Exploring BAME Student Experiences in Healthcare Courses in the United Kingdom: A Systematic Review

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Introduction: Black, Asian, and Minority Ethnic (BAME) students in healthcare-related courses are exposed to various challenging experiences compared to their White counterparts, not only in the UK (United Kingdom) but across the globe. Underachieving, stereotyping, racial bias, and cultural differences, among other experiences, hinder their medical education, practice, and attainment. This review aimed to explore and understand the experiences of BAME students enrolled in healthcare related courses in the United Kingdom.
Methods: Computerised bibliographic search was carried out using MeSH and free text descriptors via PubMed, Cochrane, Google Scholar, and Science Direct for eligible English-published studies exploring BAME experiences in the U.K from 2010-2023.
Results: A cumulative total of 813 studies were obtained from the literature search, of which five met the inclusion criteria. Quality assessment for risk of bias was assessed using the Newcastle Ottawa scale, yielding one study of satisfactory quality, while four were deemed to be of good quality.
Conclusion: BAME students pursuing health-related courses across the UK. face a range of experiences, including racial discrimination, unconscious bias, and a lack of representation and support. Additionally, BAME students are more likely to report incidents of racial harassment and withdraw from their respective courses as well as experiencing mental health issues due to their experiences.

Keywords: Ethnicity, Minority, Education, Medical education

Introduction

Across the United Kingdom, medical school students and healthcare students comprising Black, Asian, and Minority Ethnic (BAME) are exposed to several experiences, both positive and negative. Among the most spoken and critical experiences of BAME students are negative experiences ranging from unconscious bias, stereotyping, and racial discrimination to a lack of support and representation. As a result, a number of studies have documented the prevalence of underperformance in the BAME group compared to the majority group in terms of their academic and professional trajectories (1, 2). The reasons for disparities in BAME experiences and differences in achievement are largely unknown. However, they may be attributed to exam systems that are prejudiced against BAME students or to cultural, social, or psychological variables that drive BAME healthcare trainees to perform below average (3). Targeting interventions to ensure equality

requires an understanding of the substantial effect behind such significantly unfair and unsubstantiated hostilities and disaffections. Additionally, it appears to be a problem that spans across many countries as similar incidences of BAME students' experiences have been reported across the globe, including Australia, the Netherlands, and the USA (4, 5). The differential achievement gap, which refers to this ongoing performance discrepancy between racial and ethnic groupings, is a significant problem for healthcare students and healthcare professionals.

Furthermore, research findings from numerous fields have consistently revealed that people are vulnerable to unconscious prejudice when passing judgment on members of groups who are negatively stereotyped (6). According to Woolf *et al.* (7), a proportion of medical instructors in the UK have stereotypical perceptions about how BAME students perform, with Asian students frequently being perceived to be proficient in terms of factual knowledge but weak with their communication skills. It is, therefore, imperative to acknowledge that preconceptions have the potential to be easily activated while making decisions and can alter the data and information an individual considers in reaching a decision and their recall of what transpired (8, 9). These elements of unconscious biases as well as memory bias work synergistically to potentiate stereotypes. In addition, when making decisions that require mental effort, as is the case for examiners and professors during medical examinations, stereotypes frequently have an influence beyond what is cognisant of them (10).

Consequently, if any such bias affects medical student tests, in addition to impacting the grades BAME students obtain, it may also lead to the provision of feedback that is more critical than that given to their white counterparts, as well as affecting self-confidence in BAME students (11). In this systematic review, we aimed to determine and explore some of the experiences that BAME students in medical and healthcare-related courses are exposed to while pursuing their studies in the UK. Additionally, we saught to determine whether the BAME student stereotype activation is based on individual students' characters or influenced by the examiners' unconscious bias and judgments.

Methods
Design and literature search
In order to prepare this qualitative systematic review, we followed PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (12). Four electronic databases, namely PubMed, Cochrane, Google Scholar, Science Direct were used for bibliographic searches.

