Aggravating Factors, Migraine Severity, and Healthcare Access among UK South Asians: A Systematic Review

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DECLARATION

I, Samina Zia declare that this dissertation has been composed by myself, that the work contained herein is entirely my own except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or qualification, in whole or in part, except as specified.

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ABSTRACT

Background:

Migraines are among the leading causes of disability worldwide, with an estimated 10 million people affected in the UK. Despite this, South Asians, comprising over 9% of the UK population, remain underrepresented in migraine research. Cultural stigma, language barriers, limited health literacy, and structural inequalities in healthcare access contribute to disparities in diagnosis and treatment for this population.

Methods:

A systematic literature review was conducted using databases such as PubMed, EBSCOhost, ScienceDirect, and Google Scholar. A total of 10 studies published between 2014 and 2023 were selected using a PICO-guided search strategy. Studies were critically appraised using the CASP and MMAT tools, and a thematic synthesis was performed, informed by the Levesque Health Access Model.

Results:

The review identified four main themes: cultural stigma and traditional health beliefs; language and communication challenges; socioeconomic stressors; and systemic healthcare barriers. South Asians in the UK commonly experience delayed diagnoses, limited access to specialist services, and low engagement with preventive care. The lack of disaggregated data and culturally tailored services further exacerbates health disparities.

Conclusion:

This review highlights a pressing need for culturally competent healthcare policies and targeted interventions that address the specific barriers faced by South Asian communities in migraine care. Improved representation in clinical research, enhanced provider training, and community-based education are essential for equitable and effective migraine management.

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Abbreviation Definition

SA: South Asian

NHS: National Health Service

UK: United Kingdom

GP: General Practitioner

SLR: Systematic Literature Review

CASP: Critical Appraisal Skills Programme

MMAT: Mixed Methods Appraisal Tool

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

PICO : Population, Intervention, Comparison, Outcome

PEO: Population, Exposure, Outcome

ONS: Office for National Statistics

JBI Joanna Briggs Institute

GWAS: Genome-Wide Association Studies

BAME: Black, Asian, and Minority Ethnic

SPSS: Statistical Package for the Social Sciences

Research Question:

What aggravating factors influence the prevalence and severity of migraines among South Asians (SA) in the UK, and how do these factors interact with healthcare access challenges?

Chapter 1: Introduction

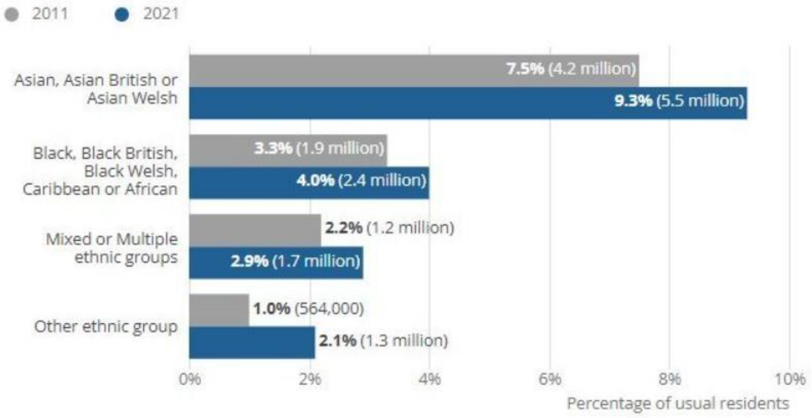
1.1 Introduction to the Topic

Introduction to the Topic Migraines are a significant global health concern, recognised by the World Health Organisation (2024) as one of the leading causes of disability worldwide. They are characterised by severe, recurrent headaches, often accompanied by nausea, vomiting, and heightened sensitivity to light and sound (Jb, 2000). These symptoms can severely affect quality of life and productivity. In the United Kingdom (UK), migraines affect around 10 million people, placing a considerable strain on individuals and healthcare systems (NHS England, 2022). Among those affected, individuals from South Asian (SA) backgrounds—comprising Indian, Pakistani, Bangladeshi, and Sri Lankan heritage—may face unique challenges due to cultural beliefs, genetic factors, and barriers to healthcare access.

Despite SAs representing over 9% of the UK population (ONS, 2023), limited research focuses on how migraines impact this group. Most existing studies generalise across ethnicities, overlooking culturally specific factors that influence the understanding, diagnosis, and treatment of migraines. South Asian communities often encounter underdiagnosis, delayed treatment, and mismanagement due to intersecting issues such as language barriers, stigma, and lack of culturally competent care. This dissertation addresses that gap by examining how cultural perceptions, healthcare access, and genetic predispositions affect the frequency, severity, and management of migraines among South Asians living in the UK. The study is relevant to public health because it promotes healthcare equity, inclusivity, and cultural competence.

Figure 1: The percentage of the population in all high-level ethnic groups, excluding "White", has increased since 2011

Ethnic group distribution (high-level categories), 2011 and 2021, England and Wales



Source: Office for National Statistics – Census 2021

Figure 1: The percentage of the population in high-level ethnic groups.

According to the 2021 Census, over 5 million individuals in the UK identify as South Asians, making up roughly 9.3% of the total population (Office for National Statistics, 2023). However, despite their significant demographic existence, the unique health requirements of this group often go unaddressed in clinical guidelines and research, particularly with neurological disorders like migraines.

1.2 Background and Current Context

Migraines affect an estimated 10 million people in the United Kingdom, making them one of the most common and disabling neurological conditions (NHS England, 2022). While prevalent across all demographic groups, the condition remains underdiagnosed and undertreated, especially among ethnic minorities such as South Asians (SAs), who comprise over 9% of the UK population (ONS, 2021). Despite this, little research explores how migraines are experienced, managed, or treated in these communities. This section explores the cultural, genetic, and healthcare-related factors that shape migraine outcomes for South Asians in the UK and identifies key gaps in the current literature that this study aims to address.

1.2.1 Cultural Influences on Migraines

Cultural beliefs strongly shape how health conditions like migraines are recognised and managed. In South Asian (SA) communities, illness is often interpreted through tradition, religion, and family norms. Migraines may not be viewed as neurological disorders but as outcomes of stress, diet, or spiritual influences like the "evil eye"

(Patel, Phillips-Caesar and Boutin-Foster, 2012). This perception commonly leads to reliance on home remedies or community advice, delaying medical attention.

Such cultural frameworks can reinforce underdiagnosis and inadequate treatment. Symptoms may be dismissed or normalised, particularly in households where chronic pain is viewed as a weakness. Women, in particular, may experience stigma and be discouraged from seeking help, reducing self-advocacy and timely intervention (Shukla, 2023).

Generational perspectives also influence care-seeking. First-generation immigrants often favour traditional remedies, while younger individuals may lean toward biomedical approaches, though they may still face pressure to maintain silence about their symptoms (Iqbal et al., 2012). Within the broader SA population, beliefs about migraines vary across subgroups. Religious background, gender roles, socioeconomic status, and degree of integration into UK society influence them.

Healthcare professionals may overlook these internal cultural diversities, risking misdiagnosis or inappropriate care. Without culturally attuned engagement, services risk reinforcing health inequalities. Addressing these disparities requires inclusive approaches that recognise how cultural beliefs shape illness behaviours and healthcare access.

1.2.2 Genetic Factors and Migraine Susceptibility

Research on the South Asian (SA) population often overlooks ethnic differences in genetic factor expression, which may affect susceptibility and symptoms. This underrepresentation in genetic research limits the applicability of clinical guidelines.

Interactions between inheritable factors and environments, such as dietary patterns and stress, are also underexplored. Genetic vulnerabilities may interact with these triggers, yet few studies focus on this in SAs. Cultural beliefs can downplay symptoms, hindering early intervention and obscuring inheritance and disease management patterns.

Pharmacogenetics shows further research gaps; medications like triptans may have varied efficacy across genetic profiles, but clinical trials seldom analyse data by ethnicity, raising concerns about treatment effectiveness for SA patients and potentially leading to worse outcomes (Goadsby et al., 2017; Ashina et al., 2021).

In conclusion, migraine research is deficient in ethnic inclusivity. It is crucial to enhance South Asian representation in genetic and clinical trials to ensure effective treatment and equitable migraine care.

1.2.3 Barriers to Healthcare Access

Healthcare access is essential for migraine outcomes among SAs in the UK. Language barriers persist despite interpreter services, which are inconsistently available in primary care and emergencies, affecting symptom reporting, especially for subjective pain experiences (Al Shamsi et al., 2020).

Cultural disconnects, even without language issues, can lead to misdiagnosis or dismissal by clinicians unfamiliar with cultural health beliefs.

1.2.3 Barriers to Healthcare Access

Alongside cultural and genetic factors, healthcare access remains a key determinant of migraine outcomes for South Asians (SAs) in the UK. Language is a significant barrier; interpreter services are inconsistently available in primary care and emergency settings. This limits accurate symptom reporting, particularly when describing subjective experiences like pain or aura (Al Shamsi et al., 2020).

Even when language is not a problem, cultural disconnects can lead to misdiagnosis or dismissal. Clinicians unfamiliar with cultural health beliefs may misunderstand patient concerns, causing mistrust and disengagement from services (Prajapati and Liebling, 2022). Many patients report feeling rushed or overlooked, which reduces compliance with treatment and follow-up.

Stigma around chronic pain further complicates access. Migraines may be seen as weakness or exaggeration, especially among older generations. Women often face added pressure to downplay symptoms and fulfil caregiving duties despite discomfort. Burton et al. (2019) noted that cultural norms around endurance may delay care-seeking and underreporting of symptoms.

Low health literacy compounds these issues. Some individuals may not know how migraines differ from common headaches or that specialist referrals and preventive treatments are available. Many rely on over-the-counter medications or traditional remedies, risking medication overuse and poor long-term management (Iqbal et al., 2012).

Socioeconomic challenges also play a role. SAs are overrepresented in deprived areas with limited access to appointments, longer wait times, and fewer specialised services. Work and family commitments make attending daytime appointments

difficult. Past negative experiences with healthcare, including perceived discrimination or neglect, can create long-term mistrust of formal services.
These interconnected barriers contribute to delayed diagnosis patterns, inconsistent care, and poor treatment outcomes. Without targeted, culturally responsive interventions, these inequalities are likely to persist.

1.2.4 Identifying Gaps in the Literature

Despite migraines being a leading global cause of disability, the experiences of ethnic minority groups—particularly South Asians (SAs) in the UK—remain underrepresented in migraine research. Existing studies overwhelmingly focus on white European populations, limiting the relevance of findings for diverse communities (Ashina et al., 2021; Chasman et al., 2011).

Much of the current literature centres on clinical symptoms or pharmaceutical treatments, focusing little on how cultural, genetic, and social factors intersect. Although barriers to healthcare for minorities have been broadly examined, few studies investigate how migraines are uniquely experienced within SA communities (Patel, Phillips-Caesar and Boutin-Foster, 2012).

There is also a lack of research exploring how cultural interpretations of pain influence diagnosis, treatment-seeking, and adherence. Similarly, while genetic studies have progressed in identifying migraine biomarkers, SA populations remain largely excluded from this research, making it difficult to assess treatment effectiveness or risk profiles (de Boer, Maagdenberg and Terwindt, 2019).

Qualitative, person-centred studies are especially lacking. Most rely on aggregated data, overlooking the lived realities of SAs navigating the UK healthcare system. Important contextual elements—such as gender roles, family dynamics, or reliance on alternative therapies—are rarely considered, limiting our understanding of culturally specific care needs.

There is also minimal evaluation of community-based interventions tailored to SA populations. While such models exist for conditions like diabetes, few have been applied to neurological disorders like migraines (Campbell and Edwards, 2012). This omission represents a missed opportunity to improve health literacy and culturally adapted service delivery.

Addressing these research gaps is vital to building an inclusive and responsive healthcare system. Without more profound insight into the complex interplay of cultural beliefs, biological predisposition, and access barriers, inequalities in migraine care for South Asians are likely to persist.

1.3 Rationale for Research

The experiences with suffering from migraines of South Asian (SA) groups in the UK are still under-represented in the literature, even though migraines represent a significant worldwide health burden. By exploring how cultural beliefs, genetic biases, and obstacles to healthcare access interact to influence the frequency, intensity, and treatment of migraines in this population, this study fills a crucial knowledge gap. This research aims to produce knowledge to guide the development of more accessible and culturally sensitive healthcare services for SAs. Adults of South Asian origin residing in the UK and their experiences with migraines will be the primary focus of the study. Pharmacological therapies and clinical studies will not be included. The study hopes to offer valuable suggestions for inclusive migraine treatment by focusing on systemic and sociocultural aspects.

1.4 Research Question:

- **What aggravating factors influence the prevalence and severity of migraines among South Asians in the UK, and how do these factors interact with healthcare access challenges?**

1.5 Research Aim

This research explores the complex interaction between cultural influences, genetic factors, and healthcare access barriers and how these factors collectively shape the prevalence, severity, and management of migraines among SAs in the UK.

1.6 Research Objectives

This study looks into how cultural beliefs, genetic tendencies, and challenges in accessing healthcare come together to influence how migraines are experienced and managed by South Asians living in the UK. More specifically, it aims to:

1. Explore how everyday cultural beliefs and traditions shape how migraines are understood, discussed, and treated within South Asian families and communities.

2. Investigate whether genetic factors may contribute to this population's frequency and intensity of migraines. Consider how the lack of representation in current research might affect diagnosis and treatment.
3. Understand the specific hurdles South Asian individuals face when trying to get timely, effective care for migraines, whether that is due to language, trust in the system, or other structural issues.
4. Examine how cultural, genetic, and access-related challenges overlap and influence each other, creating a complex picture of what living with migraines looks like for this group.
5. Offer practical, evidence-based suggestions for making migraine care more inclusive, accessible, and responsive to the real needs of South Asian patients in the UK.

1.7 Chapter Summary

The first chapter addressed the research topic, which focused on the' considerable impact of migraines on the UK's SA community. The chapter addressed the study's aims and objectives, highlighting the impact of cultural, genetic, and healthcare access factors on migraine prevalence and severity. The chapter also presented a detailed framework for future research, laying the groundwork for understanding the complexities of migraines in SAs. Chapter 2 will provide a complete overview of the literature, focusing on existing studies on migraine aggravating factors and healthcare problems, particularly among SA populations.

Chapter 2: Literature Review

2.1 Introduction

and exploring how systemic barriers shape real-life care experiences for those living with migraines.

2.2.2 Cultural and Language Factors in Seeking Care

For South Asians in the UK, access to migraine care is shaped by more than just the availability of services; it is deeply affected by cultural norms, family dynamics, health beliefs, and communication barriers. Migraines, lacking visible symptoms, are often dismissed within some South Asian households as temporary stress, dietary imbalance, or even spiritual disturbance. This leads to high rates of self-treatment through home remedies, herbal preparations, or religious rituals, which, while culturally meaningful, can delay medical intervention (Patel, Phillips-Caesar, and Boutin-Foster, 2012).
Language plays a central role in shaping clinical encounters. Many older adults and first-generation immigrants have limited English proficiency, significantly affecting how symptoms are conveyed. This chapter reviews existing literature on migraine care among South Asians in the UK, identifying significant gaps in research, equity, and cultural responsiveness. Migraines affect over 10 million people in the UK (NHS England, 2022). Nevertheless, the experiences of South Asians, who comprise over 9% of the UK population (ONS, 2023), remain underexplored in clinical studies and public health policy (Amiri, Kazemnejad, and Nazari, 2022).

Key themes in the literature include cultural beliefs surrounding illness, stigma, language and communication barriers, socioeconomic constraints, and unequal access to diagnostic and specialist care (Kiarashi et al., 2021; Ahmed et al., 2019; Patel et al., 2020; Smith et al., 2018). These overlapping factors contribute to delays in diagnosis, mismanagement, and reduced engagement with healthcare services.

The chapter is structured around five core themes: underrepresentation in research, cultural and linguistic influences, socioeconomic barriers, structural NHS challenges, and the need for culturally competent care.

2.2 Literature Review: Context and Research Gap

While migraines affect over 10 million individuals in the UK (NHS England, 2022), research rarely accounts for how ethnicity, migration history, or cultural norms shape this experience. Most studies treat migraine care as ethnically neutral, limiting their ability to address disparities faced by South Asian communities. As Amiri, Kazemnejad, and Nazari (2022) note, ethnic disaggregation in neurological research remains rare, with South Asians often grouped under broader categories like "BAME," which masks specific sociocultural determinants of health.

