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Comparative Analysis Of Diagnosis, Treatment, And Prevention Strategies Relating To Diabetes In The United Kingdom And Saudi Arabia

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Abstract

This comparative analysis explores the issues surrounding healthcare issues relating to diabetes in terms of diagnosis, treatment and prevention in the United Kingdom and Saudi Arabia. It highlights common issues such as central government education policies, inequity of diagnosis and treatment, and uses of digital technology to improve patient outcomes, while contrasting the UK's publicly funded NHS with Saudi Arabia's privatization efforts under the health strategy as part of the country's Vision 2030.

Findings reveal that both countries have strengths that can inform global best practices. Saudi Arabia's use of digital health platforms and return on investment-driven prevention planning offers valuable insights for resource allocation to reduce inequities across the system. The UK's emphasis on data-driven interventions, community engagement, and culturally competent care provides a model for inclusive and effective service delivery.

Keywords Diabetes, United Kingdom NHS, Saudi Arabia Vision 2030, diagnosis, treatment, prevention.

1. Introduction

Diabetes mellitus, particularly in the form of Type 2 diabetes, has emerged as one of the most pressing public health challenges of the twenty-first century across a range of developed and developing societies. There are generally three types of diabetes: Type I, II and gestational diabetes but most healthcare systems place emphasis on the first 2 types of diabetes (American Diabetes Association, 2010). Type I diabetes is a form of autoimmune disease, meaning that the insulin-producing cells are destroyed by its own immune system. Type II diabetes is more prevalent than type I, and it occurs when the system fails to respond to the insulin produced. When it becomes chronic, diabetes may cause long-term damage, dysfunction or failure of different organs, including the kidneys, heart, nerves, eyes, and blood vessels. Typical complications of diabetes include blindness (retinopathy), renal failure, severe infections on the feet or legs, which may ultimately require amputation, as well as cardiovascular diseases (Pantalone et al., 2015).

Diabetes is characterized by chronic hyperglycaemia resulting from insulin resistance or deficiency, and it contributes to significant morbidity and mortality worldwide. According to the International Diabetes Federation, over 537 million adults globally were living with diabetes in 2021, with projections

indicating a rise to 643 million by 2030 (Forouhi et al., 2021). In addition, one in every two individuals with diabetes are unaware of the condition, and this unawareness and ignorance often leads to further complications (Khan et al., 2019).

Diagnosis of pre-diabetes and diabetes is determined by glucose criteria. In the majority of healthcare systems, the most widely used tests used are the fasting plasma glucose (FPG) test and oral glucose tolerance test (OGTT) (Khan et al., 2019). A glucometer is commonly used by diabetic patients in their own home to measure blood glucose levels. Many recently developed self-testing kits are minimally invasive, and include glucose-sensing patches, SwEatch, eyeglass biosensors, and breath analysis, as well as the more invasive finger prick tests.

Although significant diabetes studies and data have been conducted, there is still no clear understanding of the actual molecular mechanism which leads to the development of type 2 diabetes mellitus (T2DM), while both genetic and epigenetic factors are associated with the disease. The complications of diabetes can predominantly be classified into two categories: microvascular and macrovascular. Retinopathy, nephropathy, and neuropathy are grouped under microvascular complications, whereas stroke, cardiovascular disease, and peripheral artery disease (PAD) belong to macrovascular complications. Unfortunately, until now, no complete cure for diabetes has been found. However, the treatment of pre-diabetes has shown significant success in preventing the further progression of diabetes. To prevent pre-diabetes from developing into T2DM, lifestyle intervention has been found to be very promising