Search strategy
The aims of the review were agreed upon by all five authors, with a group consisting of two authors carrying out a comprehensive literature search. In the initial search, Medical Subject Headings (MeSH) were combined with free text descriptors to elicit complete results. A computerised systematic bibliographic search was performed using a set of keywords along with the use of the Boolean expressions "AND" and "OR". All databases were searched using the following search string to look for English research published between 2010 and 2023: ("BME student" (free text) OR "BAME" (free text) OR medical student (MeSH)" OR "medicine" (MeSH), OR "curriculum" (MeSH), OR "attainment" (MeSH) OR "implicit attitude (free text)" OR "implicit bias (MeSH)" OR "implicit prejudice (free text)" OR "conscious bias (free text)" OR "conscious prejudice (free text)" OR "conscious attitude (free text)") "racism" (MeSH) "racial stereotype (free text)" OR "stereotype (MeSH)" AND "race (MeSH)," OR "racial (MeSH)," OR "ethnic (MeSH)," OR "ethnicity (MeSH)," OR "Afro-Caribbean (MeSH)," OR "Black (MeSH)," OR "African (MeSH)," OR "Asian (MeSH)".

Eligibility criteria
- English-published articles completed between 2010 and 2023 to avoid losing important information during translation.
- Articles' exploring experiences of BME or BAME students in healthcare-related courses in the United Kingdom.
- Primary and other evidence full-test articles exploring BAME student issues.

The exclusion criteria
- Studies exploring BME experiences in the education courses other than medical and healthcare areas.
- Studies in the languages other than English and older than 2010.
- Articles on BAME experiences in the countries other than the United Kingdom.

Data extraction
Two independent reviewers were initially assigned to select articles that met the inclusion criteria. Each author reviewed each article independently to reduce any potential bias. A third

independent reviewer was available if necessary to resolve any conflict during discussion between the two selecting authors. Two other authors were responsible for extracting information from the included articles; once again, each author reviewed the material independently to reduce the potential bias. The process was done based on the PICO framework detailing population (sample size, age, and gender), intervention/interest (BAME/BME medical and healthcare courses), the outcome of interest (challenges, experiences, racial discrimination, among others), and bibliographic details (author and year) (13).

Data synthesis and quality evaluation

The results from the five included studies were combined using a thematic approach by the researchers. The combined findings of the studies examined in this review demonstrate racial discrimination, BAME stereotypes, conscious and unconscious bias, and implicit bias. Quality assessment was done by Newcastle-Ottawa Scale for methodological risk of bias assessment (14). Studies were examined from 2010-2023; the 13-year time span allowed for historical context in order to compare and contrast the current perspectives with previous experiences of healthcare students. Furthermore, this time span allowed for capture of evolving knowledge with topical shifts and increased awareness in recent years in equality, diversity, and inclusion at higher education institutions.

Bibliography searches gave a total of 813 references, of which five met the inclusion criteria. These five studies were then retrieved for data extraction and synthesis. The search process is displayed in the PRISMA diagram below (Figure 1).