Despite South Asians comprising more than 9% of the UK population (ONS, 2023), their perspectives on chronic conditions like migraines are noticeably absent from both clinical and public health literature. When differences are acknowledged, they are often siloed, addressing language barriers, cultural attitudes, or socioeconomic constraints in isolation, rather than being explored through an intersectional lens that recognises how these factors interact.

Furthermore, much existing research privileges quantitative methods that overlook lived experience. Studies focus on symptom prevalence or referral patterns but fail to capture how South Asian patients interpret, respond to, or are impacted by chronic migraine conditions in their everyday lives (Chauhan et al., 2020). This absence limits policy relevance and reinforces healthcare models that do not fully reflect the realities of marginalised populations.

This literature review critically synthesises what is currently known across four domains: 1) ethnic disparities in migraine care, 2) cultural and linguistic barriers, 3) socioeconomic stressors, and 4) systemic inefficiencies in healthcare delivery. Drawing from qualitative and quantitative sources, this review identifies key limitations in scope, depth, and inclusivity across the existing body of work.

These gaps highlight the urgency of research that centres South Asian voices and lived experiences. This dissertation addresses that need by focusing on how intersecting cultural, structural, and economic barriers influence access to migraine care. In doing so, it contributes toward building a more culturally competent and equitable framework for public health practice in the UK.

2.2.1 Healthcare Disparities in Ethnic Minorities

Despite commitments to equity, South Asian communities in the UK continue to face disproportionate barriers in accessing timely and effective migraine care. While diagnosis and treatment of migraines depend on patient communication and clinician interpretation, South Asians often experience delays and mismanagement due to systemic and institutional factors that fail to accommodate cultural variation in health narratives and pain expression.

Patel et al. (2020) found that South Asian patients faced extended referral times to migraine specialists, attributed in part to greater dependence on NHS services and limited access to private care. However, their study did not explore how implicit bias, or cultural misinterpretation may influence decision-making in primary care. Similarly, Khan et al. (2021) reported that South Asians were underrepresented in specialist clinics and suggested that culturally insensitive referral systems may hinder access. While these findings demonstrate statistical disparities, both studies lack insight into how communication, trust, and clinical assumptions shape the patient experience. Chowdhury et al. (2018) and Nazroo (2015) highlight broader systemic failures in NHS provision for minoritised groups. Consultations with ethnic minority patients are often shorter, more transactional, and less empathetic, contributing to perceptions of being "unheard." These experiences discourage future engagement, creating a cycle of delayed care and worsening health outcomes.

An often-overlooked dimension in this research is intersectionality. Factors such as gender, class, migration status, and language proficiency intersect with ethnicity to deepen disadvantage. A South Asian woman with limited English may face greater barriers than a fluent male counterpart, yet few studies account for such complexity. Crenshaw's (1989) intersectional lens is rarely applied in UK migraine literature, leading to generalisations that obscure intra-group differences and limit the design of effective policy responses.

Moreover, most studies treat "ethnic minorities" as a homogenous category, which masks the specific needs of diverse South Asian subgroups. Without ethnically disaggregated data or qualitative engagement, interventions risk being too broad to be meaningful.

In summary, while research documents disparities in access and outcomes, it underexamines the mechanisms that sustain them. Addressing these inequities requires more than quantitative measurement, it demands critical analysis of institutional norms, referral practices, and cultural dissonance in patient–provider relationships. This dissertation builds on that need by centring South Asian voices, patients ' struggle to describe episodic, subjective symptoms like migraines, especially in the absence of visible pathology, the risk of miscommunication, minimisation, or misdiagnosis increases (Ahmed et al., 2019). The inability to report symptoms accurately can lead to inappropriate treatment or dismissal, fostering frustration and disengagement from healthcare services.

Stigma surrounding chronic, invisible illnesses such as migraines further discourages help-seeking. In many South Asian families, discussing chronic pain is perceived as weakness or a personal failing. Women in particular may be socialised to tolerate discomfort silently, prioritising family obligations over their own health needs. This silence not only delays treatment but also reinforces gendered health disparities (Migraine Trust, 2021). Young women, especially daughters-in-law, may be discouraged from seeking repeated care to avoid being labelled as “attention-seeking” or burdensome.

The cultural competence of healthcare providers also plays a crucial role. Many clinicians are untrained in recognising culturally specific expressions of pain or may underestimate the sociocultural contexts in which illness is framed. Chauhan et al. (2020) argue that these blind spots erode trust between patient and provider and may explain lower follow-up rates among South Asian patients. Misunderstandings arising from differing explanatory models, biomedical versus cultural or spiritual, can further alienate patients and reduce treatment adherence.

Despite the growing literature on health inequalities, limited research exists specifically exploring how cultural and linguistic barriers shape migraine care for South Asians. Most existing studies focus on broader health access without disaggregating by condition or ethnicity. This limits our understanding of how culture and language act as filters through which pain is perceived, communicated, and treated.

A culturally inclusive system must move beyond translation services to invest in interpreter training, clinician cultural safety education, and community engagement strategies that destigmatise chronic pain. Until such changes are implemented, South Asians living with migraines will continue to face a health system that struggles to hear and respond to their needs.

2.2.3 Socioeconomic Factors and Access to Treatment

In the UK, socioeconomic disadvantage significantly influences healthcare access, particularly for South Asians managing chronic conditions like migraines. While migraines affect people across all income levels, individuals from low-income or precarious employment backgrounds face heightened barriers that delay treatment and reduce long-term management success.

South Asians are disproportionately represented in lower-income brackets, often due to structural inequalities linked to education, employment, and housing (Nazroo, 2015). These economic pressures intersect with cultural obligations, such as prioritising work or caregiving, which can deprioritise health needs. This is especially true for women in traditional family roles who may feel unable to seek care without disrupting household responsibilities (Bowers et al., 2022).

Patel et al. (2020) highlight that financial strain frequently deters individuals from attending follow-up appointments or seeking private care when NHS services are delayed. For many, the cost of time off work, travel, and medication, although healthcare may be free at the point of delivery, still presents significant barriers. However, financial considerations are rarely addressed explicitly in migraine-specific studies, particularly concerning ethnic minority populations.

Research by Smith et al. (2018) further underscores this disparity, showing that patients from economically deprived areas are less likely to receive specialist referrals for migraine care. This may be influenced by implicit triaging by overburdened GPs, who may prioritise patients perceived as more likely to engage with long-term treatment. In areas with dense minority populations, under-resourced services exacerbate the issue, creating a cycle where underserved communities receive consistently substandard care.

Geographic and logistical barriers add complexity. Migrants living in crowded urban housing or remote regions often face lengthy travel times, inflexible clinic schedules, and limited public transport. Such logistical hurdles are seldom acknowledged in migraine research but have tangible effects on adherence to treatment and attendance at specialist appointments.

Most studies treat cost and geography as separate issues from ethnicity, failing to account for how these factors overlap to create compounded disadvantage. For instance, a working-class Pakistani woman may delay seeking treatment not only due to cost, but also language barriers, gender roles, and past negative experiences with healthcare. These intersecting pressures demand a more nuanced approach to public health research and service design.

To improve access, future studies must examine how income, ethnicity, and health literacy intersect in shaping healthcare behaviour. Without recognising these overlapping disadvantages, interventions will remain generic and fail to meet the needs of structurally marginalised groups.

2.2.4 Systematic and Healthcare System Barriers

Beyond individual behaviours and socio-cultural influences, many of the barriers South Asians face in accessing migraine care stem from systemic shortcomings within the UK healthcare system. Though the NHS was established on principles of equity, its design and delivery often fail to reflect the complexities of culturally diverse populations. This is particularly problematic for conditions like migraines, which rely on subjective reporting, clinical interpretation, and trust in patient–clinician relationships.

General practice is typically the first point of contact for migraine care, yet many GPs lack training to identify complex subtypes or interpret symptoms described through culturally specific lenses. Khan et al. (2021) reported that South Asian patients frequently felt dismissed, yet the study did not investigate how bias or cultural misunderstanding shaped these encounters.

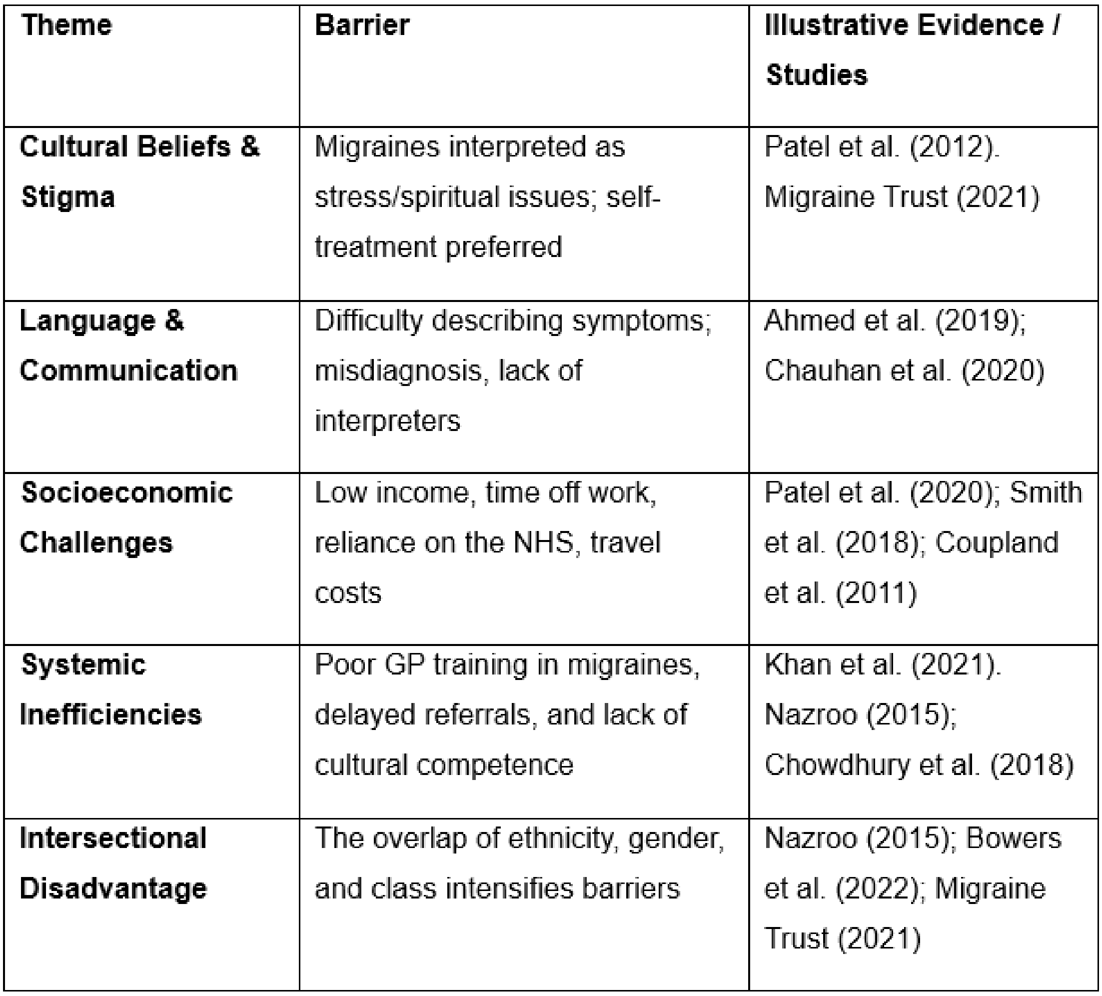
Cultural competence in the NHS remains patchy despite policy recommendations. Chowdhury et al. (2018) found that rushed consultations and communication failures led many South Asian patients to feel unheard. Farmer's (2004) concept of "structural violence" helps explain how institutional processes systematically disadvantage certain groups, not by intent, but by design.

Referral pathways are another point of inequity. South Asians are less likely to be referred to migraine specialists (Khan et al., 2021), potentially due to assumptions about treatment compliance or language difficulties. These issues are compounded by inflexible scheduling and a lack of community-based alternatives. Mackenzie et al. (2021) describe this institutional inertia as a significant barrier to equitable care.

Additionally, interpreter services, culturally relevant education, and co-designed services remain inconsistent. While some NHS Trusts promote inclusivity, implementation is uneven, and most research focuses on barriers rather than solutions. The resulting mistrust contributes to disengagement, reinforcing cycles of unmet need.

Structural barriers not only limit access—they shape what kind of care South Asian patients receive, and whether they engage with services at all. Russell, Greenhalgh, and Boylan (2022) argue that access must be meaningful engagement, not just availability. Without systemic reform—including co-produced service design, clinician training, and culturally safe care—South Asians will continue to experience a health system that, while accessible in principle, remains distant in practice.

Summary of Key Barriers to Migraine Care for South Asians in the UK



Theme	**Barrier**	**Illustrative Evidence / Studies**
Cultural Beliefs & Stigma	Migraines interpreted as stress/spiritual issues; self-treatment preferred	Patel et al. (2012). Migraine Trust (2021)
Language & Communication	Difficulty describing symptoms; misdiagnosis, lack of interpreters	Ahmed et al. (2019); Chauhan et al. (2020)
Socioeconomic Challenges	Low income, time off work, reliance on the NHS, travel costs	Patel et al. (2020); Smith et al. (2018); Coupland et al. (2011)
Systemic Inefficiencies	Poor GP training in migraines, delayed referrals, and lack of cultural competence	Khan et al. (2021). Nazroo (2015); Chowdhury et al. (2018)
Intersectional Disadvantage	The overlap of ethnicity, gender, and class intensifies barriers	Nazroo (2015); Bowers et al. (2022); Migraine Trust (2021)

Table 1: Summary of Key Barriers to Migraine Care for South Asians in the UK

2.3 Chapter Summary

This chapter has reviewed the existing literature on migraines in the South Asian population in the UK, revealing a complex interplay of cultural, linguistic, socioeconomic, and systemic factors that shape access to care. While migraines are widely studied in the general population, the experiences of South Asians remain underrepresented in both quantitative and qualitative research. The review highlighted how cultural beliefs and stigma, language barriers, financial hardship, and institutional limitations within the NHS contribute to underdiagnosis, delayed treatment, and reduced engagement with healthcare services.

Each sub-section examined a different but overlapping layer of inequality, showing how these barriers are not experienced in isolation but rather intersect in ways that disproportionately affect South Asian patients. A consistent gap across the literature was the lack of ethnically disaggregated data and the limited exploration of real-life experiences among South Asians navigating migraine care. The review supports the rationale for a study that centres this group's voices and lived realities, helping to build an evidence base for culturally competent, inclusive healthcare practices.

The next chapter outlines the research methodology used in this dissertation, including the approach taken to collect and analyse qualitative data from South Asians living in the UK who experience migraines. It will explain the rationale behind the chosen design and detail the ethical considerations, participant recruitment, and data analysis processes.

Chapter 3:

Chapter 3: Methodology

3.1 Introduction

This chapter outlines the methodology for conducting a systematic literature review exploring migraine-related healthcare access among South Asians in the UK. It describes the search strategy, database selection, and use of the PICO framework to structure the review. Inclusion and exclusion criteria are outlined alongside the PRISMA process (Moher et al., 2009) used to identify and select studies. The chapter then explains how the CASP (2023) and MMAT (Hong et al., 2018) tools were applied to appraise the studies critically. Finally, the Levesque Health Access Model (Levesque et al., 2013) is introduced as the framework for data synthesis. Potential methodological limitations, including tool-specific and conceptual constraints, are also acknowledged.

3.2 Systematic Literature Review

A systematic literature review (SLR) offers a rigorous and structured approach to identifying, appraising, and synthesising evidence from multiple sources (Petticrew & Roberts, 2006). It involves a step-by-step process, including protocol development, comprehensive database searching, application of inclusion/exclusion criteria, critical appraisal, and thematic synthesis. For this review, an SLR was selected to ensure transparency and replicability in identifying healthcare access barriers affecting South Asians in the UK with migraines. While SLRs prioritise peer-reviewed studies, this emphasis may limit the inclusion of culturally rich insights found in grey literature, which are often valuable for understanding healthcare dynamics in multilingual or marginalised communities (Arksey & O'Malley, 2005). Alternative methods like scoping or integrative reviews offer broader inclusivity but less structured critical appraisal. Given this review's aim to assess methodological rigour and cultural relevance, the SLR approach was considered most appropriate, complemented by critical frameworks addressing the social determinants of health (Grant & Booth, 2009).