Diabetes affects individuals from all age groups, genders, racial or ethnic groups, education levels, and income levels (Menke et al., 2015), while diabetic kidney disease (DKD) affects about 20% of patients with diabetes (Murphy et al., 2016). DKD is associated with increased risks of morbidity and mortality and is the

leading cause of end-stage renal disease (ESRD) in the United States (Saran et al., 2017). Consequently, it is essential for healthcare providers to conduct timely diagnosis and treatment. DKD can be screened via annual spot urine testing to identify the albumin/creatinine ratio, and diagnosis can be confirmed by repeated elevation in urinary albumin excretion. Following diagnosis, initial treatment recommends the management of hyperglycaemia, hypertension, hyperlipidaemia, and patients are advised to cease using tobacco. DKD may be prevented by reducing levels of blood glucose and by intrinsic renal protection through the prescription of multiple antihyperglycemic medications, including sodium-glucose cotransporter inhibitors, glucagon-like peptide receptor agonists, and dipeptidyl-peptidase inhibitors.

According to the World Health Organization (WHO, 2017), the burden of diabetes is not evenly distributed across countries, and national strategies vary widely in their effectiveness. Saudi Arabia and the United Kingdom represent two distinct healthcare systems with unique cultural, economic, and infrastructural contexts. Saudi Arabia, a high-income country in the Middle East, has witnessed a rapid rise in diabetes prevalence due to increased urbanization and lifestyle changes. The United Kingdom, with its publicly funded National Health Service (NHS), has implemented a succession of structured programmes to manage and prevent diabetes across the nation. This article compares the diagnosis, treatment, and prevention strategies in both countries, highlighting the strengths and challenges facing both healthcare systems, as well as identifying opportunities for mutual learning.

2. Epidemiology of Diabetes

This section explores the issues surrounding the epidemiology of diabetes in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent data and trends.

2.1 Saudi Arabia

Saudi Arabia has one of the highest diabetes prevalence rates in the Middle East. Recent studies estimate that approximately 25% of adults in the country are affected by diabetes, with type 2 diabetes accounting for the vast majority of cases (Alqifari et al., 2024). The rise in prevalence of the disease is attributed to rapid urbanization, dietary transitions toward processed foods, and reduced physical activity. The Saudi Ministry of Health has established over twenty specialized diabetes centres across the country to address this growing burden.

However, disparities persist between urban and rural populations. Rural patients often have limited access to healthcare services, leading to delayed diagnosis and higher rates of complications. A study by Alqifari et al. (2024) found that rural patients had higher incidences of vision complications, renal impairment, and limb numbness compared to their urban counterparts. Another study by Al-Rasheedi et al. (2024) conducted a detailed observational retrospective study spanning five administrative regions of Saudi Arabia and statistically analyzed a total of 638 patients' records randomly selected from general hospitals and diabetes centres between 2017 and 2020. A majority (77%) of the selected patients had uncontrolled diabetes, showing a statistically significant correlation between the various regions and diabetes control. The Northern, Central, and Southern regions had the highest uncontrolled percentage with less than 20% control, compared to the Western and Eastern regions where this number was around 40% of subjects. Overall, the findings indicated a poor glycaemic control situation in Saudi Arabia that would require the adoption of stricter measures to hinder the progression of diabetes and help reduce any associated complications and comorbidities. Consequently, increased awareness, training, and monitoring programmes with larger sample sizes and broader distribution is highly recommended in the Saudi healthcare system.

2.2 United Kingdom

In the UK, diabetes affects approximately 7.6% of the population, with over 4.9 million people diagnosed (Khunti et al., 2020). Type 2 diabetes constitutes over 90% of cases in the UK (Boonpor et al., 2022). The prevalence is higher among ethnic minorities and socioeconomically disadvantaged groups. The NHS Diabetes Prevention Programme (NDPP) has been instrumental in identifying and managing individuals at risk.

According to Whicher et al. (2020), approximately one million people in the UK have undiagnosed type 2 diabetes, 40,000 children have diabetes and over 3,000 children are diagnosed every year. Public health initiatives aim to reduce these disparities through education and community engagement. Whicher at al. (2020) found that while 49% of individuals with type 1 diabetes were offered structured education, only 7.6% attended this. In addition, 90% of type 2 diabetes were offered such a programme, but only 10.4% took up the offer. Among diabetes patients, 28% reported having issues obtaining medication or equipment for self-management of their condition, while 58% of those with type 1 diabetes and 42% with type 2 diabetes did not receive all eight annual health checks.