Results

The search strategy for this systematic review is shown in Figure 1 as per PRISMA guidelines (12). The search yielded 813 results during the identification process. Following the removal of duplicate records, 438 articles were deemed to address the aims set out in this systematic review. In the next step, a further 156 articles were removed due to irrelevant abstracts and titles that did not fit the purpose of this study. Then, 282 articles were selected for full-text screening; 159 articles were removed due to inaccurate or incomplete data as well as low methodological quality. Finally, 123 articles were identified which were then reviewed to see whether they satisfied the inclusion criteria; 118 articles did not fit the inclusion criteria
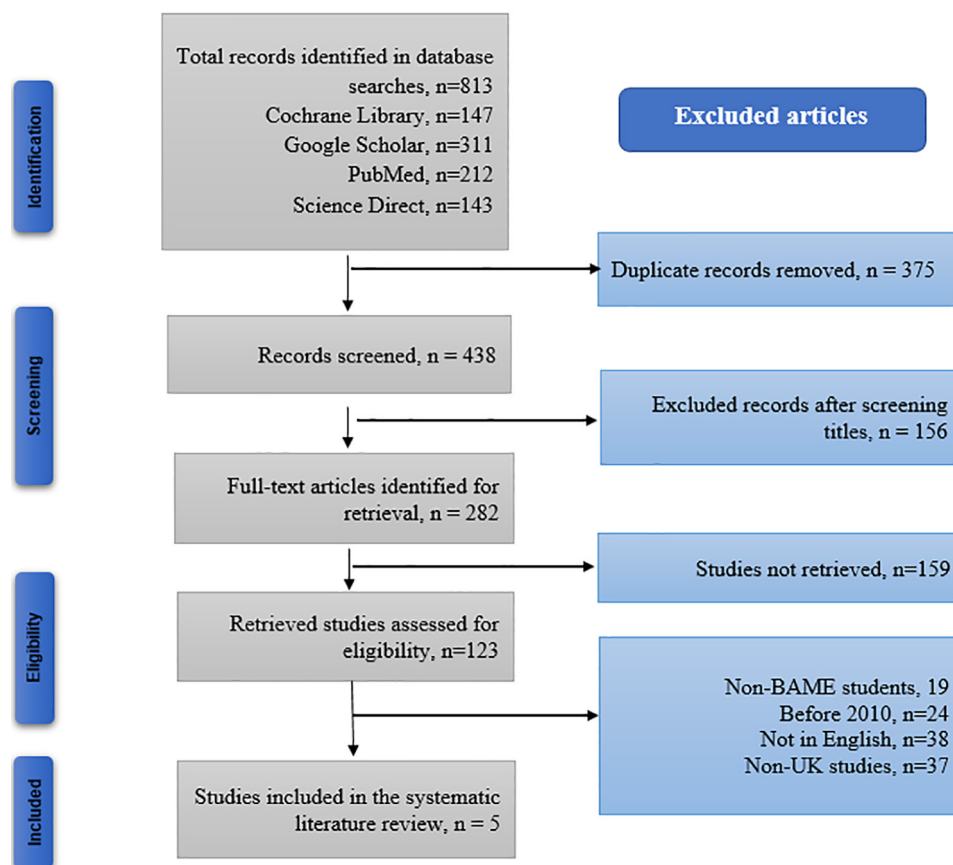

Figure 1: Flowchart for PRISMA-led bibliographic search strategy

Table 1: Sample characteristics

Bibliographic details			Sample characteristics	
Authors, Year	Setting, Country	Sample size (n)	Ethnicity (White/BAME) [age]	Sex (male/female)
Pendelton, et al., 2022 (13).	University, UK.	5 students.	0/5	0/5
Claridge, et al., 2018 (14).	Healthcare-based university in London, England.	41 students and eight staff members.	8/41 [18 to 31]	19/30
Morrison, et al., 2019 (15).	West Midlands medical school, UK.	24 graduate-entry MBChB students.	0/24 [21-30]	6/18
Pryce-Miller, et al., 2023 (16).	Southwest England.	16 undergraduates to doctoral degree students.	2/14	3/13
Yeates, et al., 2017 (17).	University, UK.	159 examiners.	127/32	69/89

UK-United Kingdom

due to evaluation of non-BAME students, articles published prior to 2010 as well as those exploring non-UK students and articles not in English. Ultimately, 5 articles were included in this systematic review that were deemed to meet all inclusion criteria and address the main aims of this study (Table 1 and 2).

Study Characteristics
Quality assessment

The collected articles were evaluated for quality using the Newcastle-Ottawa Scale (NOS). The NOS point scoring method assessed the research participant selection, result comparability, and outcome quality (14). The exposed cohort's representativeness, the nonexposed cohort's selection, exposure determination, the absence of the study outcome at baseline, the cohorts' comparability based on the analysis and the design of the studies, and the evaluation of the outcomes were all evaluated to see if they met the criteria. Studies are rated on a scale from zero to ten points, with a score of less than four indicating unsatisfactory quality, a score of five to six indicating satisfactory quality, a score of seven to eight good quality, and nine to ten very good quality. Four studies were determined as good quality, while one was rated as of satisfactory quality. There were no studies rated as either unsatisfactory or very good quality (Table 3).