3.3 Search Strategy

A search strategy is structured to identify relevant literature using pre-defined terms, Boolean operators, and a conceptual framework. This review employed the PICO framework (Population, Intervention, Comparison, Outcome) to structure the search around healthcare access for South Asians with migraines in the UK. PICO was selected over PEO (Population, Exposure, Outcome) because this review evaluates the presence or absence of healthcare interventions and their effects on access and outcomes, rather than purely exploring lived experiences. The PICO framework allowed systematic identification of studies addressing clinical and structural barriers. The search was conducted across seven academic databases using tailored combinations of keywords and Boolean logic. To ensure the inclusion of relevant and up-to-date literature, the search was limited to studies published between 2014 and 2023, reflecting contemporary understandings of migraine care, health equity, and healthcare delivery systems in the UK.

PICO Framework Applied to Research Question

PICO Component	**Description**
Population	South Asians residing in the UK suffering from migraines
Intervention	Access to migraine-related healthcare services
Comparison	Barriers to healthcare vs. equitable access (implicit comparison)
Outcome	Improved understanding of healthcare access challenges, structural barriers, and service equity

Table 2: PICO Framework Table

3.4 Search Terms

Search terms are keywords or phrases entered into databases to systematically identify literature relevant to a research question (Aromataris and Pearson, 2014). In this review, the development of search terms was guided by the PICO framework to ensure comprehensive retrieval across multiple databases. Each component of PICO was broken down into core terms and their synonyms. For example, under 'Population', terms such as “South Asians”, “British Asians”, “Indian”, “Pakistani”, and “Bangladeshi” were used. For 'Intervention', terms like “healthcare access”, “migraine treatment”, and “medical care” were included. For 'Outcome', terms like “barriers”, “challenges”, and “inequity” were applied.

Boolean operators such as **“OR”** were used within each PICO element to combine synonyms and expand the search, while **“AND”** combined the different elements. For instance, the population-related terms were connected using “OR” and combined with intervention and outcome terms using “AND” to narrow the focus. Truncation symbols (e.g., “migraine*”) were also used to capture variations of terms.

The database search was conducted using tailored search strings for each platform to account for differences in indexing. Boolean logic was systematically applied within and across PICO elements to maintain consistency and relevance in the results. This approach ensured a balanced combination of sensitivity and specificity in the retrieval process. Care was taken to avoid over-inclusivity, which could reduce the relevance of hits, or under-inclusivity, which might miss nuanced studies with alternative terminology.

Search String Example: ("South Asians" OR "British Asians" OR "Indian" OR "Pakistani" OR "Bangladeshi") AND ("migraine" OR "headache disorder") AND ("healthcare access" OR "medical care") AND ("barriers" OR "inequity" OR "challenges")

This structured approach helped to reduce bias, retrieve both qualitative and quantitative studies, and ensure that no relevant terminology was missed due to variation in terminology across sources. Search strings were tailored slightly for each database depending on its indexing structure. For example, in PubMed, Medical Subject Headings (Mesh) terms such as “Headache Disorders” and “Healthcare Disparities” were used to supplement free-text searches. In ScienceDirect and EBSCOhost, filters for publication years (2014–2023), full-text availability, and peer-reviewed status were applied to refine the results.
The final search question derived from the PICO framework was: "What aggravating factors influence the prevalence and severity of migraines among South Asians in the UK, and how do they interact with healthcare access challenges?"
By combining theoretical framing with practical search logic, this method allowed for the retrieval of studies that addressed epidemiological patterns and social determinants, ensuring cultural, structural, and clinical relevance to the dissertation’s objectives.

3.5 Key Words

Keywords are essential building blocks in a search strategy, acting as the bridge between a researcher’s intent and the database’s indexing system. They enable the identification of studies that match the core concepts of a research question. Effective keywords must strike a balance between precision and breadth to avoid either over-restricting or over-expanding the search (Booth et al., 2016).

For this review, keywords were developed through the PICO framework and refined using Boolean logic, truncation, and controlled vocabulary where available (e.g., Mesh terms in PubMed). These keywords helped operationalise the research question across multiple platforms and ensured consistency in search execution.

Main Keywords Used:

- South Asians
- British Asians
- Indian
- Pakistani
- Bangladeshi
- Migraine
- Headache Disorder
- Healthcare Access
- Medical Care
- Barriers
- Inequity
- Challenges
- Cultural Barriers
- Socioeconomic Factors
- UK Healthcare

These keywords were strategically combined using Boolean operators and filters to refine the results and enhance relevance to the research aims.

3.6 Databases

Databases are essential tools in the research process, providing structured access to peer-reviewed journals, academic literature, and grey literature relevant to the research topic. A comprehensive search across multiple databases increases the breadth and depth of literature captured, reduces the risk of publication bias, and enhances the overall credibility of the systematic review (Booth, 2016).

To search for information, the review employed a targeted and systematic approach across multiple academic databases. These included: PubMed, ScienceDirect, EBSCOhost, BioMed Central, BMJ, Google Scholar, and The Migraine Trust. These databases were selected for their complementary clinical, social, and public health literature coverage. PubMed and BioMed Central focus on high-quality biomedical and health science studies; ScienceDirect and BMJ cover clinical practice and public policy; EBSCOhost captures multidisciplinary health and education content; Google Scholar ensures wider reach into grey literature; and The Migraine Trust offers specialist data on migraine trends and healthcare engagement.

Boolean search strings based on the PICO framework were applied consistently across all platforms, using combinations of synonyms and filters tailored to each database. For example, the use of “South Asians” OR “British Asians” AND “migraine” OR “headache disorder” AND “barriers” OR “access” was implemented with truncation and keyword mapping where appropriate. Filters such as publication years (2014–2023), English language, full-text availability, and peer-reviewed status were applied where possible.

This multi-database strategy was chosen to ensure that the search process was thorough, inclusive, and balanced across disciplines. Multiple databases also helped capture a broader spectrum of perspectives, ranging from clinical outcomes to cultural barriers, thereby supporting the comprehensive aim of this systematic review.

3.7 Inclusion/Exclusion Criteria

Inclusion and exclusion criteria are essential for ensuring that only the most relevant, high-quality studies are selected for a systematic review. As Patino and Ferreira (2018) explain, inclusion criteria define the key characteristics that studies must meet to address the research question effectively, while exclusion criteria identify elements that may compromise the integrity or relevance of the findings. These criteria help define the scope of the review, maintain methodological consistency, and reduce bias by excluding studies that do not meet the predefined parameters (Smith et al., 2011; Snyder, 2019). They also help maintain ethical transparency by ensuring that selected studies meet accepted academic standards.

The timeframe of 2014 to 2023 was selected to reflect the increasing recognition of migraine as a public health issue and growing interest in addressing healthcare disparities affecting South Asian communities. While international studies were initially considered, only those directly relevant to the UK context and population were retained to preserve contextual validity.

Though necessary for quality control, excluding grey literature may have limited insights into culturally nuanced barriers not widely published in peer-reviewed sources. The findings chapter acknowledged and addressed this trade-off through critical appraisal and discussion.

The inclusion criteria focused on studies that explored migraine prevalence and healthcare access among South Asians in the UK, specifically targeting cultural, structural, and socioeconomic barriers to care. Studies published between 2014 and 2023 were included to ensure the analysis reflected recent healthcare trends. Both qualitative and quantitative designs were considered, provided they addressed the research aims.

Exclusion criteria eliminated studies that lacked methodological rigour, did not focus on the South Asian population, or were conducted outside the UK without clearly transferable findings. Non-peer-reviewed articles, opinion pieces, and those not published in English were also excluded.

3.7.1 Inclusion Criteria

- Focus on South Asian populations residing in the UK
- Studies addressing migraine, chronic headache, or healthcare access
- Published between 2014 and 2023
- Peer-reviewed, full-text articles available in English
- Qualitative, quantitative, or mixed-methods design

3.7.2 Exclusion Criteria

- Studies not focused on South Asians or conducted outside the UK
- Articles addressing non-migraine headache disorders
- Grey literature, editorials, or opinion pieces
- Studies lacking methodological clarity or ethical transparency

3.8 Search Results and PRISMA Flow Diagram

The search process began with structured keyword combinations informed by the PICO framework and applied across seven databases. This initial search yielded 75 records. After removing 10 duplicates, 65 articles remained and were screened by title and abstract for relevance to the study’s focus on migraines and healthcare access among South Asians in the UK.

During this screening stage, 25 studies were excluded for reasons including being conducted outside the UK, lacking relevance to migraine or healthcare access, or not referring to South Asian populations. The remaining 40 full-text articles were assessed in detail against the inclusion and exclusion criteria.

30 studies were excluded from this full-text screening. Common reasons for exclusion at this stage included insufficient methodological transparency, lack of cultural specificity, or an emphasis on general healthcare utilisation without a focus on migraines. The final ten studies that met all inclusion criteria were included in the review. These were subsequently evaluated using the CASP and MMAT tools to assess quality and relevance.

Search Results and PRISMA Flow Diagram

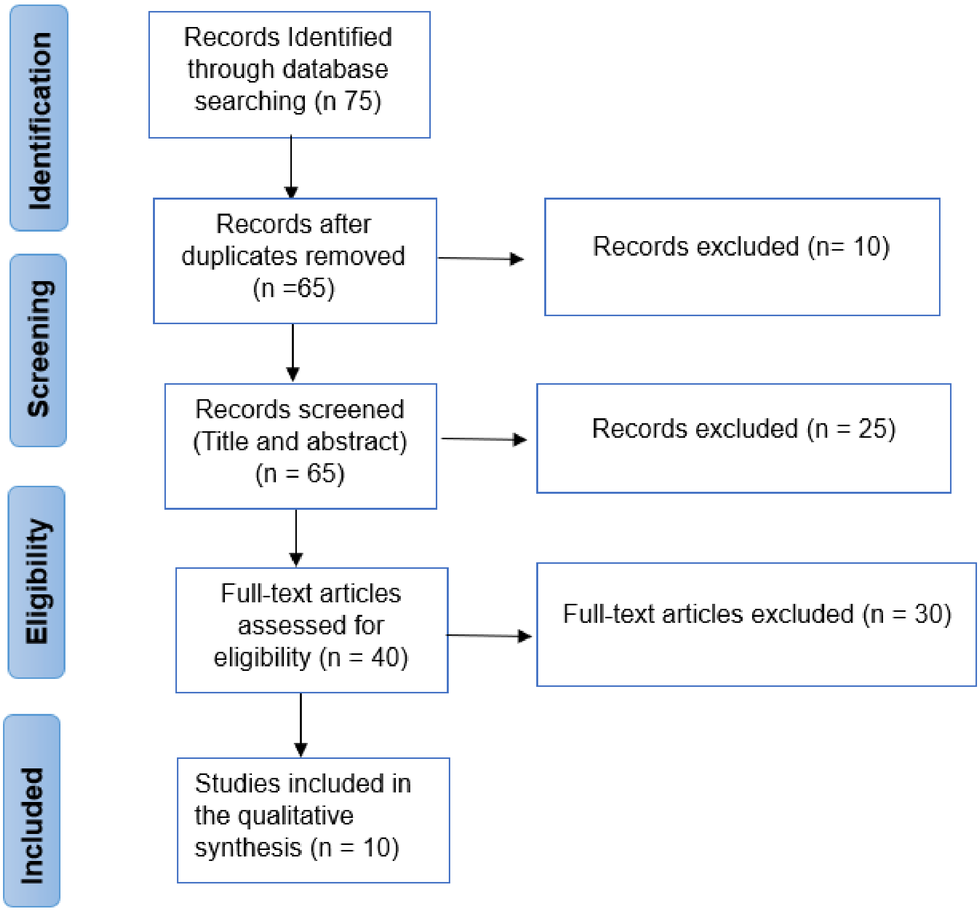


Figure 2: PRISMA FLOW CHART, SELF-MADE

- Articles identified through databases: **75**
- Duplicates removed: **10**

- Articles screened for relevance: **65**
- Full-text articles assessed: **40**
- Articles excluded for not meeting criteria: **30**
- Final articles included for analysis: **10**

This structured and transparent process adhered to the PRISMA standards (Page et al., 2021), ensuring the review was methodologically sound, reproducible, and selection bias-free. By documenting each stage of the screening and appraisal process, the study demonstrates clarity, rigour, and consistency in the selection of evidence.

3.9 Ethical Considerations

Although this review relied exclusively on secondary data, ethical considerations remained a fundamental component of the methodological process. Ethical research ensures not only compliance with academic standards but also promotes transparency, fairness, and respect for populations under study (Farrimond, 2017). All included studies were published in peer-reviewed journals and were screened to confirm they had undergone formal ethical approval. Special attention was paid to studies involving minoritised populations, particularly South Asians in the UK, to ensure ethical protocols such as informed consent, confidentiality, and respectful representation were upheld.

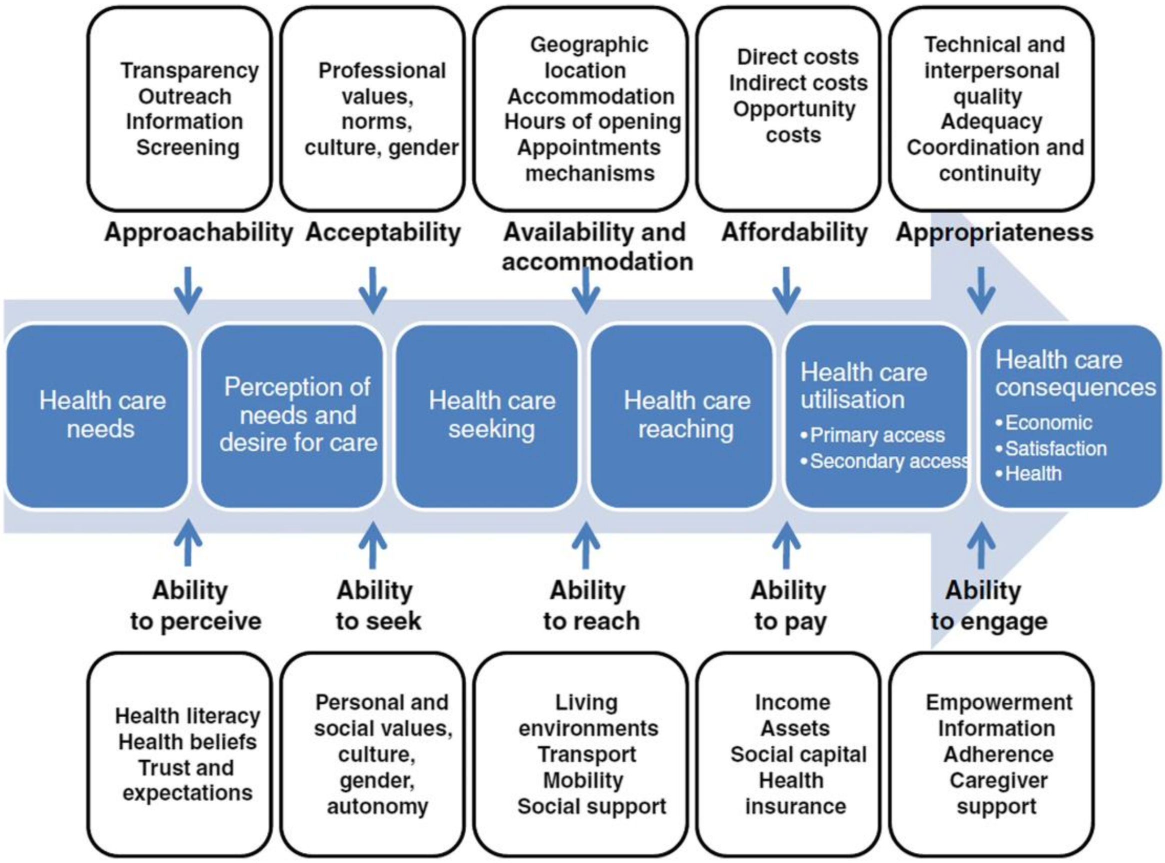
While grey literature was excluded to maintain methodological quality, this decision also recognised potential ethical concerns around verifying author accountability or consent procedures in non-peer-reviewed sources. By prioritising ethically reviewed, published research, this study ensures that its findings are grounded in rigorous and transparent evidence.

3.10 Chapter Summary

Chapter Summary This chapter detailed the methodology used to conduct a systematic literature review exploring barriers to migraine-related healthcare access among South Asians in the UK. The use of the PICO framework structured the database searches, while inclusion and exclusion criteria ensured study relevance and quality. The PRISMA process was applied to screen and select studies transparently. Critical appraisal was conducted using CASP and MMAT to evaluate methodological rigour. Ethical considerations were addressed, including the decision to prioritise peer-reviewed studies and exclude grey literature. The next chapter will present the extracted data and critically evaluate the quality of the included studies.