The wider impacts of diabetes are considerable, with around 40% of diabetics reporting diminished psychological well-being (Whicher et al., 2020), with one-third reporting a microvascular complication when they were diagnosed with type 2 diabetes. The UK National Health Service spends approximately £10 billion annually on diabetes, representing 10% of its budget, while 80% is spent on treating complications arising from diabetes.

The UK has a robust system for collecting and analyzing epidemiological data, enabling targeted interventions. Type 2 diabetes is a major UK public health priority. Among minority ethnic communities, the prevalence is alarmingly high, approximately three to five times higher than among the white British population. Particularly striking is the earlier onset of Type 2 diabetes, which occurs some 10–12 years younger, with a significant proportion of cases being diagnosed before the age of 40 years (Goff, 2019).

3. Diagnosis of Diabetes

This section explores the issues surrounding the diagnosis of diabetes in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent data and trends.

3.1 Saudi Arabia

Diagnosis in Saudi Arabia is guided by the Saudi Diabetes Clinical Practice Guidelines (SDCPG), which align with international standards. The commonly applied diagnostic criteria currently employed in Saudi Arabia include: HbA1c ≥6.5%; Fasting plasma glucose ≥126 mg/dL; 2-hour plasma glucose ≥200 mg/dL during an oral glucose tolerance test.

According to Alwin et al (2017), The World Health Organization has ranked Saudi Arabia as having the second highest rate of diabetes in the Middle East, making it the seventh highest in the world. This equates to approximately 7 million individuals living with diabetes an additional 3 million with pre-diabetes, and the Saudi government faces a pressing public health problem. Screening is often opportunistic, conducted during routine visits or hospital admissions, while systematic screening programmes across the Kingdom are limited, particularly in rural areas (Alaqeel, 2019). Moreover, the lack of electronic health records and standardized protocols hampers early detection (Alwin et al., 2017).

Socioeconomic factors also influence diagnosis. A study by Al-Hanawi (2024) found that individuals with lower education levels and income were less likely to be diagnosed early, thus contributing to higher complication rates.

3.2 United Kingdom

The UK employs a structured approach to diabetes diagnosis through the NHS Health Check programme. Adults aged 40–74 are invited for risk assessments, including blood pressure testing, cholesterol checks, and HbA1c testing. Primary care providers play a central role, supported by increasing use of electronic health records and standardized protocols (Greenhalgh et al., 2021).

The study by Tanner at al. (2022) found that the NHS Health Check programme increased the detection of individuals at risk of cardiovascular disease. However, there appear to exist inequalities in Health Check attendance between population subgroups and across geographical variations. The study concluded that targeting high-risk communities, for example deprived communities, may increase the overall cost-effectiveness of the programme. Early detection of diabetes is facilitated through this scheme by routine screening in high-risk populations, such as those with obesity, hypertension, or a family history of diabetes. The use of digital tools and patient registries also enhances the efficiency and accuracy of diagnosis.

4. Treatment Approaches

This section explores the issues surrounding various types of interventions relating to diabetes patients in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent trends in this field.

4.1 Pharmacological Interventions

Saudi Arabia’s treatment landscape includes metformin, sulfonylureas, DPP-4 inhibitors, GLP-1 receptor agonists, and insulin therapy. Studies have found that medications are provided free of charge in public hospitals, but access varies across regions, while some issues such as private sector disparities and medication adherence persist (Al-Rasheedi et al., 2024).

In the UK, treatment follows the National Institute for Health and Care Excellence (NICE) guidelines, emphasizing individualized care. Metformin is the first-line therapy, with escalation based on glycaemic control and comorbidities. The NHS ensures equitable access to medications, guided by cost-effectiveness and clinical evidence (NICE, 2021).