Discussion

This systematic review aimed to comprehensively examine and provide synthesised evidence of experiences faced by Black, Asian, and Minority Ethnicity students and the impact of these experiences when pursuing medical and healthcare studies in the United Kingdom. This review demonstrated how BAME students perceived their daily experiences and the consequent effect on their academic performance and career choice. The findings suggest that BAME healthcare students are exposed to many social-psychological experiences ranging from racial bias, prejudice, and stereotypes to a lack of support and representation from institutions. Like other courses, BAME students on healthcare courses are also exposed to loneliness and a lack of sense of belonging. They often feel that their cultural perspectives are not considered due to monocultural understanding by their White counterparts as well as Eurocentric curricula being the foundation for all learning. Moreover, the results indicate that BAME students underperform in practice, academia, and various levels of study compared to their white counterparts in the United Kingdom. This systematic review focused on how the lived experiences of racial bias, prejudice, and stereotypes should be investigated from the perspective of students and the need for culture change; this study, therefore, has the possibility of informing policy, research, and educational stakeholders (18). This is instrumental in helping BAME students realise their potential and thrive in their healthcare practitioner faculty choices.

Practice and academic underperformances can be attributed to a number of factors both directly and indirectly. Firstly, Braxton (2008) (19-21) suggests that a pertinent factor in determining students' success is a strong sense of belonging; students must feel respected, acknowledged, and included in all aspects of student life both inside and outside of a classroom. Relationships between student, staff, and academics must be nourished to foster a sense of community and belonging. Research has demonstrated that a sense of belonging inspires self-confidence in a student which contributes to a foundational belief in succeeding and striving for greatness (20). On the other hand, when considering direct determinants for underperformance, it is unclear

Table 2: Study details and characteristics

	Bibliographic details				Sample characteristics	
Authors, year	Study design	Study length	Sampling and data collection	Study objective	Experiences faced	Main outcomes
Pendleton, et al., 2022 (13).	Qualitative study with thematic analysis.	6 months.	Semi-structured interviews via online platform.	To understand the experiences of BAME undergraduate midwifery students.	Three themes identified: 'invisibility', 'emerging visibility' and 'managing visibility'. Participants encountered a curriculum and real-world scenario that predominantly emphasised and accounted for a single culture resulting in a lack of representation in curriculum and clinical placement. In addition, students witnessed instances of racist conduct as well as stereotyping based on individual race and background, leading them to adapt their own behaviours to fit into the environment.	BAME students are more likely to face challenges in academia, seeking opportunities and progression compared to their white peers. BAME students do not feel represented in undergraduate midwifery courses and thus feel inadequately prepared to provide appropriate care for BAME patients. Cultural inclusion and the use of ethnically diverse teaching materials are required to overcome archaic, systemic Eurocentric practices.
Claridge, et al., 2018 (14).	Qualitative study with thematic analysis.	NS	Audio-recorded, semi-structured interviews, ethnically-homogenous student-led focus groups.	To investigate and gather qualitative data to explore the possible causes of achievement gaps between different ethnicity groups. The study explored BAME perspectives as well as white counterparts comprising medicine and biomedical science students' experiences as well as staff experience.	Three primary themes were identified: social factors, stereotyping, and student-staff interactions. Social factors demonstrated the prevalence of ethnically defined social circles and the informal exchange of knowledge which potentiated the marginalisation of minority groups in terms of valuable academic insights thus affecting academic achievement. Additionally, BAME students face added challenge as a result of cultural, religious or familial obligations resulting in absence from social and academic activities. Furthermore, BAME students reported adapting their behaviour in diverse situations to counteract unfavourable stereotypes.	Students with smaller social circles or belonging to a social minority group face less exposure to transfer of informal academic knowledge and material, educational institutions may benefit from centrally regulated transfer of academic material such as question banks or past papers. Black students are more likely to adapt behaviour to counteract stereotypes resulting in 'stereotype threat' which inadvertently hampers academic performance due to lower self-confidence. BAME students seem to have greater familial, cultural, and religious commitments, University felt this could not be mitigated against as professional life requires balancing of work and family commitments. Forms of prejudice, intentional or unintentional, may harm BAME students' ability in tests and coursework selection.