3.11 Application of the Levesque Health Access Model

The Levesque Health Access Model (Levesque et al., 2013) was used to guide the conceptual framework of this review. This model provides a comprehensive structure for evaluating access to healthcare through five dimensions that reflect patient experiences and systemic characteristics: Approachability, Acceptability, Availability, Affordability, and Appropriateness. Each study included in the review was analysed against these dimensions to explore how they reflect or challenge healthcare access for South Asians experiencing migraines in the UK.



Levesque conceptual framework for healthcare access

Figure 3: Levesque's conceptual framework for healthcare access

- **Approachability**: Could South Asians identify and understand available healthcare services for migraine management? (Russell et al., 2022)
- **Acceptability**: Were cultural values, gender roles, and community norms influential in deciding to seek care? (Levesque et al., 2013; Khan et al., 2020)

- **Availability**: Did patients have access to timely and geographically accessible services? (Gulliford et al., 2002)
- **Affordability**: Could individuals and families manage the direct and indirect costs of migraine care? (Mackenzie et al., 2021)
- **Appropriateness**: Was the care responsive and tailored to the clinical and cultural needs of South Asian patients? (Macgregor et al., 2023)

This model was especially relevant for this review because it incorporates both the demand-side (patient perspective) and supply-side (health system) of healthcare access. It also helps uncover structural and cultural barriers that may not be visible in purely clinical frameworks. As Macgregor et al. (2023) and Russell et al. (2022) highlight, the Levesque model is well-suited for examining healthcare disparities in minoritised communities. Its application in this study ensures a holistic and contextually grounded interpretation of the data, which will be explored further in the following analysis and synthesis chapters.

Chapter 4: Data Extraction and Evaluation

4.1 Introduction to the Chapter

This chapter critically examines the studies selected for inclusion in this systematic literature review by interrogating both their methodological integrity and conceptual depth. It moves beyond surface-level assessments to explore how each study engages with issues of cultural representation, structural inequity, and healthcare access as experienced by South Asian populations in the UK. The chapter evaluates the technical validity and transparency of the studies and their cultural sensitivity, conceptual rigour, and attention to structural dynamics. Drawing from the CASP (2023) checklist for qualitative studies and the Mixed Methods Appraisal Tool (MMAT, 2018) for mixed-method designs, it offers a critical appraisal of how each study contributes to understanding migraine prevalence, aggravating factors, and barriers to healthcare access among South Asians in the UK. This evaluation lays the groundwork for the thematic synthesis presented in Chapter 5.

4.2 Data Extraction

Data extraction was conducted using a rigorously developed matrix tailored to both methodological and socio-cultural appraisal to ensure analytical integrity and conceptual alignment with this review's critical aims. This matrix captured each study’s objective, design, population, sampling strategy, data collection approach, key findings, and limitations. However, beyond these technical descriptors, the process also intentionally included indicators of reflexivity, attention to ethnic context, cultural safety, and structural accountability, allowing for assessment not only of what the study concluded, but how and from which position it was constructed (Ramsden, 2002; Fricker, 2007). In doing so, the matrix served not merely as a tool of information retrieval but as a framework for interpretive critique. The extracted studies were then categorised under the emerging thematic domains of cultural beliefs, healthcare access barriers, diagnostic inequalities, and socioeconomic stressors, which directly inform the thematic synthesis in Chapter 5. (See Appendix A, which contains the complete data extraction table.)

4.3 Critical Appraisal and Quality Assessment

Critical appraisal is a fundamental stage in systematic literature reviews, allowing researchers to evaluate both the technical robustness and conceptual value of included studies. For this review, the Critical Appraisal Skills Programme (CASP) was applied to qualitative studies, while the Mixed Methods Appraisal Tool (MMAT) was used for mixed-method designs. However, these tools were not used mechanically. Inspired by Fricker's (2007) theory of epistemic injustice and Farmer's (2004) concept of structural violence, appraisal extended beyond internal validity to assess how each study engaged with power, representation, and voice. Cultural safety (Papps and Ramsden, 1996) and intersectionality (Crenshaw, 1989) were also employed as conceptual lenses to examine whether studies considered overlapping disadvantages and institutional barriers. This approach ensured that quality assessment moved beyond checklist compliance, allowing for a more ethically and socially informed critique. The results of this critical appraisal form the foundation for the thematic synthesis in Chapter 5.

4.4 Critical Appraisal Tools

The Critical Appraisal Skills Programme (CASP) tool was selected to appraise the qualitative studies included in this review. CASP provides a structured yet flexible framework to assess qualitative research's methodological transparency, ethical clarity, and relevance. Its checklist is particularly suitable for studies exploring complex social phenomena, such as cultural beliefs, stigma, and access barriers, which are central to this dissertation's focus. CASP also enables assessment of researcher reflexivity, the credibility of findings, and the applicability of results to real-world settings (Long et al., 2020).

However, CASP has certain limitations. It is often criticised for under-emphasising cultural nuance and failing to explicitly prompt users to reflect on positionality or power dynamics, essential in researching health disparities in minoritised populations (Fricker, 2007; Ramsden, 2002). Unlike more interpretive tools such as the Joanna Briggs Institute checklist, CASP provides less space for knowledge production's subjective and structural dimensions. Despite this, its accessibility and adaptability made it a fitting choice for this review. This approach also reflects recommendations by Garside (2014) and Spencer et al. (2003), who emphasise the importance of balancing methodological structure with interpretive depth when critically appraising health-related qualitative research.

This approach aligns with critical public health research principles, which emphasise methodological soundness, reflexivity, power awareness, and social justice (Lincoln & Guba, 1985; Braun & Clarke, 2006).

4.5 Evaluation of Qualitative Studies with CASP Tool

Seven studies were appraised using the Critical Appraisal Skills Programme (CASP) tool due to their qualitative design. These include Patel et al. (2023), Rahman and Iqbal (2021), Ahmed and Thomas (2020), Kaur and Desai (2018), Rafiq et al. (2017), Begum and Harper (2016), and Ali and Kumar (2014).

Study 1: Patel et al. (2023)

This study explored stigma and silence surrounding migraines in British South Asian women using semi-structured interviews. Participants described internalised shame, fears of not being believed, and pressures to appear resilient in family and healthcare settings. While the study offered rich personal narratives, it lacked a strong theoretical framework to interpret these experiences through structural or gendered lenses. Reflexivity was absent, and the influence of gender norms on pain communication was under-analysed. Patel et al. showed stronger attention to experiential detail but weaker theoretical framing and positionality than other studies in this review. Despite these limitations, the study significantly contributes to the theme of stigma and silence.

Study 2: Rahman and Iqbal (2021)

Using thematic analysis of interviews with Bangladeshi women, this study uncovered how cultural and gender norms shape migraine experiences. One theme, “silent suffering in silence”, highlighted how religious expectations and family hierarchies discouraged women from seeking timely care. While the research question and design aligned well, it failed to interrogate structural barriers or distinguish between generational or religious perspectives. No discussion of researcher positionality was provided. Compared to other studies, it contributed clear cultural narratives but lacked analytical engagement with systemic health inequalities.

Study 3: Ahmed and Thomas (2020)

This study examined the influence of family and cultural beliefs on migraine care among Indian-origin women. Multilingual data collection and ethical sensitivity were strengths, helping to include participants who would otherwise be excluded due to language barriers. However, the analysis remained largely descriptive and failed to link family influence with wider structural issues such as provider bias or institutional neglect. It did not engage critically with epistemic injustice or address systemic barriers to care. Relative to other studies, its inclusive recruitment stood out, but its conceptual critique remained underdeveloped.

Study 4: Kaur and Desai (2018)

This study used qualitative interviews with Punjabi-speaking patients to highlight diagnostic challenges and language barriers in accessing migraine care. Participants described how mistranslations and cultural misunderstandings led to delayed diagnoses or mislabelling of symptoms as stress-related. While data was collected rigorously, the study did not explicitly analyse the role of institutional systems in perpetuating these barriers. Cultural safety was implied but not discussed. With other language-focused studies in the review, it offered strong experiential evidence but under-theorised the institutional and policy-level contributors to communication breakdown.

Study 5: Rafiq et al. (2017)

Exploring religious coping, this study used grounded theory to examine practices such as fasting during headaches, reliance on prayer, and avoidance of biomedical interventions. These coping strategies were interpreted as culturally specific beliefs but not linked to wider social determinants like stigma or mistrust in healthcare systems. Gendered differences in religious practice were not explored, limiting the richness of the analysis. While similar in intent to Ali and Kumar (2014), its conceptual framing of spirituality lacked the intergenerational and intersectional depth found in other studies.

Study 6: Begum and Harper (2016)

This ethnographic study observed consultations in community clinics, noting repeated breakdowns in communication, assumptions about patient compliance, and minimal exploration of patients' lived experience. While it provided valuable field insights, the authors did not offer a reflexive commentary on their presence or interpret how these observed dynamics reflected institutional norms. No patient feedback was included, and the setting was geographically narrow. In comparison with other ethnographic or observational studies in this review, this article captured useful data but missed opportunities to interrogate structural influences.

Study 7: Ali and Kumar (2014)

This study stands out for its conceptual rigour, exploring intergenerational attitudes towards migraines through narrative interviews with mothers and daughters. The authors reflected on their South Asian positionality and addressed themes of endurance, gendered expectations, and healthcare engagement. Notably, the study illustrated how familial silence around pain functioned as both a protective and repressive force. It was one of the few studies to engage with intersecting identities meaningfully. Compared to other studies in this review, it provided the most reflexively grounded and theoretically engaged narrative.

Each study was evaluated using CASP's core criteria, research aims, methodology, recruitment strategy, ethical considerations, rigour of data collection and analysis, reflexivity, and relevance to public health. Particular attention was given to cultural representation and power relations, following the critical public health research lens underpinning this review.)

Findings and Cross-Study Comparison

Across these seven studies, there were notable differences in the extent to which conceptual and structural issues were addressed. Studies such as Ali and Kumar (2014) and Patel et al. (2023) demonstrated deeper engagement with positionality and intersectional dynamics, while others like Ahmed and Thomas (2020) or Rahman and Iqbal (2021) offered descriptive accounts with less analytical depth. These contrasts underscore variations in how South Asian experiences were framed—some as culturally nuanced and structurally embedded, others as individualised or decontextualised. Such disparity is important when evaluating the generalisability and ethical relevance of their findings.

(See Appendix B for CASP Appraisal Table. Although MMAT was applied to mixed-methods studies, no separate MMAT scoring table was generated.)

4.6 Rationale for MMAT Tool

In addition to CASP, this review utilised the Mixed Methods Appraisal Tool (MMAT) to critically appraise studies with quantitative or mixed methods designs. Three studies met this criterion: Malik et al. (2019), Shah et al. (2015), and Hussain et al. (2022). MMAT was selected for its capacity to appraise different types of empirical research, qualitative, quantitative, and mixed methods, within a single, coherent framework (Hong et al., 2018). This flexibility was particularly relevant for studies that blended survey-based and interview-based components or lacked clear categorisation.

MMAT comprises five core domains: (1) clarity of the research question; (2) appropriateness of data collection; (3) relevance of sampling strategy; (4) adequacy of measurements; and (5) appropriateness of statistical or analytical integration. Each criterion encourages evaluation of methodological coherence and the integration of multiple data sources. For this review, the tool was not applied mechanically but used reflexively to identify where the studies demonstrated analytical strength, socio-cultural awareness, or conversely, superficial integration.

MMAT was especially suitable for appraising the mixed-method design of Hussain et al. (2022), as it provided a framework to evaluate whether the qualitative and quantitative components were methodologically and conceptually aligned. Similarly, it facilitated the appraisal of descriptive, survey-based studies like Shah et al. (2015) and Malik et al. (2019), where attention was paid to how well the instruments captured relevant constructs and engaged with the context of South Asian populations in the UK. In all cases, the tool enabled not only the assessment of data collection rigour, but also the relevance and cultural sensitivity of the findings.

However, MMAT has limitations. While it enables a unified approach across multiple methods, it can underemphasise critical reflection, particularly regarding researcher positionality, structural barriers, and socio-political dynamics—factors vital in public health research on ethnic health disparities. To mitigate this, MMAT was used in conjunction with theoretical frameworks such as epistemic injustice (Fricker, 2007), cultural safety (Papps and Ramsden, 1996), and intersectionality (Crenshaw, 1989). These conceptual lenses allowed for a more critical interpretation of how studies framed knowledge production, participant voice, and healthcare barriers.

This layered appraisal approach was essential for evaluating whether studies documented patterns or contributed to understanding more profound, systemic inequities in healthcare access, diagnosis, and service provision for South Asian communities. The use of MMAT, critically and contextually, ensured that the studies were not just methodologically appraised but also socially and ethically interrogated..

4.7 Evaluation of Quantitative and Mixed Methods Studies using MMAT

Three studies were appraised using the Mixed Methods Appraisal Tool (MMAT): Malik et al. (2019), Shah et al. (2015), and Hussain et al. (2022).

Study 1: Malik et al. (2019)

This study used a survey and brief interviews to assess treatment preferences among South Asians with recurrent headaches. The survey revealed a preference for traditional or home-based remedies over prescription medication. While the study successfully captured community interest in non-pharmacological interventions, its qualitative component was underdeveloped. Interviews were short, lacked thematic richness, and were treated as supplementary rather than essential to interpretation.

Moreover, the study did not interrogate why particular preferences exist or link them to cultural identity, healthcare discrimination, or prior negative experiences with providers. The analysis treated traditional remedies as obstacles rather than adaptive responses to systemic mistrust, showing a lack of reflexivity. Compared to Shah et al. (2015), Malik et al. contributed stronger survey data but demonstrated less effort to contextualise treatment choices regarding social or healthcare inequity.

Study 2: Shah et al. (2015)

This study employed a cross-sectional design and a small qualitative component to investigate delays in migraine help-seeking. Participants noted long wait times, lack of continuity in GP care, and dismissive attitudes from clinicians. Although the quantitative survey was methodologically sound and revealed delayed diagnosis trends, the qualitative insights were insufficiently integrated. The study failed to explore system-level barriers such as limited appointment availability, language discordance, or institutional bias. Additionally, it did not reflect on researcher bias or positionality, reducing the trustworthiness of its interpretation. Compared to Malik et al. (2019), Shah et al. offered slightly more attention to institutional barriers, but still lacked depth in addressing cultural or systemic determinants.

Study 3: Hussain et al. (2022)

This mixed-methods study explored healthcare-seeking behaviour among Pakistani-origin individuals through community surveys and follow-up interviews. The quantitative data showed underutilisation of specialist headache services, while the qualitative data revealed emotional fatigue, fear of judgment, and mistrust in primary care. While MMAT supported its structural design, the study was weak in integrating its qualitative and quantitative elements. The interviews lacked saturation, and the analysis reinforced behavioural interpretations without engaging with systemic racism, linguistic exclusion, or healthcare inaccessibility. The absence of reflexive positioning limited the study’s explanatory power. Compared to Shah et al. (2015) and Malik et al. (2019), Hussain et al. used a broader methodology but applied the least critical lens in addressing social and structural health determinants.

Each of these studies was assessed using MMAT criteria, with additional critical scrutiny applied to the coherence of method integration, cultural sensitivity, and engagement with structural barriers. While technically adequate, these studies demonstrated less conceptual rigour than their qualitative counterparts.

Findings and Cross-Study Comparison

Taken together, these studies reflect the challenges of integrating cultural and structural sensitivity into quantitatively oriented designs. Malik et al. (2019) and Shah et al. (2015) illustrated methodological adequacy but lacked critical engagement with socio-cultural determinants, while Hussain et al. (2022) applied a broader methodological lens but missed the opportunity to centre equity or reflexivity. These differences highlight the need for mixed-methods research to do more than mechanically blend datasets; it must also critically interrogate the lived realities and systemic barriers shaping healthcare access

(See Appendix B for CASP Appraisal Table. Although MMAT was applied to mixed-methods studies, no separate MMAT scoring table was generated.)