4.2 Lifestyle Modification Programmes

Saudi Arabia promotes lifestyle changes through diabetes centres in both urban and rural areas and via public health campaigns. However, cultural barriers—such as gender norms and dietary habits—limit effectiveness. Moreover, structured health education programmes are emerging but lack nationwide coverage (Alzahrani et al., 2022).

One fundamental aspect of Saudi Arabia’s Vision 2030 is the focus on health equity to solve issues stemming from social determinants such as income, education, and geography and to ensure equitable access to healthcare services. To this end, it emphasizes the following fundamental concepts: 1. Health Education and Promotion to underscore the importance of health literacy; 2. Vaccination Programme to protect populations from preventable diseases; 3. Screening and Early Detection: to detect and prevent chronic diseases such as diabetes, hypertension, and cancers (Al Maqbul et al., 2024).

The UK offers structured diabetes education through the DESMOND and DAFNE programmes. Since 2008, the Diabetes Education and Self-Management for Ongoing and Newly Diagnosed (DESMOND) programme has been recommended by the National Institute for Health and Care Excellence (NICE) as a validated education programme for individuals with type 2 diabetes. The programme consists of a 6-hour face-to-face education session delivered by two trained educators over one day or two half-days to a group of 8–12 people with newly-diagnosed or ongoing type 2 diabetes. The initial improvements in biomedical, lifestyle and psychosocial outcomes observed at 12 months in the DESMOND cluster randomised controlled trial (Chatterjee et al., 2018). Moreover, these benefits were maintained after three years and the programme was deemed to be highly cost-effective. These initiatives have demonstrated improvements in glycaemic control, patient empowerment, and reduced healthcare utilization (Valabhji et al., 2020).

The Dose Adjustment For Normal Eating (DAFNE) programme is a well-established education programme for type 1 diabetes patients, which teaches them to adjust their insulin doses in order to improve dietary freedom and blood glucose control. Implementing these adjustments often required patients to move out of their comfort zone and take perceived risks, but the short- and long-term results were very positive (Lawton & Rankin, 2010).

4.3 Role of Technology and Digital Health

Saudi Arabia has invested in telemedicine and mobile health apps, particularly during the COVID-19 pandemic. The Saudi Ministry of Health launched its new Digital Health transformation plan in 2018, which provided a strategy for adopting digital health technologies with the aim of improving overall healthcare quality by creating a modern, efficient, and integrated healthcare system to best meet the needs of the population. To this end, the Ministry has developed initiatives that expand Telemedicine services, introduced Electronic Health Records (EHRs) and introduced a National Health Information Exchange (HIE) platform (Ministry of Health, Saudi Arabia, 2018). Furthermore, the plan seeks to improve access to healthcare, reduce costs, and improve patient outcomes (Ministry of Health Saudi Arabia 2018). The Kingdom has made pioneering use of remote monitoring technology leading to improved patient outcomes. An example of this is the use of remote monitoring of chronic diseases, including diabetes, which promotes daily treatment and at the same time reduces the risk of hospitalization (Alanzi 2018; Alessa et al. 2021). Moreover, the Ministry has integrated demographic and health data to support diabetes management in both urban and rural areas (Alsheikh et al., 2025).

The UK also leverages digital tools such as the NHS Diabetes Prevention Programme (NHS DPP) app, enabling remote monitoring and behavioural support. Patients on the face-to-face group service receive personalised support to manage their weight, eat more healthily and be more physically active, which together have been proven to reduce a person's risk of developing type 2 diabetes. Further integration with electronic health records increasingly enhances both continuity of care and patient engagement (Barron et al., 2022).

4.4 Management of Complications

Saudi Arabia faces high rates of diabetes-related complications, including nephropathy, retinopathy, and amputations. Specialized centres provide multidisciplinary care, though access remains uneven, as reported in the study by Alotaibi et al. (2023).

The UK emphasizes early intervention and complication screening, with annual reviews covering foot care, eye exams, and renal function. Multidisciplinary teams aim to coordinate care across both primary and secondary healthcare settings (Goff et al., 2020).