Author, year	Study design	Data collection	Duration	Aim	Findings	Conclusions/Recommendations
Morrison, et al., 2019 (15).	Qualitative study with thematic analysis.	Audio-recorded, semi-structured interviews, focus groups, social constructivist approach.	1 month.	To investigate graduate-entry medical students' experiences with undergraduate training in the context of academic underperformance.	Three themes identified: importance of relationships, institution, and learning, psychosocial and identity. Poor relationships between students and staff and lack of trust in the institution led to poorer learning experiences as well as disengagement, less motivation and course withdrawal. Students felt cultural differences, stereotyping and racism were prevalent leading to ethnic specific social networks. Lack of trust with institution and absence of clear structural guidance on how to report racial incidents or concerns. Students reported 'hiding' or 'toning down' their true personalities in the quest to conform to the status quo of a predominantly white ethnic course as well as being conscious of representing their culture or religion when patient facing. Lack of BAME representation support, poor relationship with staff/clinicians, stereotyping, lack of cultural understanding, loneliness, a lack of confidence, and low self-esteem.	Common feeling of isolation amongst BAME students with a requirement for greater representation of ethnic minorities in positions of power such as leadership and management. Overarching themes include students facing difficulty forming relationships with staff and peers of different ethnicities, experiences of overt racism during clinical encounters with patients as well as masking of true identities in an attempt to avoid negative stereotyping. Recommendations include transparent guidance on reporting of such racist encounters on clinical placements as well as more inclusive social events and social support groups for all students from a variety of cultural, religious, socioeconomic, and educational backgrounds to foster social inclusiveness which in turn encourages academic success.
Pryce-Miller et al., 2023 (16).	Hermeneutic phenomenological approach with thematic analysis.	Focus group and individual semi-structured interviews utilizing purposive sampling.	4 months.	To investigate how racial bias affects BAME students in the U.K. who are pursuing undergraduate or graduate degrees in nursing, midwifery, and allied health care courses in the United Kingdom.	Three themes were identified: 'Not belonging', 'overt and convert racism', and 'trauma impacting mental health and well-being'. Students expressed feelings of isolation as well as negative stereotypes and assumptions leading to a feeling of being treated differently compared to white peers. Students report feeling unable to challenge the stereotypes due to fear of being ostracised and simply wanting to complete their studies and placements with minimal confrontation and difficulty. Descriptions of microaggressions such as students born in the United Kingdom but repeatedly asked where they are really from or remark on good English ability; this further had knock on effects on mental health and self-confidence. Students felt reluctant to report incidences of racism and negative experiences due to lack of trust and confidence based on prior experiences with the institution.	Requirement for universities to advance racial inequality initiatives as well as employing anti-racism action plans and processes which are created in full transparency and synchronisation with students and staff members. Higher education institutions must listen and realise the lived experiences of racial bias experienced by BAME students to better inform initiatives to combat unconscious bias and mitigate racism. Disconnect between organisational equality policies and reality of lived experiences of BAME students.
Yeates, et al., 2017 (17).	A randomized, double-blind internet-based controlled trial.	Simulated Objective Structured Clinical Exam.	7 months.	To determine whether ethnicity-related bias impacts students' grades or feedback.	Examiners displayed stereotype activation irrespective of whether they had observed BAME or white student. Examiners showed stereotype activation irrespective of whether the BAME students' performance was consistent with the described stereotype. No significant difference in performance score based on student ethnicity, although stereotype activation occurred, this did not influence scoring.	Asian stereotypes were engaged in examiners' minds as seen by their faster responses to Asian-stereotypical terms than neutral words (716 ms, 95% CI 702-731 ms, p 0.001). Examiner bias does not appear to explain differential attainment of Asian students in UK medical schools. Efforts should focus on social, psychological, and cultural factors that may potentiate disadvantages in learning or performance in BAME students.