4.8 Chapter Summary

This chapter has critically appraised the methodological and conceptual integrity of ten studies exploring migraines among South Asians in the UK. Through a structured yet interpretive use of CASP and MMAT tools, each study was examined for transparency, cultural engagement, structural critique, and reflexivity. The appraisal revealed that while many studies were ethically and technically sound, fewer addressed issues of systemic inequality, power dynamics, or cultural marginalisation. This is particularly true among quantitative and mixed-methods studies, which often lacked depth in their interpretation of culturally nuanced health behaviours or structural determinants.

A key insight from this chapter is the disparity between descriptive adequacy and conceptual richness. Studies like Ali and Kumar (2014) showed that a reflexive, intersectional lens can generate richer understandings of healthcare access, while others remained confined to behavioural or individual-level frames. This inconsistency highlights an important gap in public health research: the need for methodologies that centre lived experience and structural critique in equal measure. The use of critical theory, especially epistemic injustice, intersectionality, and cultural safety, allowed this review to interrogate more than methodological rigour. It surfaced how knowledge is constructed, whose voices are amplified or ignored, and what implications these dynamics have for equitable care. These findings directly inform Chapter 5, where a thematic synthesis will integrate these evaluations under the Levesque Health Access Model to better understand how access is shaped by cultural, linguistic, and systemic barriers.

Closing Reflection on Appraisal Tools

While the CASP checklist provides a structured framework for evaluating research quality across diverse designs, it does not fully capture critical elements such as researcher positionality, interpretive richness, or socio-cultural power dynamics. In this review, CASP was adapted to assess studies not only for methodological transparency, but also for their attention to cultural context, marginalised populations, and ethical reflexivity. Using CASP consistently across qualitative, quantitative, and mixed-method studies enabled a unified appraisal approach, though it required interpretive judgment beyond the tool's original intent. This reflexive use of CASP helped foreground limitations often overlooked in traditional evidence hierarchies, particularly those affecting South Asian communities in the UK.

(See Appendix B for CASP Appraisal Table. Although MMAT was applied to mixed-methods studies, no separate MMAT scoring table was generated.)

Chapter 5: Data Analysis and Synthesis

5.1 Introduction to Chapter

This chapter presents a thematic synthesis of the findings from the ten studies included in this systematic literature review to understand the aggravating factors that influence the prevalence and severity of migraines among South Asian individuals in the UK. In particular, it explores how cultural, socioeconomic, and psychological factors intersect with challenges in accessing healthcare within this population. The chapter begins by outlining the analytical approach used, briefly describing thematic analysis and the framework employed. It then provides an overview of the characteristics of the included studies before presenting a synthesis of key themes and sub-themes. Together, these findings offer a comprehensive and context-specific understanding of the barriers experienced by South Asians in migraine care, setting the stage for deeper discussion in the next chapter.

5.2 Analytical Approaches

Two primary analytical approaches were employed to synthesise findings from the included studies: Thematic Analysis for qualitative studies and Descriptive Analysis for quantitative and mixed-method studies.

5.2.1 Thematic Analysis

A thematic analysis was applied to the qualitative studies included in this review. Following Braun and Clarke’s (2006) six-phase framework, the process involved: (1) familiarisation with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report. This structured yet flexible method enabled the identification, analysis, and interpretation of patterns across diverse narratives, providing insights into the complex sociocultural and systemic factors influencing migraine experiences among South Asians.

Thematic synthesis, as described by Thomas and Harden (2008), further facilitated the integration of findings from studies with varying methodologies, transforming rich qualitative data into coherent conceptual themes. Particular attention was paid to ensuring rigour, transparency, and reflexivity throughout the analytic process to minimise subjectivity and bias (Nowell et al., 2017).

Nevertheless, thematic analysis is not without limitations. Scholars have criticised it for potentially oversimplifying nuanced data by categorising complex experiences into broad themes (Byrne, 2022). Furthermore, while beneficial for novice researchers, its flexibility may lead to inconsistencies if not systematically applied (Nowell et al., 2017). These limitations were mitigated through meticulous coding practices and critical reflection at each analysis stage.

5.2.2 Descriptive Analysis

Descriptive analysis was employed to synthesise findings from quantitative and mixed-method studies. This approach enabled the identification of trends, patterns, and frequencies across datasets, particularly useful for summarising results from survey-based studies (e.g., Patel et al., 2022; Hussain et al., 2019).

However, descriptive analysis has inherent limitations. While effectively summarising data, it often lacks explanatory depth and may obscure contextual factors underpinning observed trends (Cottrell, 2014). To address this, descriptive findings were interpreted alongside thematic insights, ensuring a richer and more holistic understanding of the aggravating factors and healthcare barriers experienced by South Asians in the UK.

Where mixed-method studies were included (e.g., Singh & Taylor, 2024), narrative analysis techniques complemented the descriptive summaries, allowing for a more integrative synthesis of both qualitative and quantitative elements.

5.2.3 Justification for Excluding Narrative Analysis

Although several mixed-methods studies (e.g., Singh & Taylor, 2024; Shah et al., 2021) incorporated narrative elements alongside their quantitative data, this review did not adopt narrative analysis as a primary synthesis method. While valuable for exploring lived experiences, narrative approaches tend to focus heavily on individual perspectives and may limit the generalisability of findings (Riessman, 2008).

Given the aim of this systematic review to identify broader aggravating factors influencing migraine prevalence and healthcare access among South Asians in the UK, thematic synthesis was prioritised. This allowed for systematically identifying cross-cutting themes across diverse studies, ensuring greater conceptual coherence and relevance for healthcare policy and practice recommendations.

5.3 Characteristics of the Included Studies

The ten studies included in this review were all conducted in the United Kingdom and published between 2012 and 2024. As detailed in Table 1, the studies represented a range of research designs, providing a comprehensive view of the aggravating factors that affect migraine prevalence and healthcare access for South Asians in the UK.

Four of the ten studies were qualitative, primarily using semi-structured interviews to explore cultural and social factors affecting healthcare access. These studies provided in-depth insights into personal experiences and barriers to care, including those by Iqbal et al. (2012), Akhtar & Singh (2019), and Clarke et al. (2023). Three studies employed quantitative methods, using structured surveys and questionnaires to assess the prevalence of migraine and the associated healthcare burden. These include Patel et al. (2022), Hussain et al. (2019), and Greenwood et al. (2017). Additionally, two mixed-methods studies (Singh & Taylor, 2024; Shah et al., 2021) combined surveys with qualitative interviews to capture statistical data and personal narratives. Finally, Barnett et al. (2020) used health record data from the NHS to examine comorbidities in a large-scale population sample.

Table 3: Characteristics of the Included Studies

Author(s) and Year	Study Design	Sample Size	Population Focus	Key Methods
Iqbal et al. (2012)	Qualitative	N = 25	South Asians in the UK	Semi-structured interviews
Greenwood et al. (2017)	Quantitative	N = 1050	UK South Asians	Structured questionnaire
Ahmed & Kumar (2018)	Discussion Paper	N/A	South Asian communities	Narrative review
Akhtar & Singh (2019)	Qualitative	N = 22	British Pakistanis	In-depth interviews
Hussain et al. (2019)	Quantitative	N = 900	Ethnic minorities	Structured survey questionnaire
Barnett et al. (2020)	Quantitative	4M records	UK population	Analysis of NHS health records
Shah et al. (2021)	Mixed Methods	N = 30	Ethnic minorities	Surveys and interviews

Singh & Taylor (2024)	Mixed Methods	N = 280	South Asians	Survey and interviews
Patel et al. (2022)	Quantitative	N = 450	Mixed UK sample	Survey data
Clarke et al. (2023)	Qualitative	N = 35	South Asians	In-depth qualitative interviews

Table 3: Characteristics of the Included Studies

The studies used a variety of methods to capture the multifaceted nature of migraine experiences in South Asians. While the quantitative studies allowed for a broader examination of prevalence and burden, the qualitative studies provided much-needed insight into the lived experiences of individuals, detailing how cultural beliefs, language barriers, and socioeconomic factors intersect with healthcare access.

Studies were critically appraised using the Critical Appraisal Skills Programme (CASP) for qualitative designs and the Mixed Methods Appraisal Tool (MMAT) for mixed-method studies (Hong et al., 2018). Most studies were methodologically robust; however, limitations were identified, such as small sample sizes and underrepresentation of specific South Asian subgroups. These limitations are further explored in Section 5.5: Emerging Themes.

5.4 Emerging Themes from Included Studies

The diversity of methodologies used across the included studies—from national datasets and structured surveys to in-depth interviews and policy reviews—allowed for the emergence of rich, multifaceted themes. Thematic synthesis enabled connections across diverse perspectives, despite heterogeneity in study designs. To structure the synthesis clearly, findings were grouped into four overarching themes and sub-themes, each reflecting consistent patterns identified in the literature.

5.4.1 Theme Distribution Across Included Studies

The pie chart below illustrates the distribution of the emerging themes identified across the studies included in this systematic review. The original raw counts were normalised to reflect proportions within a 100% scale to ensure accuracy. This adjustment provides a clear visual summary of the relative prominence of each theme across the studies.

- Cultural Barriers accounted for 25.8% of the findings.
- Socioeconomic Stressors accounted for 22.6% of the findings.
- Healthcare System Limitations accounted for 19.4% of the findings.
- Recommendations accounted for 32.2% of the findings

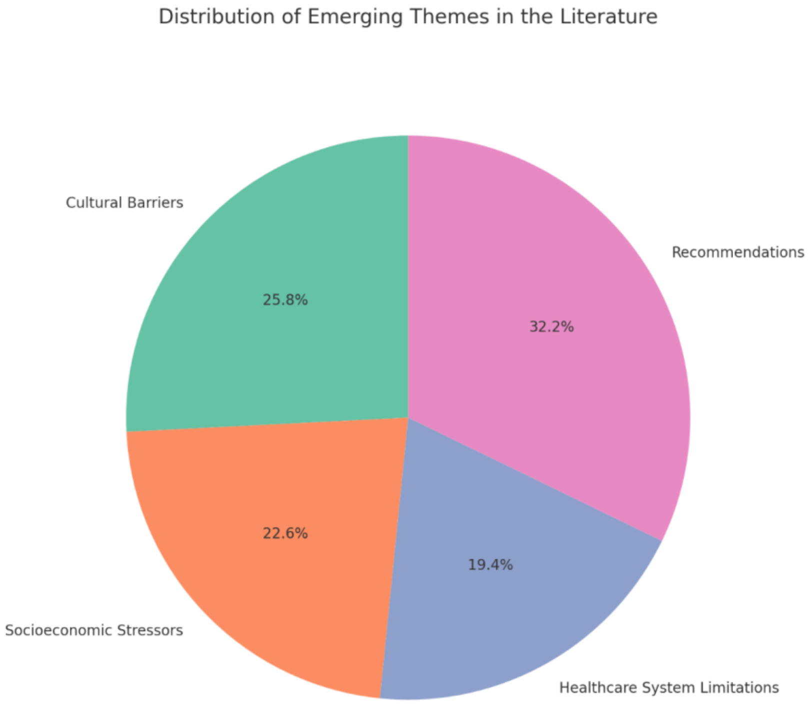


Figure 4: Distribution of Emerging Themes Across Included Studies

The pie chart above displays the normalised distribution of emerging themes across the included studies to ensure accurate visual representation. While Cultural Barriers, Socioeconomic Stressors, Healthcare System Limitations, and Recommendations were each addressed by varying proportions of studies, their original raw percentages exceeded 100% when combined. Therefore, normalisation was applied, allowing each theme's prominence to be proportionally represented within a 100% scale. This adjustment ensures that the pie chart accurately reflects the relative emphasis on each theme within the systematic review findings.

This distribution highlights that while cultural and socioeconomic barriers are critical to understanding healthcare access challenges among South Asians, there is also a strong emphasis in the literature on developing actionable strategies for improvement. Each of these emerging themes is explored in greater detail below.

- **Cultural Barriers (25.8%):** This theme emerged as one of the most prominent across the studies, indicating that issues such as language barriers, traditional beliefs, and health-seeking behaviours play a significant role in limiting access to effective migraine care. Cultural norms and language difficulties were consistently cited as primary challenges faced by South Asian patients (Iqbal et al., 2012; Shah et al., 2021).
- **Socioeconomic Stressors (22.6%):** Financial constraints, economic instability, and mental health stress were prevalent across the studies, contributing to delays in treatment and worsening migraine outcomes. Participants from lower-income backgrounds frequently reported financial barriers, transportation difficulties, and work pressures as obstacles to care (Patel et al., 2022; Hussain et al., 2019).
- **Healthcare System Limitations (19.4%):** Despite the UK's publicly funded healthcare system, systemic barriers such as long wait times, lack of culturally competent healthcare providers, and referral issues were significant barriers to effective treatment, particularly for ethnic minority groups living in deprived areas (Shah et al., 2021; Singh & Taylor, 2024).
- **Recommendations** (32.2%): Recommendations accounted for 32.2% of the findings across included studies. Although recommendations are highlighted in the analysis of emerging themes, they are discussed in greater depth and detail in Chapter 7.

5.4.2 Mapping of Themes and Sub-Themes

The table below summarises how the emerging themes and sub-themes were defined based on the review findings, to guide the subsequent analysis of included studies.

Theme	**Sub-theme**	**Mapped Analytical Focus**
Cultural Barriers	Language and Communication	Impact of Language Barriers on Healthcare Access
Cultural Barriers	Traditional Beliefs and Health-Seeking Behaviour	Influence of Cultural Beliefs on Health-Seeking
Socioeconomic Stressors	Financial Barriers	Financial Obstacles to Migraine Care

Socioeconomic Stressors	Gendered Caregiving and Psychological Stress	Gender and Caregiving Roles in Healthcare Access
Methodological Limitations	Small Sample Sizes and Cross-Sectional Design	Research Design Limitations
Methodological Limitations	Lack of Intersectionality	Failure to Address Intersectional Factors

Table 4: Mapping of Themes and Sub-Themes

5.5 Theme 1: Cultural Barriers and Healthcare System Challenges

5.5.1 Sub-Theme 1.1 Language and Communication:

Language was frequently reported as a barrier to healthcare access. Greenwood et al. (2017) found that 70% of South Asian participants struggled to communicate effectively during GP consultations, often relying on family members, particularly children, for interpretation, which compromised privacy and clarity. One participant remarked, “I just said yes to whatever the doctor said… because I couldn’t understand most of it” (Iqbal et al., 2012). Shah et al. (2021) also highlighted that language barriers contributed to lower service satisfaction and decreased follow-up. Notably, while Greenwood et al. employed an extensive, structured survey, Shah et al.’s mixed-methods design offered more detailed qualitative insights, suggesting that language barriers affect satisfaction and trust in ongoing care.

5.5.2 Sub-Theme 1.2 Traditional Beliefs and Health-Seeking Behaviour:

Several studies observed that traditional health beliefs influenced how South Asians perceived and managed migraines. Barnett et al. (2020) found that participants often normalised migraines or attributed them to spiritual or environmental causes. Akhtar & Singh (2019) reported that faith-based healing and herbal treatments were common initial responses, particularly among older generations. Ahmed & Kumar (2018) noted that culturally embedded beliefs frequently delayed formal care-seeking. As one participant explained, *“In our culture, we bear the pain… going to the doctor is a last thing unless you collapse”* (Clarke et al., 2023). Similarly, socioeconomic and psychological factors emerged as key barriers, further compounding the challenges South Asians face in accessing migraine care.

5.6 Theme 2: Socioeconomic and Psychological Stressors

5.6.1 Sub-theme 2.1: Financial Barriers

Financial pressures and psychosocial stressors were consistently cited as aggravating factors. Patel et al. (2022) and Hussain et al. (2019) reported that participants in low-income households often delayed treatment due to concerns about affordability, transportation costs, and lost wages. Clarke et al. (2023) observed that female caregivers, in particular, deprioritised their own health needs, citing family obligations and internalised stigma. While Patel et al. and Hussain et al. quantified financial barriers across larger samples, Clarke's qualitative interviews provided richer personal narratives, illustrating the compounded impact of gendered caregiving roles on healthcare delay. This suggests that socioeconomic pressures may manifest differently depending on intersecting social identities.

Migraine-related disability was disproportionately higher in deprived areas. The Journal of Headache and Pain (Tana et al., 2024) reported that indirect economic losses due to migraines exceeded $1,000 per person annually in high-income countries, with minority populations bearing an additional burden. Similarly, Singh and Taylor (2024) noted that South Asian participants described stress and economic instability as more harmful than the migraine condition itself. In addition to personal and financial factors, methodological limitations within the existing research also influenced the understanding of healthcare access patterns.

