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Impact of Ethnicity and Socioeconomic Disparities on Adolescent Mental Health Interventions in the UK

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Abstract

Background: Despite increasing recognition of mental health inequalities in adolescence and children, there is little evidence on what works to address these inequalities. There is limited review evidence regarding the effectiveness of interventions to improve access to mental healthcare across ethnic minority groups. This systematic review and narrative synthesis aimed to highlight evidence-based studies that establish the impact of ethnicity and socioeconomic disparities on NHS and community-based interventions for adolescent mental health in UK.

Method: Six electronic databases were searched 2nd to 18th of March 2025. Primary studies were supported with relevant policies documents and additional studies were identified through screening reference lists and citations of included studies and relevant review articles. Search concept was developed based on PICOS-framework and terms used across all searches.

Results: From 213,090 recognized citations, 7 met the eligibility criteria for further analysis, concerning participants aged from 0 months to a maximum age of 25 years even as majority targeted on ethnicity-related disparity (k=5/7). Three of the studies were cohort study designs (42.8%), two were cross-sectional study (28.6%) and other studies were based on qualitative design (14.3%) and mixed method design (14.3%). Regarding the evidence of the disparities on the NHS and community-based interventions, some studies were able to offer their findings and conclusion on the potential inequalities while other studies suggested the need for more information and further research to establish the underpin ethnic and socio-economic disparities.

Conclusion: Emphasis is placed on adult population, and the review has demonstrated that such emphases are significantly lacking among the adolescent population. The review further advocate for more evidence-based studies to establish whether mental health interventions narrow or widen inequalities based on ethnicity and socioeconomic disparity for adolescents and this remain a priority for public health research and practice.

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Introduction

Mental health problems affect 1 in 8 children aged 5 to 19 in the UK [34, 39], with 50% of clinically diagnosable disorders developing by age 14 [38]. They are characterized by internalizing (for instance; anxiety disorder, major depressive disorder) and externalizing (for instance; conduct disorder, attention-deficit/hyperactivity disorder) mental health problems [4]. Adolescence

and early life are crucial periods for the emergence of mental health conditions that are closely linked to physical health, educational attainment, and future life consequences [21]. Fifty per cent of mental health challenges are confirmed by the age of 14% and 75% by the age of 24. Timely access to appropriate mental health support is vital as early intervention has been shown to improve long-term outcomes, and delaying access may mean longer or more intensive treatments are needed [9]. In recent years in England, there were properly documented growing levels of mental health problems in children and young people (CYP), with long waiting lists and rejection of referrals made to adolescents' mental health services [21]. It is anticipated that 1 in 4 people will experience poor mental health during their lifetimes [29]. Although, international research has documented that ethnic minority groups experience greater limitations to get admission to mental health services than non-ethnic minorities [23]. Also, these groups are at higher risk of mental health conditions, and this risk is frequently related to being disproportionally impacted by means of negative social factors, inclusive of racism and poverty [7]. Moreover, refugees and asylum seekers experience higher rates of post-traumatic stress disorder (PTSD) and other mental health problems linked to risks related to migration, poverty, and terrible get entry to health care [15, 17].

Evidence from the broader international literature additionally shows that disparities in ethnic minority groups' engagement with mental health services exist along the complete care pathway, with them being less probably to initiate mental health care and fill prescriptions and more likely to stop treatment early [1, 16, 30]. These disparities are connected to diverse individual, organisational, and systemic boundaries [1]. Individual level obstacles may encompass insufficient records to make treatment choices, communication problems and linguistic problems, loss of trust in health service provider, psychological distress, fear of stigma, and cultural beliefs ensuing in feeling disgrace about searching for mental health support [30, 39].

Organisational-level limitations are based on unbalanced accessibility to services, inadequate cultural competence in service providers; and the system-based level includes inadequate funding of mental health services and inaccessibility of information about available services as well as extended concerns including insufficient transport system accessibility or childcare necessary to attend mental health services [1]. Moreover, limitations to access to and underutilization of health service including mental health care, has been observed among refugees and asylum seekers [15, 17].