5. Prevention Strategies

This section explores the issues surrounding various types of prevention strategies relating to diabetes patients in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent trends in this field.

5.1 Saudi Arabia

Saudi Arabia's approach to diabetes prevention is embedded within its Vision 2030 health transformation strategy, which emphasizes reducing the burden of non-communicable diseases (NCDs). The Ministry of Health has launched several initiatives aimed at promoting healthier lifestyles, including national awareness campaigns, school-based nutrition programs, and workplace wellness schemes. However, these efforts face challenges in implementation and reach.

One major barrier is the lack of consistent community engagement. While urban centres like Riyadh and Jeddah benefit from frequent health promotion activities, rural regions often lack access to preventive services. Moreover, cultural norms around food, physical activity, and gender roles can limit participation in lifestyle interventions. For example, women may face restrictions on outdoor exercise due to social expectations, which hinders their ability to engage in physical activity programs (Alzahrani et al., 2022).

Despite these challenges, Saudi Arabia has made strides in digital health prevention. The Yamamah platform, developed by the Ministry of Health, uses predictive analytics to identify individuals at risk of diabetes and offers personalized recommendations (Alsheikh et al., 2025). Additionally, mobile health applications and teleconsultations have expanded access to preventive care, especially during the COVID-19 pandemic.

5.2 United Kingdom

The UK's prevention strategy is anchored by the NHS Diabetes Prevention Programme (NDPP), which targets individuals with non-diabetic hyperglycaemia (HbA1c between 42–47 mmol/mol). Participants receive structured lifestyle interventions focused on diet, physical activity, and behaviour change. The programme has demonstrated significant reductions in HbA1c and body weight among participants (Yates et al., 2019).

Public health campaigns complement the NDPP by promoting healthy eating, smoking cessation, and physical activity. These campaigns are often tailored to specific populations, such as ethnic minorities or low-income groups, to address health inequalities. For instance, the "Change4Life" initiative provides culturally appropriate resources and community outreach to encourage healthier habits.

Schools and workplaces also play a role in prevention. Nutritional standards for school meals, physical education requirements, and workplace wellness programs contribute to a holistic approach. Moreover, local authorities collaborate with healthcare providers to implement community-based interventions, such as walking groups and cooking classes.

The UK's emphasis on data-driven prevention is another strength. Electronic health records and national registries enable the identification of at-risk individuals and the monitoring of program outcomes. This infrastructure supports continuous improvement and accountability.

6. Healthcare Infrastructure and Accessibility

This section explores the issues surrounding infrastructure and accessibility relating to diabetes patients in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent trends in this field.

6.1 Saudi Arabia

Saudi Arabia's healthcare system is predominantly government-funded, with the Ministry of Health overseeing service delivery. The country has invested heavily in healthcare infrastructure, including the construction of specialized diabetes centres, tertiary hospitals, and mobile clinics. However, disparities in access persist, particularly in remote and rural areas.

Urban centres enjoy advanced facilities and a higher concentration of healthcare professionals, while rural regions often face shortages of endocrinologists, diabetes educators, and diagnostic equipment. This urban-rural divide contributes to delayed diagnosis and suboptimal management of diabetes in underserved populations (Alotaibi et al., 2023).

To address these gaps, Saudi Arabia has expanded telemedicine services, allowing patients to consult with specialists remotely. Mobile clinics also travel to remote areas to provide screening, education, and basic treatment. These innovations have improved access but require further scaling and integration into the national health system.

Another challenge is the fragmentation of care between public and private sectors. While public hospitals offer free services, private clinics may charge high fees, creating inequities in access. Efforts to standardize care and improve coordination are ongoing, but progress is uneven.

6.2 United Kingdom

The UK's National Health Service (NHS) provides universal healthcare coverage, ensuring that all residents have access to diabetes care regardless of income. Primary care serves as the cornerstone of diabetes management, with general practitioners (GPs) coordinating diagnosis, treatment, and referrals to specialists.