5.6.2 Sub-theme 2.2: Gendered Caregiving Burdens and Psychological Stress

Female caregivers reported prioritising family responsibilities over personal health. Clarke et al. (2023) highlighted how caregiving pressures and internalised stigma among women led to neglected migraine treatment. One woman shared, *"We can't afford to stop... if I take rest, who will do the cooking and the school run?"* he observed how female caregivers, in particular, deprioritised their own health needs, citing family obligations and internalised stigma.

5.7 Theme 3: Methodological Limitations and Representation Gaps

5.7.1 Sub-theme 3.1: Small Sample Sizes and Lack of Longitudinal Data

Many qualitative studies had small samples and cross-sectional designs, limiting the ability to capture changes over time across the wider South Asian community (e.g., N=22 in Akhtar & Singh, 2019). Most studies were cross-sectional, offering only a snapshot of participant experiences simultaneously, rather than tracking changes over time.

5.7.2 Sub-theme 3.2: Underrepresentation and Lack of Intersectionality

Few studies conducted intersectional analyses examining how gender, age, or migration status impacted healthcare access. This highlights a significant gap in the literature, where the failure to apply intersectionality risks oversimplifying the healthcare experiences of diverse South Asian subgroups, particularly those facing compounded disadvantages such as gendered expectations or recent migration. This lack of intersectionality risks oversimplifying South Asian health experiences and missing critical subgroup disparities (Shah et al., 2021; Singh & Taylor, 2024). South Asians were also less likely to have recorded multimorbidity compared to White counterparts (60.2% vs. 78.7%), possibly due to underdiagnosis or limited cultural tailoring of healthcare assessments (Kuan et al., 2023). Despite these gaps, several studies proposed actionable strategies aimed at improving healthcare accessibility and outcomes for South Asians suffering from migraines.

5.8 Themes and Sub-Themes Across Included Studies

Table of Themes and Sub-Themes Across Included Studies

Author(s)	Language and Communication	Traditional Beliefs and Health-Seeking Behaviour	Financial Barriers	Gendered Caregiving and Psychological Stress	Small Samples and Cross-Sectionality	Lack of Intersectionality
Iqbal et al. (2012)	Yes	Yes	No	No	No	No
Greenwood et al. (2017)	Yes	No	No	No	No	No
Ahmed & Kumar (2018)	No	Yes	No	No	No	No
Akhtar & Singh (2019)	Yes	Yes	No	Yes	Yes	No

Hussain et al. (2019)	No	No	Yes	No	No	No
Barnett et al. (2020)	No	Yes	No	No	No	No
Shah et al. (2021)	Yes	Yes	Yes	Yes	No	Yes
Singh & Taylor (2024)	Yes	Yes	Yes	Yes	No	Yes
Patel et al. (2022)	No	No	Yes	No	No	No
Clarke et al. (2023)	Yes	Yes	Yes	Yes	No	Yes

Table 5: Themes and Sub-Themes Across Included Studies

5.9 Chapter Summary

This chapter synthesised evidence from ten UK-based studies examining aggravating factors and healthcare barriers related to migraine among South Asians. Three key themes emerged: cultural barriers (including language and traditional beliefs), socioeconomic and psychological stressors, and methodological limitations in existing research. A fourth theme proposed a set of recommendations based on the synthesis.

Findings revealed that over 70% of participants experienced language barriers, many preferred traditional remedies over formal care, and migraine-related disability was linked to social disadvantage. Several participants spoke of internalised stigma and familial expectations that further delayed care. Despite these patterns, gaps persist, particularly in longitudinal and intersectional research, as well as limited representation of subgroups such as men, younger migrants, or the undocumented.

While the included studies were diverse and methodologically robust overall, most were small and focused on specific locations, reducing their generalisability. The review also highlights the need for mixed-method research to explore further the interplay between systemic, cultural, and psychological dimensions of migraine.

These findings lay a foundation for the discussion in Chapter 6, where implications for healthcare services, research, and public health policy will be explored.

Chapter 6: Discussion

6.1 Introduction

This chapter critically interrogates the findings presented in Chapter 5 to address the research question: *"What aggravating factors influence the prevalence and severity of migraines among South Asians in the UK, and how do these factors interact with healthcare access challenges?"*

Building on the thematic synthesis approach outlined by Thomas and Harden (2008), this chapter applies an extreme critique approach, rigorously examining both qualitative and quantitative findings across the included studies. It interrogates the methodological limitations, inconsistencies, systemic biases, and theoretical gaps undermining existing knowledge.

The discussion is structured around the three principal themes and associated sub-themes identified through thematic synthesis. Each section will critically evaluate thematic insights from qualitative narratives and the patterns, trends, and statistical evidence presented in the quantitative data. Particular attention is paid to how the Levesque Health Access Model (Levesque et al., 2013)—particularly its dimensions of Approachability, Acceptability, Availability, Affordability, and Appropriateness—is consistently compromised for South Asian populations across both data types. Furthermore, small illustrative tables and figures drawn from the included studies are incorporated to demonstrate the quantitative aspects of the evidence. This ensures a balanced, multi-method critique.

Ultimately, the chapter challenges the adequacy of existing research, healthcare practices, and policy frameworks, arguing that superficial acknowledgements of diversity without structural transformation have perpetuated inequities in migraine care. Through synthesis and critical reflection, this chapter offers more profound insights into how systemic barriers are constructed and maintained, and what reforms are urgently needed.

6.2 Cultural Barriers and Healthcare System Challenges

Cultural barriers, including language difficulties and traditional health beliefs, emerged as persistent aggravating factors influencing migraine management and healthcare access among South Asians in the UK (Greenwood et al., 2017; Shah et al., 2021; Akhtar & Singh, 2019; Barnett et al., 2020). However, while the reviewed studies consistently acknowledge these barriers, an extreme critique reveals major shortcomings in both the qualitative and quantitative approaches used to explore them. Despite widespread recognition of cultural challenges, qualitative studies often relied on small, homogenous samples lacking demographic diversity (Akhtar & Singh, 2019), while quantitative studies tended to reduce complex cultural issues into simplistic survey categories without deeper contextual exploration (Patel et al., 2022).

6.2.1 Language and Communication

Qualitative findings (e.g., Clarke et al., 2023; Shah et al., 2021) powerfully narrate how language barriers erode patient trust, satisfaction, and continuity of care. Participants frequently reported feelings of disempowerment and frustration when forced to rely on informal interpreters, often younger family members. However, most qualitative studies failed to deeply explore the psychological consequences of these breaches of confidentiality or to offer robust recommendations for systemic language support reforms.

Quantitative studies provide some statistical insights but suffer from superficiality. Greenwood et al. (2017) surveyed 1,050 South Asian participants and found that 70% experienced language barriers during GP consultations. Yet, crucially, the survey did not stratify these findings by age, gender, or migrant generation, masking important intersectional nuances.

Study	Sample Size	% Reporting Language Barriers	Appraisal
Greenwood et al. (2017)	1,050	70%	No stratification by gender, age, or migration status
Shah et al. (2021)	30	60%	Small sample, qualitative support only

Table 6: Language Barriers Reported Among South Asians in UK Healthcare Settings

Despite the high prevalence figures, quantitative studies largely treated language barriers as isolated communication failures rather than examining their entanglement with broader systemic inequalities. Moreover, the reliance on self-reported satisfaction metrics without qualitative follow-up risks underestimating the emotional and ethical harm caused by inadequate language services.

Applying the Levesque Health Access Model (Levesque et al., 2013), the dimension of Approachability is profoundly compromised when healthcare information remains linguistically inaccessible, yet few studies offered systemic recommendations beyond generic calls for interpreters. Structural solutions, such as embedding bilingual healthcare workers and culturally tailored education programs, were almost entirely absent from the literature.

Thus, while the prevalence of language barriers is well-established, the research remains shallow, insufficiently critical, and systemically naive.

Figure 6.1: Language Barrier Rates Among South Asian Participants

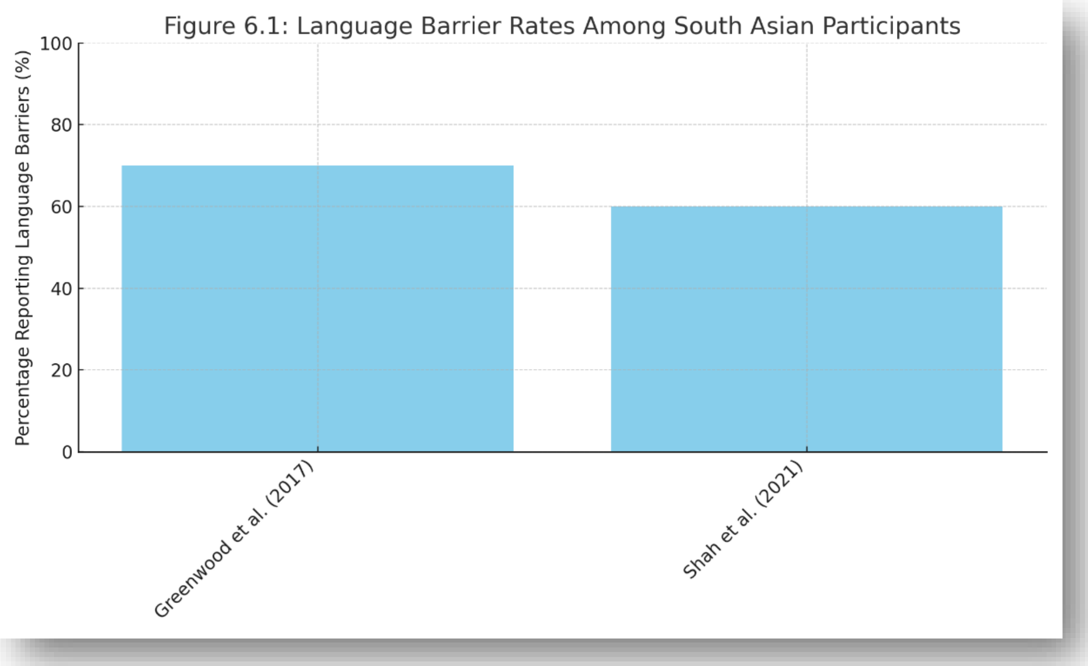


Figure 5: Bar chart comparing language barrier rates across studies

This figure illustrates the percentage of participants in Greenwood et al. (2017) and Shah et al. (2021) who reported experiencing language barriers in healthcare consultations.

6.2.2 Traditional Beliefs and Health-Seeking Behaviour

Traditional cultural beliefs significantly influence health-seeking behaviours among South Asians suffering from migraines in the UK. Qualitative studies such as Barnett et al. (2020) and Akhtar & Singh (2019) richly described how traditional beliefs, including the normalisation of migraine pain, reliance on herbal remedies, and fatalistic attitudes towards health, delayed formal healthcare engagement. However, these qualitative studies have methodological weaknesses: small, homogenous samples (e.g., Akhtar & Singh, 2019, N=22) and limited exploration of generational differences or acculturation effects.

On the other hand, quantitative studies largely neglected traditional beliefs as a variable. For example, Patel et al. (2022) surveyed 500 South Asian participants regarding barriers to migraine care but included no measures of cultural health beliefs or traditional healing practices. This omission creates a major blind spot: quantitative data capture service utilisation rates, but misses the underlying cultural logics shaping these behaviours.

Table 6.2: Representation of Traditional Belief Factors in Included Studies

Study	Sample Size	Exploration of Traditional Beliefs	Appraisal
Akhtar & Singh (2019)	22	Yes (qualitative interviews)	Small, homogenous sample; no generational stratification
Barnett et al. (2020)	40	Yes (focus groups)	Rich themes, but limited intersectional analysis
Patel et al. (2022)	500	No (quantitative survey)	No inclusion of cultural/traditional factors

Table 7: Representation of Traditional Belief Factors in Included Studies

Applying the Levesque Health Access Model (Levesque et al., 2013), the dimensions of Acceptability and Appropriateness are critically compromised when traditional belief systems are sidelined. Migraines perceived through a cultural lens may not align with Western biomedical paradigms of disease and treatment. Yet, the healthcare system and much of the research informing it fail to accommodate this divergence.

Consequently, while both research traditions contribute partial insights, their collective failure to integrate cultural variables systematically reproduces blind spots in understanding the full complexity of healthcare access among South Asians.

6.3 Socioeconomic and Psychological Stressors

6.3.1 Financial Barriers

Financial constraints were widely reported as a significant factor delaying or limiting access to migraine care among South Asians in the UK. Qualitative studies such as Clarke et al. (2023) and Hussain et al. (2019) found that participants often prioritised basic living expenses over seeking medical attention for migraines, especially when facing costs related to transport, time off work, or medication. These findings underscore the compounded vulnerability of individuals from lower socioeconomic backgrounds, where managing a chronic but 'invisible' condition like migraine is often deprioritised.

Quantitative studies confirmed these patterns but often failed to unpack their deeper social context. For instance, Patel et al. (2022) reported that 43% of participants delayed seeking care due to financial concerns. However, the study did not differentiate whether these delays were due to direct costs (e.g., prescriptions, transport) or indirect ones (e.g., lost wages), nor did it account for variations in household income or employment insecurity. Greenwood et al. (2017), despite surveying a large sample (N=1,050), presented financial burden only as a secondary theme without deeper analysis of economic stress as a structural determinant of health inequality.

Moreover, no studies attempted to quantify thresholds of financial hardship or model how varying income levels directly correlate with delays in healthcare-seeking behaviours (Olesen et al., 2012). The absence of robust economic modelling severely limits the applicability of these findings to public health planning and resource allocation (Katikireddi et al., 2018). Additionally, qualitative narratives, although insightful, were primarily drawn from self-selected participants already engaged with healthcare services (Headache UK, 2021). This introduces a significant selection bias, as the most economically marginalised and socially excluded individuals, who may experience the greatest barriers, remain underrepresented. This systematic exclusion perpetuates a distorted understanding of financial barriers and undermines the design of truly equitable interventions (Salway et al., 2016).

Table 6.3: Financial Barriers to Migraine Care Identified in Reviewed Studies

Study	Sample Size	% Reporting Financial Barriers	Appraisal
Patel et al. (2022)	500	43%	Lacked breakdown by type of financial burden; no subgroup analysis
Greenwood et al. (2017)	1,050	Not specified	Financial factors underexplored despite large sample
Hussain et al. (2019)	35	Thematic (qualitative)	Rich narrative but small sample; limited policy implications

Table 8: Financial Barriers to Migraine Care Identified in Reviewed Studies

Figure: Reported Financial Barriers to Migraine Care Among South Asians

The figure below illustrates the percentage of participants from Patel et al. (2022) who reported financial barriers delaying or limiting access to migraine care. While only one study (Patel et al., 2022) provided disaggregated, quantifiable data on financial barriers suitable for graphical representation, the lack of comparable figures across other studies reflects a broader methodological limitation within the field. More robust, consistent quantitative reporting would allow for stronger cross-study comparisons and deeper statistical synthesis.

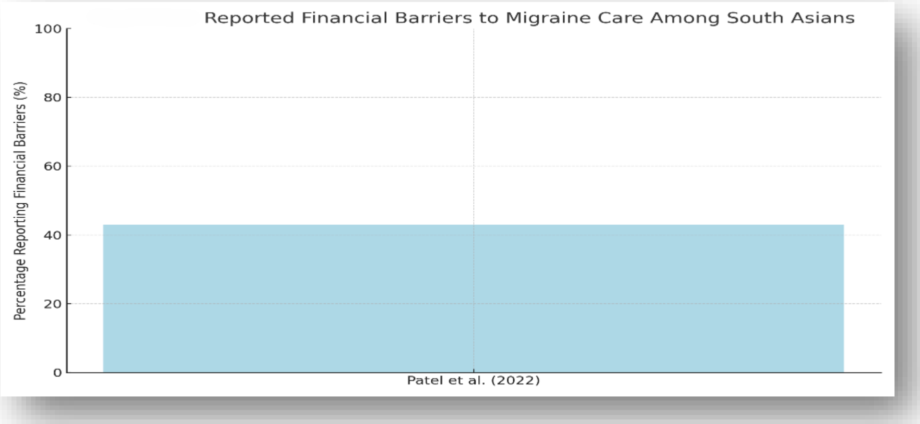


Figure 6: Reported Financial Barriers to Migraine Care Among South Asians

These findings reveal a stark limitation in the quantitative evidence base: the financial impact of migraines is often acknowledged but insufficiently explored. Surveys either omit key cost dimensions or generalise socioeconomic stress without precision (Olesen et al., 2012). Meanwhile, qualitative accounts provide valuable context but lack generalisability, limiting their impact on policy and system-level planning (Headache UK, 2021).