Documentations at the national level such as 'No Health without Mental Health' and 'Closing the Gap' attest the need for timely intervention to improve adolescents' mental health and commit to improving services and outcomes for adolescents [10 11]. In the past years, the authorities have dedicated sufficient public funds (£174mil in 2015–2016) to enhance frontline children and adolescent mental health services (CAMHS) under a "Five Year Forward" plan which focus on challenging the issues surrounding increasing mental health cases in both overall population of adolescents and, of those already in care [12, 28]. Within the plan context, Clinical Commissioning Groups, which coordinate health service provision locally, were collectively awarded £149 million in the 2015 budget, to be spent in increasing increments over the course of five years to improve specialist frontline services targeting MH provisioning for adolescents [12]. A further £25 million was added to this allocation in 2016. Despite the approach and national concern for adolescent mental health, there has been a small increase (of 1.5%) in prevalence of MH issues over time between 1999 and 2017, and evidence of continued unmet need across the country [11, 12, 22, 30].

According to [24], despite the observed inequalities in adolescence mental health services, there are limited evidence-based approach to tackle the inequalities. Interventions can fail to address inequalities, there may be 'intervention generated inequalities', and/or under-provision for those most in need [24, 26]. Differential intervention consequences can be defined as "variations in intervention effect among corporations of lower and better socioeconomic popularity" [26]. The Commission on the Social Determinants of Health, and the World Health Organization Knowledge and Measurement Network, have emphasized the need to enhanced evidence on whether and how interventions effect on inequalities and the social determinants of health [24]. This is pertinent to adolescent health but is currently underexplored [24, 38]. There is restricted evaluation evidence concerning the effectiveness of interventions to enhance access to mental healthcare throughout ethnic minority groups. Review evidence regarding interventions to support refugees' and asylum seekers' access to primary healthcare or specialised clinics (for example pregnancy and postpartum) is available, but the findings related to mental health care cannot be extracted [31].

This systematic review is motivated through the following research question: what are the associations between ethnicity and socioeconomic disparities and NHS and community-based interventions for adolescent mental health in UK? If the review reveals significant associations between certain ethnic minority groups, and socioeconomic disparities and mental health intervention, it could inform targeted services and thus promote equitable mental health outcomes across ethnicities. Specifically, this systematic and narrative review aimed to address the following research questions:

1. Are there studies that establish disparity in NHS and community-based interventions for adolescent mental health among ethnicity minority in the UK?
2. Are there studies that establish disparity based on socioeconomic status in NHS and community-based interventions for adolescent mental health in the UK?

Ethnic Differences in Mental Health Problems: UK perspective

With the increasing diversity of the UK population, studies suggest that the mental health of children and adolescents from ethnic minority groups can be shaped by complicated and multifaceted elements, leading to varied institutions associations between ethnicity and mental health issues [14]. In the UK, only 14% of the population identify as Black African (1.8%), Black Caribbean (1.1%), Indian (2.5%), Pakistani (2%), Bangladeshi (.8%), mixed (.2%) or other (3.6%) minority ethnic [14, 31]. Concerning rates of mental distress among adolescents are reported in the UK. In 2019, 12.8% of adolescents aged 5–19 was estimated to have experienced 'at least one mental disorder' and that roughly 1-in-8 adolescents experience mental health difficulties is concerning [12, 30]. This concern is compounded by queries as to whether CAMHS are adequately equipped to meet need [5, 9, 12, 19, 25]. National strategy documents recognize the need for timely

intervention and commit to improving services and outcomes for adolescents [10, 11].