Integrated care pathways facilitate collaboration between primary, secondary, and community services. Multidisciplinary teams—including dietitians, podiatrists, and diabetes educators—work together to provide comprehensive care. Annual reviews and structured education programs are standard components of diabetes management.

Despite these strengths, regional variations in service quality and access persist. Some areas face shortages of diabetes specialists or long waiting times for appointments. Funding constraints and workforce shortages have also impacted service delivery in recent years (Rawaf et al., 2021).

Digital health solutions, such as remote monitoring and teleconsultations, have helped mitigate these challenges. The NHS has embraced technology to enhance patient engagement and streamline care, particularly during the COVID-19 pandemic.

7. Cultural and Socioeconomic Influences

This section explores the issues surrounding cultural and socioeconomic influences relating to diabetes patients in both the Kingdom of Saudi Arabia and the United Kingdom, referencing recent trends in this field.

7.1 Saudi Arabia

Cultural factors play a significant role in shaping diabetes risk and management in Saudi Arabia. Traditional diets rich in carbohydrates, sugars, and saturated fats contribute to obesity and insulin resistance. Social norms around hospitality and food consumption often encourage overeating, particularly during religious and family gatherings.

Physical inactivity is another concern. High climactic temperatures along with limited public spaces for exercise, and gender-specific restrictions on outdoor activity reduce opportunities for physical movement. Women, in particular, may face barriers to accessing gyms or participating in sports due to cultural expectations (Alzahrani et al., 2022).

Religious practices such as Ramadan also influence diabetes management. Fasting can affect blood glucose levels and medication schedules, requiring careful planning and education. Healthcare providers must offer culturally sensitive guidance to help patients navigate these challenges safely.

Socioeconomic factors further complicate diabetes care. Individuals with lower income or education levels may lack awareness of diabetes symptoms, treatment options, or preventive measures. Health literacy campaigns and community outreach are essential to address these gaps.

7.2 United Kingdom

In the UK, socioeconomic inequalities significantly impact diabetes prevalence and outcomes. People living in deprived areas are more likely to develop type 2 diabetes and experience complications. Factors such as poor diet, limited access to recreational facilities, and financial stress contribute to these

disparities (Bhopal et al., 2020). Moreover, ethnic minorities face higher diabetes risk and barriers to care. South Asian, Black Caribbean, and Middle Eastern populations have elevated rates of type 2 diabetes, often at younger ages and lower body mass indices. Cultural beliefs, language barriers, and mistrust of healthcare providers can hinder engagement with services.

To address these issues, the NHS has implemented culturally competent care models. These include multilingual resources, community health workers, and tailored education programmes. Efforts to diversify the healthcare workforce and improve cultural sensitivity are ongoing. In addition, social determinants of health—such as housing, employment, and education—are increasingly recognized as critical factors in diabetes prevention and management. Cross-sector collaboration is essential to create supportive environments for healthy living.

8. Comparative Analysis

Saudi Arabia and the United Kingdom offer contrasting models of diabetes care, shaped by their unique cultural, economic, and healthcare contexts. Saudi Arabia's centralized system allows for rapid policy implementation and investment in infrastructure, but faces challenges in regional equity, cultural barriers, and care coordination. The UK's decentralized NHS emphasizes universal access, structured education, and integrated care, but contends with funding constraints and persistent health inequalities. Several challenges in diabetes management need to be tackled in Saudi Arabia, including the growing prevalence (chiefly among children and young adults), micro-and macrovascular complications, lifestyle changes, late diagnosis, poor awareness and high treatment costs.

Both countries have strengths that can inform global best practices. Saudi Arabia's use of digital health platforms and ROI-driven prevention planning offers valuable insights for resource allocation. The UK's emphasis on data-driven interventions, community engagement, and culturally competent care provides a model for inclusive and effective service delivery.