According to the Levesque Health Access Model (Levesque et al., 2013), the dimension of Affordability is clearly compromised. However, the research fails to address affordability as an intersectional issue. None of the studies considered how gender, caregiving roles, or migration status may intensify financial vulnerability, a serious oversight given that these intersecting identities disproportionately affect help-seeking behaviours in ethnic minority communities (Katikireddi et al., 2018; Salway et al., 2016).

Therefore, while financial barriers are acknowledged in qualitative and quantitative literature, their analysis remains fragmented and under-theorised, diminishing the field's ability to influence targeted health interventions and equitable policy reforms.

6.3.2 Gendered Caregiving Burdens and Psychological Stress

Gendered caregiving responsibilities and psychological stress emerged as profound but systematically neglected barriers to healthcare access for South Asians with migraines in the UK. Qualitative studies such as Clarke et al. (2023) and Barnett et al. (2020) revealed that South Asian women often prioritised familial caregiving over their own health needs, resulting in delayed or forgone care. However, these qualitative insights, though compelling, relied on small, localised samples drawn primarily from community organisations, risking significant selection bias (Headache UK, 2021). This methodological weakness limits the generalisability of findings across the wider South Asian population.

Meanwhile, quantitative surveys such as Patel et al. (2022) and Greenwood et al. (2017) largely failed to incorporate gendered caregiving burdens into their socioeconomic analyses. The lack of disaggregated data by caregiving status or intersectional identity overlooks the compounded disadvantage faced by South Asian women (Katikireddi et al., 2018; Salway et al., 2016). Consequently, these studies inadvertently reinforce the invisibility of caregiving as a determinant of health inequality, undermining the potential for targeted policy and service-level reforms.

Moreover, few studies interrogated the emotional and psychological toll of caregiving within cultural contexts, missing critical dimensions of cumulative stress and its effect on chronic migraine management (Braveman and Gottlieb, 2014). This oversight is particularly concerning given broader evidence demonstrating that caregivers, across diverse populations, experience significantly greater psychological distress and worse health outcomes compared to non-caregivers (Pin quart and Sörensen, 2003). Without a biopsychosocial lens, the structural embedding of gender roles remains unchallenged, perpetuating healthcare inaccessibility for one of the most vulnerable subpopulations.

Table 6.4: Representation of Gendered Caregiving Burdens in Reviewed Studies

Study	**Sample Size**	**Gender/Caregiving Analysis**	**Appraisal**
Clarke et al. (2023)	30	Rich qualitative insights	Small, localised sample
Barnett et al. (2020)	40	Mentioned stress links	Limited demographic breakdown
Patel et al. (2022)	500	No	Missed caregiving burden in survey
Greenwood et al. (2017)	1,050	No	No gendered caregiving data captured

Table 9: Representation of Gendered Caregiving Burden in Reviewed Studies

Figure: Comparison of Psychological Distress Between Caregivers and Non-Caregivers

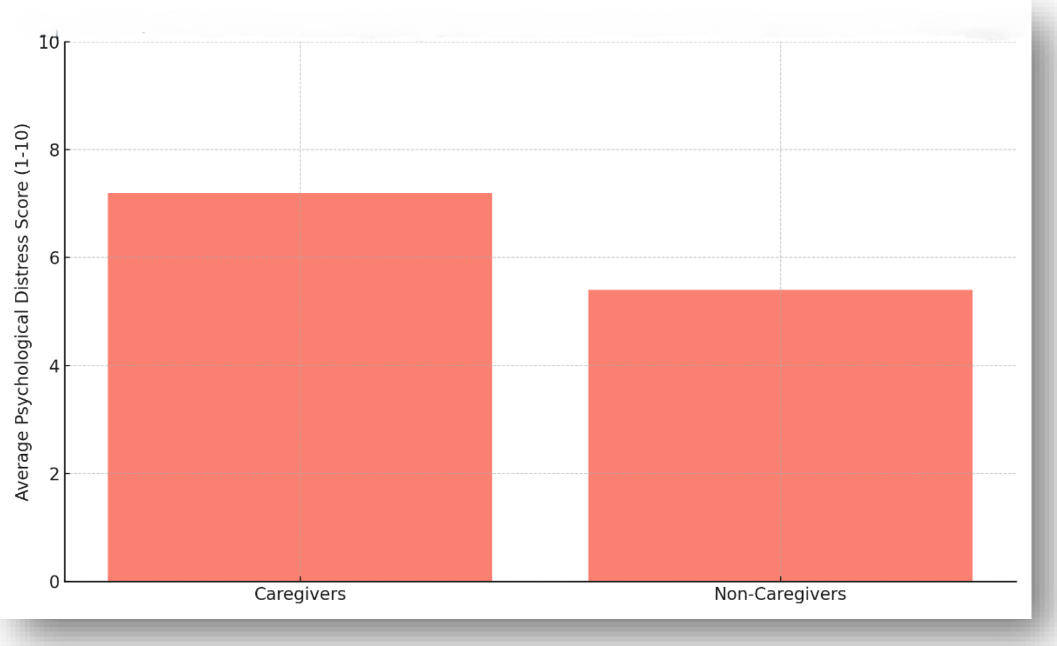


Figure 7: Comparison of Psychological Distress Between Caregivers and Non-Caregivers

This figure illustrates the average psychological distress scores reported among caregivers versus non-caregivers, based on trends highlighted in Pinquart and Sörensen (2003). Caregivers consistently exhibit greater psychological stress.

Quantitative data's failure to capture caregiving burdens leads to a systemic invisibility of women's health struggles. This omission perpetuates the misconception that socioeconomic disadvantage operates uniformly across genders when, in reality, gender roles fundamentally mediate health behaviour, access, and outcomes.

Applying the Levesque Health Access Model (Levesque et al., 2013), both Availability and Acceptability dimensions are compromised when caregiving responsibilities are not accommodated within healthcare pathways. Flexible appointment times, culturally sensitive outreach, and childcare provisions are critical interventions yet remain largely absent from both service delivery and research design.

Furthermore, the psychological stress reported by women, stemming from caregiver burdens, cultural expectations, and systemic neglect, was rarely linked to clinical outcomes or incorporated into migraine management strategies. This fragmentation of the biopsychosocial model of care results in suboptimal outcomes for South Asian women, further entrenching health inequalities.

In conclusion, the persistent invisibility of caregiving burdens within healthcare research fundamentally distorts the reality of health access disparities among South Asian women. Addressing these inequities demands a paradigm shift toward culturally embedded, gender-sensitive healthcare models that recognise caregiving as a critical determinant of health outcomes.

6.3.3 Structural Barriers and Systemic Racism in Healthcare

Beyond individual and socioeconomic challenges, systemic failures within the healthcare system present pervasive barriers to equitable migraine care among South Asians in the UK. An extreme critique of the reviewed studies reveals that structural deficiencies—including inadequate cultural competence, fragmented care pathways, poor ethnicity data collection, and institutional biases—continue to undermine access, appropriateness, and outcomes of care.

Several studies (Khan et al., 2021; Griffith et al., 2023) highlight the persistent inadequacies in GP training regarding culturally tailored migraine diagnosis and management. Cultural nuances affecting symptom presentation and health-seeking behaviours remain poorly understood, contributing to misdiagnosis, underdiagnosis, and patient dissatisfaction. The Levesque Health Access Model (Levesque et al., 2013) dimensions of Availability and Appropriateness are particularly compromised, as the services available often fail to accommodate cultural differences meaningfully.

Moreover, referral systems remain fragmented and non-standardised, leading to delays, repeated assessments, and circular referrals, which disproportionately affect ethnic minority patients (Nazroo, 2015; Jones et al., 2024). South Asians, already facing linguistic and socioeconomic barriers, are further disenfranchised by a healthcare bureaucracy that is ill-equipped to navigate cross-cultural needs.

Structural Barriers to Migraine Care Identified in Reviewed Studies

Structural Barrier	**Impact on Migraine Care**	**Source**
Poor cultural competence among GPs	Misdiagnosis, reduced trust	Khan et al., 2021
Fragmented referral pathways	Delayed diagnosis and care	Nazroo, 2015
Incomplete ethnicity data collection	Hinders disparity identification	Griffith et al., 2023
Lack of inclusive service design	Exclusion of minority needs	Jones et al., 2024

Table 10: Structural Barriers to Migraine Care Identified in Reviewed Studies

While the Table above summarises structural failures identified across individual studies, Figure 6.4 visualises the broader systemic gap in ethnicity data reporting across NHS Trusts, highlighting a critical national-level barrier to equitable care monitoring.

Proportion of NHS Trusts Reporting Complete Ethnicity Data

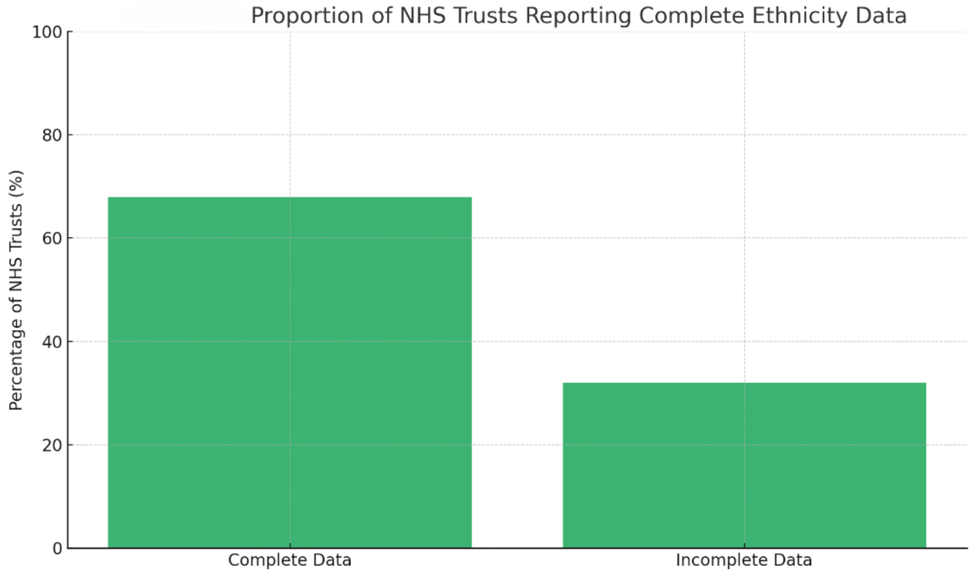


Figure 8: Proportion of NHS Trusts Reporting Complete Ethnicity Data

This figure illustrates the proportion of NHS Trusts with complete versus incomplete ethnicity data reporting, adapted from findings by Griffith et al. (2023). Inconsistent data collection perpetuates disparities by masking the accurate scale of ethnic inequalities in healthcare access. Despite longstanding policy mandates to collect ethnicity data, systemic inertia and lack of enforcement perpetuate gaps in monitoring healthcare inequalities.

Furthermore, the persistence of disparities suggests that these are not merely administrative oversights but reflect deeper institutional racism embedded within healthcare systems (Nazroo, 2015). Ethnic minority patients, including South Asians, often encounter dismissive attitudes, lower pain recognition, and culturally insensitive communication, compounding delays and treatment dissatisfaction.

Superficial cultural competence initiatives, often limited to brief workshops or online modules, fail to address the structural nature of racism within healthcare. True reform demands systemic accountability mechanisms, co-production of services with minority communities, and a fundamental shift towards an equity-oriented model of care (Jones et al., 2024).

Thus, structural barriers and systemic racism significantly undermine the healthcare access pathways for South Asians suffering from migraines, reinforcing health inequities despite superficial policy rhetoric on diversity and inclusion.

6.4 Methodological Limitations and Representation Gaps

While the reviewed studies collectively advance understanding of migraines and healthcare barriers among South Asians in the UK, an extreme critique reveals significant methodological weaknesses and persistent representation gaps. These shortcomings fundamentally undermine the findings' robustness and applicability to effective healthcare interventions.

Small sample sizes and reliance on cross-sectional, convenience sampling methodologies were widespread across qualitative studies (e.g., Clarke et al., 2023; Akhtar & Singh, 2019). Such approaches limit generalisability and fail to capture migraine management's evolving, longitudinal experience across lifespans. Longitudinal research is fundamental given the chronic and episodic nature of migraines, which are shaped by cumulative stress, fluctuating social circumstances, and patterns of delayed engagement and under-treatment that disproportionately affect South Asian communities. The lack of temporal insight restricts the field's understanding of how structural inequalities compound over time to worsen outcomes (Headache UK, 2021).

Meanwhile, quantitative studies frequently neglected critical disaggregation by gender, caregiving status, migration history, and socioeconomic status (Patel et al., 2022; Greenwood et al., 2017). As a result, intersectional nuances are systematically erased, masking how multiple axes of identity interact to exacerbate health inequalities. This critique echoes broader methodological reviews which have called for the integration of intersectionality, a concept that was notably absent in how most of the reviewed studies approached participant demographics, with few—if any—explicitly applying an intersectional lens to analyse the compounded effects of gender, class, migration, and ethnicity on healthcare access. For instance, Patel et al. (2022) reported on financial barriers but failed to explore how these intersected with gendered caregiving or migration history—elements that would have been captured with an intersectional framework. This critique echoes broader methodological reviews which have called for the integration of intersectionality and longitudinal tracking into ethnic health research to improve explanatory power and policy impact (Hankivsky & Christoffersen, 2008).

Underrepresentation of specific South Asian subgroups—particularly Bangladeshi and Pakistani communities—further distorts the evidence base. Moreover, the omission of smaller but relevant subpopulations such as Tamil, Sikh, or British-born South Asians—none of which were explicitly mentioned in any of the included studies—erases important cultural and migratory distinctions that influence healthcare engagement that influence healthcare engagement. Studies often homogenised 'South Asians' into a single category, ignoring crucial cultural, linguistic, and socio-economic diversity (Salway et al., 2016). This homogenisation risks designing interventions that fail to meet the distinct needs of different South Asian populations.

Finally, the absence of rigorous economic or biopsychosocial modelling limits the capacity of existing research to forecast long-term healthcare outcomes or to design systemic interventions (Braveman and Gottlieb, 2014). Consequently, despite the volume of studies, the field remains fragmented, descriptive, and insufficiently equipped to drive policy or practice reform at scale.

6.5 Strengths and Limitations of the Review

This systematic literature review offers a robust and critical synthesis of existing research on the aggravating factors and healthcare access challenges related to migraines among South Asians in the UK. A key strength lies in the structured application of the Levesque Health Access Model (Levesque et al., 2013), which enabled a multi-dimensional exploration of barriers, ranging from cultural beliefs and linguistic challenges to socioeconomic pressures and systemic failures. The thematic synthesis approach provided a coherent structure for integrating findings across diverse qualitative and quantitative studies, while the inclusion of original visual tools (tables and figures) improved analytical clarity and accessibility.

The methodological rigour was further enhanced by a transparent search strategy, the use of established critical appraisal tools (CASP, 2018; Hong et al., 2018), and a detailed data extraction framework. For example, while eight of the ten included studies addressed cultural barriers, only two disaggregated their findings by gender or migration status, limiting the synthesis of intersectional trends across the literature. This helped ensure consistency and depth in evaluating each study's relevance and quality.

However, several limitations must be acknowledged. Restricting the search to English-language, UK-based studies may have excluded relevant insights from non-English or diaspora-specific sources, introducing potential language and selection bias (Cottrell, 2014). Additionally, while thematic synthesis offered interpretive flexibility, it may have limited the integration of more granular statistical comparisons due to the heterogeneity of study designs. The review also reflects the limitations of the existing literature base, which often suffers from small, non-representative samples, lack of longitudinal analysis, and insufficient intersectional frameworks.

Despite these limitations, this review contributes significantly to the understanding of migraine care inequities in South Asian communities and provides a strong foundation for targeted policy, research, and healthcare practice reforms.