Methodology

Study design and Search Strategy

Given the variety of methods available for research projects, we used a targeted weighting framework instead of a simple count-based method. We evaluated qualitative and mixed-methods studies in a separate stream. These studies were considered valuable for understanding mechanisms, context, and implementation details, such as referral pathways, stigma, cultural safety, and service acceptance. We placed particular emphasis on findings that were consistent across different methods and settings. In practice, the overall direction and size of effects from higher-quality quantitative studies provided the foundation for each main theme [32]. Qualitative evidence explained the "how" and "why" and helped us judge how these findings might transfer to UK NHS setups.

All included studies were critically assessed using the CASP criteria, which we defined across five key areas: selection bias, measurement validity (both exposure and outcome), management of confounding, completeness of reporting, and relevance to the UK context [8]. We translated CASP evaluations into a quality grade: high (10 or more clear "Yes" answers), moderate (7 to 9 "Yes" answers), and low (6 or fewer "Yes" answers or several "Can't tell"). These quality grades influenced our synthesis in three ways:

Contribution weighting: High-quality studies served as the main evidence for each conclusion. We used moderate-quality studies to support patterns or clarify conditions. We treated low-quality studies as hypothesis-generating and did not base any key findings on them.

Sensitivity analyses: For each main theme, like differences in referral by deprivation, transition-related drop-off, or barriers linked to ethnicity, we re-evaluated the narrative synthesis without low-quality studies. Where possible, we selected adjusted over unadjusted estimates. We kept conclusions only when their direction and main interpretation remained the same.

Confidence labelling: We assigned confidence levels to each conclusion high, moderate, low by considering the study design tier, CASP grade, agreement across studies, and how close the studies were to current service models. When the evidence relied on self-reported outcomes, convenience samples, or unadjusted analyses, we specifically lowered our confidence level and pointed out implications for future research.

This method allowed us to broaden our focus to capture important policy connections without compromising validity. It ensured that our conclusions were based on the most reliable and context-relevant evidence.

A comprehensive literature search in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines [32] was conducted for the review. Searches of Title/Abstract and subject index headings were run in six electronic databases including MEDLINE via Ovid, Embase, PubMed, Web of Science, Scopus, and google scholar. The search was conducted 2nd to 18th of March 2025. The search was supported with relevant policies documents and additional studies were identified through screening reference lists and citations of included studies and relevant review articles. Search concept was developed based on PICOS (population, Intervention, comparison, outcome and study design) framework and terms used across all searches are presented in Table 1.

Table 1: PICOS Framework and Search Concept

PICOS Element	Description	Keywords/Terms
Population (P)	Adolescents in the UK	adolescent*, teenager*, youth, "young people", "young persons"
Intervention (I)	NHS and community-based mental health interventions	"mental health service*", "NHS mental health", "community-based mental health", "school-based mental health", "public health intervention*", "primary care mental health"
Comparison (C)	Ethnic or socioeconomic groups (implied comparison)	"ethnic minority", "racial minority", "ethnic group*", "socioeconomic status", SES, "low-income", "income level", "deprivation", "social class", "economic disparity"
Outcome (O)	Mental health outcomes; disparity in access, utilization, effectiveness	"health disparity", "health inequality", "mental health outcome*", "access to care", "barrier* to care", "utilization of service*", "engagement", "effectiveness", "service gap*", "intervention outcome*", "equity in healthcare"
Study Design (S)	All empirical studies and reviews on disparities	"systematic review", "literature review", "meta-analysis", "qualitative study", "quantitative study", "empirical study", "mixed-method*", "observational study"

Eligibility Criteria

The search concept and research questions guided the eligibility criteria development, and the details are presented in Table 2. Primary research studies of any design (quantitative, qualitative, mixed methods) which examined access to adolescent's mental health services in the UK and focused on population groups noted to be at risk of experiencing inequalities according to the NHS Long Term Plan [30], were eligible for inclusion. Also, studies were limited to those published in English. Studies on other population groups and other conditions other than mental health and policy documents were eligible for exclusion.