OSCE-Objective Structured Clinical Exam OSCE ns-not specified

Table 3: NOS quality appraisal tool for qualitative studies

Study ID	Selection (Max 5)	Comparability (Max 2)	Outcomes (Max 3)	Total Score	Quality
Pendleton, et al., 2022 (13).	3	1	3	7	G
Claridge, et al., 2018 (14).	4	2	2	8	G
Morrison, et al., 2019 (15).	3	1	3	7	G
Pryce-Miller, et al., 2023 (16).	3	2	2	7	G
Yeates, et al., 2017 (17).	4	1	1	6	S

G: Good Quality; S: Satisfactory Quality

whether racial stereotypes or unconscious bias demonstrated by examiners are responsible for average performance among medical BAME students; although stereotypes may be activated, there is no direct correlation with awarding lower marks based on this (22).

In the last few decades, there has been growing diversity in higher education in the UK. In institutions located in the Midlands and London, minority students have increasingly made up the majority (17). In these situations, cultural competency is essential to combat deficit ideologies (23). This review reported experiences such as isolation and lack of sense of belonging attributed to cultural differences, which forces the BAME students to change behaviours to counter stereotypes (24). The active alteration in behaviour results in compensatory mechanisms to avoid reaffirming negative stereotypes; this can be a great source of stress and anxiety for students delineating from the feeling of needing to work harder or longer compared to peers in order to be perceived to be at the same level. Research has demonstrated that increased levels of stress and anxiety can directly impact academic scores with students who feel higher rates of stress and anxiety scoring lower than their counterparts (25). This can be further explained by the theory of 'stereotype threat', which suggests that students do not need to actively be stereotyped against but only think that they will be perceived in an undesirable fashion based on negative stereotypes; this then leads to compensatory behaviours which are a source of stress and anxiety for BAME students, leading to poorer outcomes in rigorous examinations (7).

In many ways, when senior leadership approaches differential attainment gaps through the lens of cultural competence, they have the ability to delve into underlying factors that may be particular to each demographic or cultural group (13). Each community faces its own individual difficulties and hardships with each person experiencing indivualised circumstances and needs that are unique solely to them. Therefore, this requires an indivualised and culturally aware group of educators and academics who can create a conducive learning environment that embraces equality, diversity, and inclusion and fosters an encompassing and engaging environment for all parties involved. As a result, an enhanced curriculum and equity in academic achievement are established. It may be possible to lessen attainment discrepancies by increasing cultural competence among higher education professionals (14). A more sympathetic approach to helping students will emerge from a greater comprehension of the problems that BAME cohorts face, allowing for deficit thinking to be eliminated.

Racial stereotypes and implicit bias are significant BAME experiences reported by participants in various studies. The existing literature is unclear about how implicit bias affects BAME experiences with mixed findings, as some studies reported significant relationships between implicit racial or ethnic bias scores and BAME student performances in both academic and healthcare practice outcomes (13, 26). Other studies found no significant relationships (21). According to Yeates, et al. (17), examiner bias does not seem to account for the disparity in the performance of Asian students in UK. medical schools. Implicit prejudice does, however, seem to be more frequently linked to low self-esteem and strained relationships between BAME students and white counterparts, as well as with faculty and staff at the school. Interestingly, Gournay (2022) found that practices and universities failed to confront racism and the need to alter long-standing, exclusive working practices. The fact that complaints to the institution were not taken seriously and some students were asked if they were confident they had encountered racism was emphasised (27). As a result, this contributed to the general feeling of a lack of support and representation for BAME medical students (28).

On the other hand, BAME students reported the expression of fear over isolation, culminating from lacking a sense of belonging (26). The students' sense of belonging may impact whether or not they continue their studies, especially when other factors are at play such as finances, family and a feeling of unfamiliarity, leading to BAME students having common thoughts about quitting their particular program of study. According to

Ong, et al. (28), students from Black, Asian, and Minority Ethnic groups must constantly navigate and endure abuse in educational settings due to lower academic standards, hostile conditions, and racial stereotyping. Accordingly, our results are consistent with other studies, which also show that the general and group experiences of BAME students point to a sense of not belonging within the same placement context. Therefore, it is imperative to acknowledge that the sense of belonging is one of the most crucial determinants of student achievement and retention in higher education (28-31).