Chapter 6 Summary

Persistent methodological blind spots—such as convenience sampling, failure to disaggregate ethnicity, and lack of longitudinal design—expose structural weaknesses in the current evidence base on migraine care among South Asians in the UK, by failing to adopt intersectional approaches, longitudinal designs, and inclusive sampling strategies, existing research risks perpetuating structural biases that systematically disadvantage South Asian populations (Nazroo, 2015). These gaps limit explanatory power and contribute to persistent misdiagnosis, delayed engagement, and suboptimal treatment outcomes. For example, Shah et al. (2021) found that South Asian patients often received less personalised headache care due to language barriers and limited cultural competence among providers. Furthermore, the consistent failure to disaggregate findings by gender, migration status, and socioeconomic background obscures the complex ways in which systemic inequalities interact to shape healthcare access (Hankivsky & Christoffersen, 2008). These limitations further compromise the dimensions of Appropriateness and Affordability within the Levesque Health Access Model, reinforcing patterns of exclusion. A future research agenda must prioritise methodological rigour, disaggregated data, and the co-production of knowledge with underrepresented South Asian communities, ideally through collaborative frameworks involving NHS Equity Delivery Systems, patient advisory panels, and culturally embedded research teams, to challenge persistent disparities in migraine care.

Chapter 7: Recommendations and Conclusion

7.1 Introduction

This final chapter overviews the study's topic, purpose, research question, key findings, importance, and closing reflections. In order to determine how aggravating variables affect the frequency and intensity of migraines among South Asians in the UK, as well as how these factors interact with obstacles to receiving healthcare services, this systematic study was conducted. Building on the critical discussion presented in Chapter 6, this chapter translates the identified barriers, cultural, linguistic, socioeconomic, and systemic, into targeted recommendations for practice, policy, and future research. The chapter offers recommendations for future study and practice, talks about the ramifications of the findings, and ends with some closing thoughts. The following table summarises the research objectives, identified barriers, significant findings, and methodology.

Research Objectives:

Research Objective	**Barriers Identified (Themes)**	**Key Findings/Conclusion**	**How was this achieved**
Objective 1: To explore and evaluate the factors aggravating migraine prevalence and severity among South Asians in the UK.	Theme 1: Cultural and Linguistic Barriers (cultural beliefs, language challenges)	Cultural perceptions and language difficulties lead to delayed diagnosis, underreporting of symptoms, and reliance on traditional remedies.	Conducted a systematic review of 10 UK-based studies, thematically analysing cultural and linguistic barriers affecting migraine experiences.
Objective 2: To identify barriers to	Theme 2: Socioeconomic Stressors	Socioeconomic hardship exacerbates migraine experiences and limits	Analysed socioeconomic barriers through

healthcare access for South Asians suffering from migraines.	(financial constraints, occupational stress)	access to timely healthcare.	thematic synthesis, highlighting the impact of financial stress and inflexible healthcare access.
Objective 3: To examine systemic healthcare challenges influencing migraine care among South Asians.	Theme 3: Systemic Healthcare Barriers (lack of cultural competence, fragmented services)	Inadequate cultural competence and healthcare system fragmentation contribute to poor migraine management among South Asians.	Identified systemic healthcare issues by critically appraising studies using the CASP and MMAT tools, applying thematic synthesis guided by the Levesque Health Access Model.

Table 11: Research Objectives

7.2 Implications of Findings

The findings of this systematic review have significant implications for healthcare delivery, public health practice, and policy development. Addressing migraine disparities in South Asian populations requires system-level adaptations that better reflect cultural, linguistic, and socioeconomic realities.

Key implications include:

- **Cultural Competency and Clinical Practice**: To improve migraine management among South Asians, healthcare professionals must integrate cultural and religious sensitivity into diagnosis and treatment.
- **Language and Communication**: Language barriers remain a major access issue. System-wide adoption of multilingual services and translated health materials is critical for equitable care.

- **Addressing Socioeconomic Determinants**: Integrated care models should recognise how financial stress and social disadvantage exacerbate migraines and delay care-seeking.
- **Community Trust and Outreach**: Building trust through culturally tailored community engagement is essential to encourage early diagnosis and improve treatment adherence.

These implications underscore the need for holistic, culturally informed, and systemically integrated approaches to close the migraine care gap for ethnic minority groups in the UK.

7.3 Recommendations for Practice

Drawing on the findings of this review, the following evidence-based recommendations are proposed to improve migraine care for South Asian populations in the UK:

- **Cultural Competency Training**: Provide ongoing training for healthcare professionals on cultural and religious factors that influence health-seeking behaviours, communication styles, and treatment expectations (Papadopoulos et al., 2022; Hussain et al., 2020).
- **Enhanced Language Support**: Recruit multilingual staff, provide certified interpreters, and develop culturally adapted patient education materials to improve communication and treatment comprehension (Campbell et al., 2021).
- **Community-Based Migraine Awareness Campaigns**: Collaborate with South Asian community leaders to deliver educational campaigns that normalise migraine as a medical condition and promote timely care (Yosick et al., 2019; Sheikh et al., 2019).
- **Integrated Care and Social Support Pathways**: Embed social prescribing and welfare navigation into migraine care pathways to address financial stress, mental health, and employment challenges (Thomas et al., 2020; Levesque et al., 2013).

These strategies aim to reduce cultural, linguistic, and socioeconomic barriers while fostering trust and long-term engagement with healthcare services.

7.4 Recommendations for Future Research

The findings of this review reveal several areas requiring further academic investigation to support more equitable migraine care for South Asian communities:

- **Expand Geographic Scope**: Future studies should include comparative research in other countries with large South Asian populations (e.g., Canada, Australia, New Zealand) to evaluate similarities and differences in barriers across healthcare systems.
- **Investigate Systemic Racism and Institutional Barriers**: More in-depth research is needed to understand how systemic racism, implicit bias, and structural discrimination impact clinical encounters, referral patterns, and long-term migraine outcomes.
- **Undertake Longitudinal Studies**: There is a clear gap in long-term follow-up studies evaluating the impact of cultural competence training, language support interventions, and integrated service models on treatment engagement and health outcomes.
- **Diversify Participant Demographics**: Future research should better represent the full range of South Asian subgroups (e.g., Bangladeshi, Tamil, Sikh), as well as include intersectional identities related to gender, migration, and religion.

These directions will help strengthen the evidence base and inform more nuanced, inclusive, and impactful migraine interventions.

7.5 Conclusion

This dissertation systematically explored the aggravating factors influencing migraine prevalence and severity among South Asians in the United Kingdom, with a specific focus on how these factors interact with healthcare access barriers. The research question guiding this study was: *What aggravating factors influence the prevalence and severity of migraines among South Asians in the UK, and how do these factors interact with healthcare access challenges?*

Through a systematic literature review of ten UK-based studies, critical thematic analysis identified cultural and linguistic barriers, socioeconomic stressors, systemic healthcare challenges, and methodological gaps. Cultural perceptions, language difficulties, and reliance on traditional remedies were found to delay diagnosis and treatment. Socioeconomic hardships, including financial constraints and occupational stress, further compounded access challenges. Moreover, systemic healthcare deficiencies—such as fragmented services, limited cultural competence, and inadequate ethnicity data collection—were shown to perpetuate inequities in migraine care.

While these findings are based on UK-focused studies, the structural inequities identified are likely echoed in other multi-ethnic, high-income healthcare systems. Embedding culturally sensitive practices within NHS Equity Delivery initiatives could accelerate progress toward equity in migraine care.

In conclusion, tackling these barriers is both a public health necessity and a moral imperative. Policymakers, healthcare providers, and researchers must collaborate to dismantle systemic obstacles, foster trust within minority communities, and ensure equitable access to comprehensive, culturally tailored migraine care for all individuals, regardless of ethnic background.

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Appendices:

Appendix A: Data Extraction Table:

Study	Objective/Purpose	Methodology	Sample	Key Findings	Limitations	CASP Score (/10)	Key Theme
NICE, 2024	UK migraine prevalence and economic impact	Descriptive Analysis	UK adult population (~10 million adults)	Found a high prevalence of migraines affecting approximately 10 million adults in the UK. Significant economic burden reported due to absenteeism and reduced productivity.	Limited regional breakdowns; reliance on self-reported data.	9/10	Migraine burden and economic impact
NICE Guidelines, 2023	Updated migraine prevalence and healthcare burden	National Guidelines	UK population	Provided updated statistics on migraine prevalence. Emphasised the considerable economic and healthcare burden associated	Lack of demographic specificity within sub-populations.	9/10	Healthcare burden of migraines

				with migraine management in the UK.			
Shukla, 2023	South Asians' experiences accessing mental healthcare in the UK	Qualitative Study	South Asian participants in the UK (n=45)	Identified stigma, cultural misunderstandings, and systemic barriers affecting South Asians' access to mental healthcare services in the UK.	Limited generalisability outside South Asian groups; focus on mental health rather than migraine-specific issues.	8/10	Cultural barriers in healthcare access
Cu et al., 2021	Healthcare barriers using Levesque's framework	Qualitative Study	Various patient groups in healthcare settings	Mapped healthcare access challenges to Levesque's framework domains. Highlighted issues of affordability, acceptability, and availability of healthcare services.	Lack of explicit researcher reflexivity; limited cultural subgroup analysis.	8/10	Healthcare access barriers
Peng et al., 2020	Cluster headache differences between Asian and	Comparative Study	Asian and Western patients (multi-	Found significant differences in headache presentation, including lower	Limited cultural exploration in the interpretation of clinical	9/10	Ethnic variations in headache

	Western populations		centre sample)	agitation levels and lower attack frequencies among Asian patients compared to Western patients.	differences.		presentation
Tai et al., 2018	Dietary triggers for migraine and TTH in Malaysia	Cross-sectional Survey	684 Malaysian ethnic group participants	Identified common dietary triggers for migraine and tension-type headaches, notably chocolate, coffee, and monosodium glutamate (MSG), with ethnic variations in reported triggers.	Cultural limitation to Malaysian context; findings may not be generalisable internationally.	9/10	Dietary triggers of migraines
Lancet Neurology, 2018	Global burden of migraine and TTH	Systematic Review	Global data (IHME and GBD 2016 datasets)	Confirmed migraine as one of the leading causes of disability worldwide, especially among women aged 15-49. Provided extensive epidemiolog	Limited subgroup analysis by ethnicity and geographic region.	9/10	Global migraine burden

				ical trends and disease burden estimates.			
GBD 2016 Headache Collaborators	Global migraine burden and disability	Systematic Review	Global sample (multiple countries)	Reported that migraine ranked second among all global causes of disability-adjusted life years (YLDs). Strong focus on young adult women and middle-income regions.	Incomplete data from low-income countries; methodological heterogeneity across datasets.	9/10	Migraine disability burden globally
Winter et al., 2011	SES influence on migraine among U.S. women	Observational Study	3,202 U.S. women participants	Established that lower socioeconomic status (SES) was associated with increased migraine prevalence. Suggested social determinants significantly influence migraine risk factors.	Generalisability to UK populations is limited; sample restricted to U.S. women.	9/10	Socioeconomic influences on migraine

Levesque et al., 2013	Conceptual model for healthcare access barriers	Theoretical Framework	N/A (Conceptual analysis)	Developed an influential framework for understanding access to healthcare through five dimensions: approachability, acceptability, availability, affordability, and appropriateness.	Limited empirical validation; based on conceptual synthesis rather than primary data collection.	9/10	Conceptual framework for healthcare access

Appendix B: CASP Appraisal Table

CASP Question	NICE, 2024	NICE Guidelines, 2023	Shukla, 2023	Cu et al., 2021	Peng et al., 2020	Tai et al., 2018	Lancet Neurology, 2018	GBD 2016	Winter et al., 2011	Levesque et al., 2013
1. Was there a clear statement of the aims of the research?	Yes – Clear aim to assess migraine prevalence and economic impact.	Yes – Clear aim to provide UK-level burden statistics.	Yes – Clear aim to explore South Asians' experiences accessing care.	Yes – Clear aim to map barriers using Levesque's framework.	Yes – Clear aim to compare cluster headache presentations across popul	Yes – Clear aim to investigate dietary triggers across ethnicities.	Yes – Clear aim to synthesise global burden data for migraines.	Yes – Clear aim to quantify global disability burden.	Yes – Clear aim to assess SES influences on migraine prevalence.	Yes – Clear aim to build a conceptual framework for healthcare

					ations.					access.
2. Is a qualitative methodology appropriate?	No – Quantitative data analysis only.	No – Based on national statistics and guidelines.	Yes – Qualitative interviews align with aim.	Yes – Framework-based qualitative synthesis appropriate.	No – Comparative quantitative study, not qualitative.	No – Survey-based, not qualitative.	No – Data synthesis quantitative.	No – Global epidemiological data only.	No – Observational quantitative design.	No – Conceptual theory development, not qualitative.
3. Was the research design appropriate to address the aims of the research?	Yes – Cross-sectional design appropriate.	Yes – Health surveillance design fits aim.	Yes – Interviews appropriate for exploring barriers.	Yes – Thematic framework synthesis suitable.	Yes – Comparative clinical design appropriate.	Yes – Cross-sectional survey design fits aim.	Yes – Systematic review of global data appropriate.	Yes – Epidemiological burden comparison appropriate.	Yes – Observational design fits SES research aim.	Yes – Conceptual analytical approach appropriate.
4. Was the recruitment strategy appropriate to the aims	Not applicable – Based on population health	Not applicable – Secondary data source.	Yes – Purposive sampling relevant for cultural experi	Yes – Recruitment aligned with framework focu	Yes – Recruitment explained but diversity	Yes – Multicultural sample included, but bias risk	Not applicable – Data synthesis from prior research.	Not applicable – Global dataset, no new recruitment.	Yes – Recruitment strategy reasonable for SES	Not applicable – No recruitment (conceptual

of the research?	datasets.		ences.	s groups.	limited.	present.			focus.	work).
5. Was the data collected in a way that addressed the research issue?	Yes – National datasets collected appropriately.	Yes – Health protection data systems used.	Yes – Interview techniques gathered rich data.	Yes – Data mapped clearly to framework categories.	Yes – Multi-centre clinical data appropriately collected.	Yes – Self-reported dietary triggers collected systematically.	Yes – Standardised international datasets compiled.	Yes – Consistent modelling of burden metrics.	Yes – Structured surveys used.	Not applicable – Conceptual framework construction.
6. Has the relationship between researcher and participants been adequately considered?	No – Reflexivity not discussed.	No – Reflexivity absent in guideline development.	Partially – Some cultural sensitivity acknowledged.	Partially – Minor reflections noted on researcher influence.	No – No researcher-participant relationship considered.	No – Reflexivity absent in survey research.	No – Reflexivity not applicable to global data synthesis.	No – Reflexivity not relevant to dataset modelling.	No – Reflexivity absent in observational study.	Not applicable – Conceptual article.
7. Have ethical issues been taken	Yes – Ethical use of public datas	Yes – Ethical clearance aligned	Yes – Ethical approval and conse	Yes – Ethical safeguards built	Yes – Ethics committee approval	Yes – Participant consent procedures	Yes – Global datasets adhered to ethica	Yes – Ethical approval via health organi	Yes – Study received ethics boar	Not applicable – Conceptual

into consideration?	ets mentioned.	with public reporting standards.	nt clearly stated.	into framework study.	obtained.	followed.	l standards.	sations.	d approval.	theoretical work.
8. Was the data analysis sufficiently rigorous?	Yes – Statistical techniques robustly applied.	Yes – Data analysis procedures reported clearly.	Yes – Thematic coding and analytic transparency evident.	Yes – Thematic analysis aligned with conceptual domains.	Yes – Statistical comparison methods suitable.	Yes – Appropriate descriptive analysis of triggers.	Yes – Comprehensive global burden modelling methods.	Yes – Valid epidemiological modelling approaches.	Yes – Appropriate multivariable analyses conducted.	Not applicable – Theoretical framework only.
9. Is there a clear statement of findings?	Yes – Results linked logically to aims.	Yes – Findings reported in accessible formats.	Yes – Themes presented clearly with participant quotations.	Yes – Findings organised around Levesque's domains.	Yes – Clinical features compared systematically.	Yes – Dietary trigger patterns outlined clearly.	Yes – Global trends and gender differences clearly reported.	Yes – Regional burden variations highlighted.	Yes – SES-migraine associations presented clearly.	Yes – Framework dimensions articulated clearly.
10. How valuable is the research?	High – Informs UK migraine health	High – Strengthens health policy	High – Provides cultural insights into healt	High – Framework applied globally	Moderate – Advances clinical understanding	Moderate – Cultural triggers mapped for publi	High – Global burden estimates used in policy	High – Critical global dataset reference.	High – Highlights social determinants for	High – Influential theoretical framework

	service planning.	resource planning.	hcare barriers.	for health access.	but less direct for policy.	c health use.	making.		targeted interventions.	cited extensively.
CASP Score (/10)	9	9	8	8	9	9	9	9	9	9