Although our focus was on adolescents aged 13 to 18, we allowed for the inclusion of studies covering wider age ranges where the issue we studied. This choice is based on three reasons. First, internationally recognized developmental categories define adolescence as ages 10 to 19 and "young people" as ages 10 to 24. In the UK, service setups often overlap between CAMHS and AMHS, typically from ages 16 to 18 up to 25. These age thresholds and transition processes can significantly affect access. Second, many UK datasets and service evaluations are designed around these organizational age groups (e.g., "0–17," "11–19," or "16–25"). Using a strict age filter of 13 to 18 might exclude crucial edge cases where disparities occur, such as early adolescents facing initial symptoms (ages 10 to 12) and late adolescents or young adults going through transitions and dropout (ages 19 to 25). Third, several priority groups in the NHS Long Term Plan, such as care leavers, young people with special educational needs and disabilities, and children and young

people with long-term conditions, begin their journeys before age 13 and continue past age 18. Limiting the focus to ages 13 to 18 would miss key barriers along these paths and skew our findings away from relevant policy discussions.

To prevent any drift from our main focus, we established the following rules: (i) studies were included if at least 50% of the sample was between ages 13 and 18 or if outcomes were separately analyzed for this age group; (ii) if the age range was broader but the intervention or exposure specifically targeted adolescent needs such as CAMHS referrals, school-based services, or transitions to AMHS, we included the study and gathered adolescent-specific estimates when possible; (iii) sensitivity analyses limited the analysis to data clearly marked as ages 13 to 18 to check the reliability of our conclusions.