Having compared the two countries, it is clear that there are opportunities for cross-national learning, which may be of benefit to both healthcare systems. Firstly, in terms of screening and early detection, Saudi Arabia could adopt the UK's systematic screening programs and electronic health record integration to improve early diagnosis. Secondly, with regard to education and self-management, the UK's structured education models (DESMOND, DAFNE) could be adapted for implementation in Saudi Arabia with cultural tailoring to suit local needs and norms. Thirdly, in terms of digital health innovation, Saudi Arabia's telemedicine and predictive analytical tools could be adopted to enhance the UK's remote care capabilities. Fourthly, with regard to community engagement, both countries could benefit from expanding community-based interventions and addressing underlying social determinants of health which lead to increased prevalence of diabetes among certain demographics in each country.

Ultimately, a hybrid approach that combines the strengths of both systems—centralized investment with decentralized delivery, digital innovation with human-centred care—may offer the most effective strategy for managing diabetes not only in Saudi Arabia and the United Kingdom, but on a global level.

9. Conclusion

Diabetes remains a significant public health challenge in both Saudi Arabia and the United Kingdom. While each country has made progress in diagnosis, treatment, and prevention, persistent gaps and disparities require ongoing attention, the approaches to its diagnosis, treatment, and prevention reflect distinct healthcare landscapes shaped by socioeconomic, cultural, and systemic factors.

In terms of diagnosis, both countries face challenges, but the UK has been noted for lagging behind other high-income nations. As of 2023, only 74.2% of people with diabetes in the UK were diagnosed, compared to an average of 79.5% across similar economies. In contrast, Saudi Arabia has made strides in identifying socio-economic determinants of diabetes prevalence, with studies revealing that age, education, and income significantly influence diagnosis rates (Al-Hanawi, 2024). While the UK benefits from a centralized NHS system that facilitates access to diagnostic services, Saudi Arabia's healthcare system is more fragmented, with disparities in access between urban and rural regions.

Nonetheless, both countries recognize the importance of early detection in preventing complications and improving outcomes.

Treatment strategies in both nations share common ground, particularly in their reliance on pharmacological interventions and lifestyle modifications. In the UK, 88.5% of diagnosed individuals receive treatment, yet only 36.2% achieve glycaemic control (Whyte t al., 2019). This gap underscores the need for more personalized and sustained management plans. Saudi Arabia similarly faces challenges in treatment adherence and glycaemic control, compounded by socio-economic inequalities. For instance, men with higher incomes but lower education levels are disproportionately affected (Al-Hanawi, 2024). Both countries are increasingly integrating digital health solutions and patient education to enhance treatment efficacy, although the UK's digital infrastructure is more mature due to broader NHS initiatives.

Prevention efforts diverge more noticeably. The UK emphasizes public health campaigns, school-based nutrition programs, and community-level interventions aimed at reducing obesity and promoting physical activity. These initiatives are supported by national guidelines and data-driven policies. Saudi Arabia, while also investing in awareness campaigns, faces cultural and lifestyle barriers that hinder widespread behavioural change. The prevalence of sedentary lifestyles and high-calorie diets, particularly in urban centres, poses a significant challenge. However, Saudi Arabia is actively working to address these issues through educational reforms and targeted nutritional interventions.

Despite these differences, both countries share a growing commitment to tackling diabetes through multi-sectoral collaboration. They are investing in research, leveraging technology, and promoting health literacy to empower individuals and communities. Importantly, both recognize that diabetes is not merely a medical issue but a societal one, requiring coordinated efforts across education, policy, and healthcare delivery.

In conclusion, while the UK and Saudi Arabia differ in their healthcare systems, socio-economic contexts, and cultural landscapes, their approaches to diabetes diagnosis, treatment, and prevention reveal shared challenges and aspirations. Bridging gaps in diagnosis, improving treatment outcomes, and fostering preventive lifestyles remain universal goals. By learning from each other's successes and setbacks, both nations can advance toward a future where diabetes is better managed, and its burden significantly reduced.

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