health Needs Assessment

Local authority assessments show diabetes prevalence nearly double the national average. Bangladeshi adults show the highest rates of early onset.

Strengths:

- Highly specific to East London
- Informs local policy

Limitations:

- Variables limited by routine data collection
 - Self-reported behaviours may be inaccurate
-

Health Needs Assessment Findings

The population needs include:

- earlier screenings,
 - accessible culturally tailored health information,
 - diet education using affordable South Asian foods,
 - support for physical activity,
 - improved GP engagement for newly arrived migrants,
 - increased management for comorbidities like hypertension.
-

Monitoring and Surveillance Systems in East London**1. NHS Digital Diabetes Audit**

Tracks annual diabetes outcomes across East London practices. Provides data on HbA1c, complications, and treatment targets.

2. ONS and UKHSA Surveillance

Provide borough-level diabetes prevalence and risk factor data.

3. GP Clinical Systems (EMIS, SystmOne)

Support early identification through alerts for high-risk South Asian patients.

4. Local Health Intelligence Networks

Used by East London CCGs to monitor trends and identify priority areas.

Public Health Impact (Short- and Long-Term Consequences)

Short-Term Impacts

- Fatigue, polyuria, weight changes
- Reduced ability to work
- Increased GP consultations

Long-Term Impacts

- Higher risk of cardiovascular disease
- Renal failure requiring dialysis
- Retinopathy leading to blindness
- Neuropathy and amputations
- Premature mortality
- Increased burden on social care

The economic costs include increased hospital admissions, emergency care use, and long-term medication expenses.

Designed Health Intervention Programme

Programme Name:

East London South Asian Diabetes Prevention and Management Programme (EL-SADPMP)

Core Components:

1. Community-Based Screening

- Held in mosques, community halls, and South Asian supermarkets.
- Screening at lower BMI thresholds.

2. Culturally Tailored Lifestyle Education

- Delivered by bilingual dietitians.
- Uses South Asian recipes with healthier modifications.

3. Family-Centred Approach

- Recognises communal eating and shared cooking in South Asian households.

4. Physical Activity Programme

- Women-only exercise groups
- Walking groups in safe local areas

5. Digital Monitoring App

- Available in Urdu, Bengali, and Hindi

Expected Impacts:

- Increased early diagnosis
- Lower HbA1c levels
- Reduced emergency admissions
- Improved engagement with GP services
- Long-term reduction in CVD and renal disease

Strengths and Weaknesses of the Epidemiological Approach

Strengths:

- Local data are critical to estimating disease prevalence.
- Cohort studies provide the strongest evidence for causal mechanisms.
- Local needs assessments should be factored into the design to be relevant to the context.
- Surveillance systems, a combination of cameras, sensors and analytics, improve monitoring capacity

Weaknesses:

- Under-reporting due to language and access barriers

- Some epidemiological studies lack cultural context
 - Routine data may not capture migrant subgroups
 - Cross-sectional studies limit causal interpretation
 - Potential biases in self-reported lifestyle behaviours
-

Conclusion

Type 2 diabetes is a major public health issue among South Asian adults in east London, driven by biological, social and structural inequalities. Epidemiological data indicate that they are far more likely to live with, and develop complications from, this condition than national averages. Good management also means implementing culturally appropriate prevention strategies and having sound surveillance systems and community-based interventions. The East London-South Asian Diabetes Prevention and Management Program (EL-SADPMP) model represents the best practice, incorporating screening, education, community engagement and digital support to reduce health inequalities. We must consistently invest in local public health systems and ongoing surveillance to reduce the longer-term impact of Type 2 diabetes among this high-risk group.

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THANK YOU!