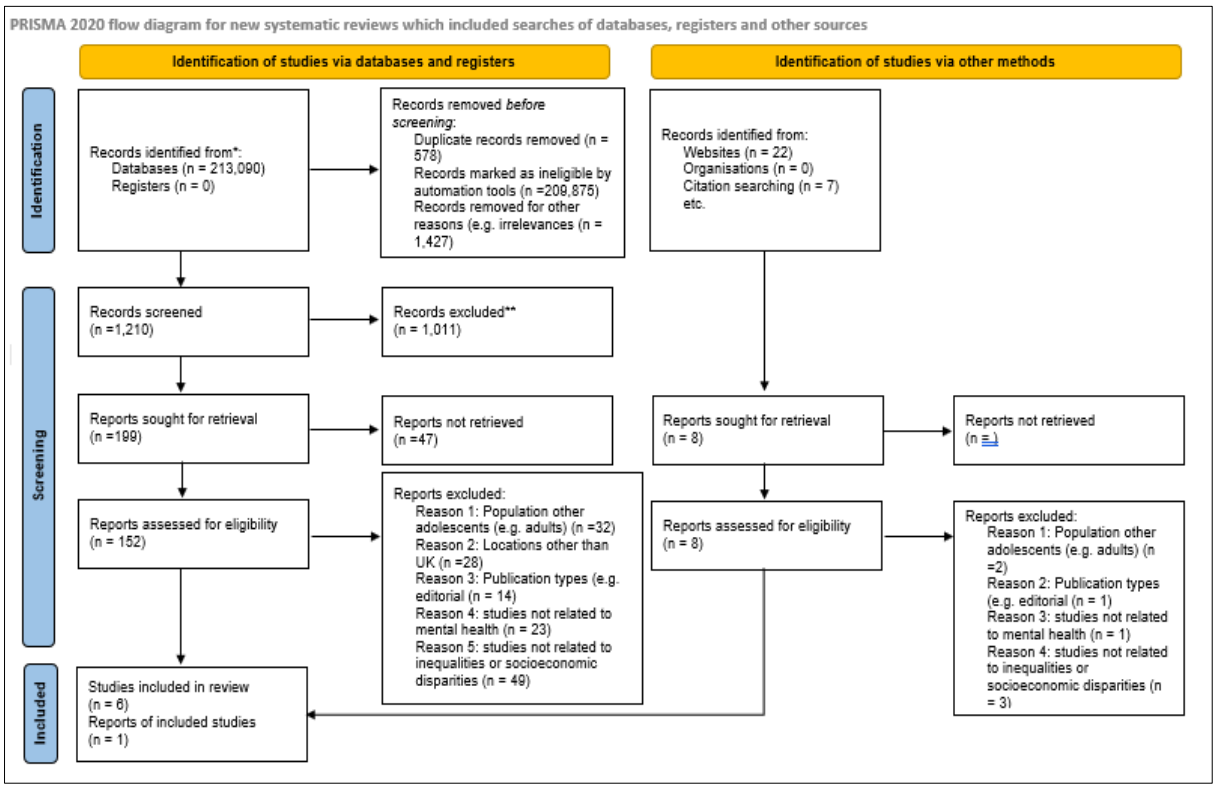
Table 2: Eligibility Criteria

Eligibility Criteria	
Inclusion	
Study type/design	Any primary research studies (quantitative, qualitative, mixed methods)
Setting/context	UK-based (England, Wales, Scotland, Northern Ireland)
Population(s)/participants	Adolescents (13-18) noted to be at risk of experiencing inequalities according to NHS Long Term Plan (7) and categories within low socioeconomic status
Mental health interventions	Mental health services/intervention available at primary, secondary, or tertiary levels of the National Health Service in the UK and community-related evidence-based interventions
Outcome measure(s)	Differences in or challenges to accessing adult mental health services between population groups (quantitative, qualitative)
Publication type	Peer-reviewed research articles
Publication date	2015 to 2025
Publication language	English
Exclusion	
Population(s)/participants	Adults (>18 years)
Publication type	Review articles, letters, editorials, opinion pieces, study protocols, grey literature, conference abstracts

Study Screening and Quality Assessment

After the removal of duplicates, ineligibility based on automation tools and irrelevances, the search strategy identified a total of 1,210 citations. Based on screening titles and abstracts, 1,011 citations were excluded. A total of 199 full texts were assessed for eligibility, of which 6 papers were included in the review (Figure 1 for the PRISMA flow diagram). An additional 1 paper was also identified through citation checking. The quality assessment of the included articles was carried out using the Critical Appraisal Skills Programme (CASP) cohort study which provides 12 questions to assess study quality as highlighted by the checklist in Table 4 [8].

Fig 1: PRISMA 2020 flow diagram for the systematic review



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71
(PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses)

Table 4: CASP checklist for study quality assessment

Section A: Are the results valid?	
1. Did the study address a clearly focused issue?	☐Yes ☐ No ☐ Can't Tell
2. Was the cohort recruited in an acceptable way?	☐Yes ☐ No ☐ Can't Tell
3. Was the exposure accurately measured to minimise bias?	☐Yes ☐ No ☐ Can't Tell
4. Was the outcome accurately measured to minimise bias?	☐Yes ☐ No ☐ Can't Tell
5. (a) Have the authors identified all important confounding factors?	☐Yes ☐ No ☐ Can't Tell
(b) Have they taken the account of the confounding factors in the design and/or analysis?	☐Yes ☐ No ☐ Can't Tell
6. (a) Was the follow up of subjects complete enough?	☐Yes ☐ No ☐ Can't Tell
(b) Was the follow up of subjects long enough?	☐Yes ☐ No ☐ Can't Tell
Section B: What are the results?	
7. What are the results of this study?	☐Yes ☐ No ☐ Can't Tell
8. How precise are the results?	☐Yes ☐ No ☐ Can't Tell
9. Do you believe the results?	☐Yes ☐ No ☐ Can't Tell
Section C: Will the results help locally?	
10. Can the results be applied to the local population?	☐Yes ☐ No ☐ Can't Tell
11. Do the results of this study fit with other available evidence?	☐Yes ☐ No ☐ Can't Tell
12. What are the implications of this study for practice?	☐Yes ☐ No ☐ Can't Tell

From: CASP Cohort Study Checklist. https://casp-uk.net/images/checklist/documents/CASP-Cohort-Study-Checklist/CASP-Cohort-Study-Checklist-2018lable_form.pdf