Furthermore, another area where BAME students felt hurdles included the acquisition of academic material and resources across UK universities. In order to better understand the achievement difference between medical and biomedical science students in the United Kingdom, Claridge et al. (14) undertook a thorough qualitative study. They found that whereas non-BAME students were not cut off from crucial academic information, BAME students were subjected to a lack of informal knowledge transfer that had a direct impact on their academic achievement (14, 21, 32). A staff member somewhat corroborated this. White participants, however, made no such complaints and were wholly ignorant of such events (21). However, it is important to acknowledge that the report mentioned spread of informal academic material within religious groups; this showed that students from minority ethnic communities were still marginalised from other minority ethnic groups which demonstrates the importance of treating and viewing each person's circumstances as individuals and separate from broad ethnic groupings.

Limitation

The study was limited to BAME students pursuing medical and healthcare-associated studies within UK. universities and healthcare practices, thereby being short of good literature that could be utilised. Secondly, the inclusion limited this review to recently published English studies to avoid loss of information due to translations. Thirdly, the application of convenience sampling across the included studies may have unreliable results. Convenience sampling can result in the underrepresentation or overrepresentation of certain groups in a sample, even though it may be convenient and practical. There are concerns about the generalisability of the results because it is doubtful that a convenience sample is representative of the population of interest. Additionally, the small sample size employed in

individual included articles may make it difficult to generalise our findings since the articles may use estimated outcome measures such as implicit bias, racial stereotyping, and other experiences when quantitatively assessing the strength of their main findings.

Conclusion

The aim of this study was to explore the experiences of BAME students enrolled in healthcare courses in the UK. It is evident from the existing literature and this review that BAME medical students in the UK. face a range of experiences, including racial discrimination, unconscious bias as well as a lack of representation and support. As of 2023, the dynamic surrounding equality, diversity and inclusion has become more pertinent than ever with campaigns and initiatives striving for cultural inclusion on all levels in the attempt to limit adverse outcomes associated with racism and discrimination. This is particularly applicable in the healthcare setting where every patient, colleague, and individual should be treated equally and respectfully irrespective of religion, ethnicity, or cultural background.

Studies have found that BAME healthcare students are more likely to report incidents of racial harassment and school withdrawals than their White counterparts. Furthermore, BAME students face barriers in accessing training and career opportunities and experience strong feelings of isolation and a lack of sense of belonging. This has consequent adverse effects on their mental health which can be observed in differential attainment gaps. BAME students demonstrate a lack of trust in the system as well as their educators and peers, further contributing to social isolation. However, efforts are being made to address these issues, such as establishing BAME student networks and mentorship programs as well as increasing awareness and training on diversity and inclusion within medical schools and the wider healthcare environment. This should be further supported by initiatives to have an increased number of BAME individuals in senior leadership positions to enable a degree of relatability between the students and faculty.

The first step in combatting these issues is to acknowledge their existence. BAME students must feel confident in their identity and feel safe in their right to speak up against discrimination and racism. There must be safe avenues for students to report such incidences in a confidential manner as well as a receptiveness of the staff, faculty, and wider institutions to attempt to understand the issues felt by BAME students and be open to mechanisms to alter the negative experiences felt.

Future studies should aim to explore the perspectives of BAME students as well as the perspective of their white counterparts and faculty. Group discussions can provide an overall and unbiased view whereby open dialogue can provide viewpoints from a variety of perspectives with an aim to reduce the negative experiences felt by BAME students. A wider sample size from institutions across the country as well as international perspectives can be useful in determining future action plans on strategies for change. Overall, this review highlights the necessity for medical practice and institutions to address the impact of BAME experiences on the performance and well-being of these students and ensure they are fairly represented.

Authors' Contribution

CSG, and MBKh, are joint first co-authors for this review article. All authors contributed to the discussion, read and approved the manuscript and agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated resolved.

Conflicts of Interest

The authors declare no conflicts of interest.

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