Findings

Overview and Characteristics of the Included Studies

From 213,090 recognized citations, 7 met the eligibility criteria for further analysis, concerning participants aged from 0 months to a maximum age of 25 years even as majority targeted on ethnicity-related disparity (k=5/7). Among the include studies, 3 were cohort study designs (42.8%), 2 were cross-sectional study (28.6%) and other studies were based on qualitative design (14.3%) and mixed method design (14.3%). The study covers between the 2016 to 2024 while the focus checklist for the quality assessment showed that all selected articles have medium quality as indicated in Table 3. Regarding the evidence of the disparities on the NHS and community-based interventions, studies [2, 13, 18, 27, 34] were able to offer their findings and conclusion on the potential inequalities while the studies [4, 21] suggested the need for more information and further research to establish the underpin ethnic and socio-economic disparities. The summary of study characteristics is highlighted in Table 3.

Table 3: Summary of Study Characteristics

Study	Study Design	Sample Size	Captured population (years)	Focus of Disparity	Focus Checklist
Hazell *et al*. (2022)	Cohort Study	10,969	14 and 17	Socio-economic	Medium
(21)	Cross-sectional	2.5 Million	5 – 24years	Socio-economic	Low
Bains & Gutman (2021)	Cohort Study	18,521	3 – 14 years	Ethnic Minority	Low
Ruphrect-smith *et al*. (2023)	Mixed method	14,534	6 – 25 years	Ethnic Difference	Medium
Ahmad *et al*. (2021)	Cohort Study	10,357	14years	Ethnic variation	Medium
(35)	Qualitative	26	<18	Ethnic Minority	Medium
Edbrooke-Childs & Patalay (2019)	Cross-sectional study	14,588	0 - 25	Ethnic Difference	Medium

Narrative synthesis

The synthesis analysed effect sizes along with their 95% confidence intervals (CIs) or stand errors (SEs) from the included studies categorising types of disparity and ethnic groups and socio-economic factors for direct comparison within mental health intervention categories [33, 34]. From the studies, series of factors and groups (e.g. parent education, household income, household wealth, parent occupational, Asian, black, mixed-race and other minority communities) were considered, revealing varying influence on interventions across the ethnicities and socio-economic positions. Effect sizes were reported as regression coefficients, odds ratios (Ors), risk ratios (RRs), hazard ratios, and fixed effects estimates. These metrics quantify the strength of the associations.

Most models did not find significant differences at the 5% significance level (i.e. $p \geq 0.05$ and/or having a 95% CI that includes the null value) between ethnic minority groups or socio-economic positions [13, 18, 21]. The narrative synthesis combines the p-values and CIs to further provide relevant information and a more comprehensive view of the effect sizes and their direction, magnitude, and precision.

The combination of estimates, confidence ranges, and contextual analyses, produced several key themes and contradictions.

The first cross-cutting theme revealed that ethnic disparities often diminished when adjusting for socio-economic factors [5, 21, 33]. This suggests that socio-economic disadvantage plays a significant role in ethnic inequalities related to access and use. However, in some models, differences remained even after thorough adjustments. This indicates that ethnicity is not just a stand-in for socio-economic status, but also involves cultural, institutional, and potentially discriminatory barriers that affect service experiences.

Another theme highlighted is the variation in socio-economic measures, such as parental education, occupational class, household income, and wealth. Each of these measures produced different effect estimates. For instance, parental education was more consistently linked to early help-seeking behaviours, while household income and wealth were more closely tied to ongoing treatment engagement [13, 21, 29]. This emphasizes that socio-economic status is complex, with different factors influencing various stages of the care process.

The uncertainty of statistical significance yielded a third theme. Several studies reported associations with confidence intervals that barely included the null value [13, 18 21, 31]. This could be due to small sample sizes and weak subgroup analyses. It raises questions about whether these disparities are less significant than expected, or if current analysis methods fail to capture the full extent of cumulative and overlapping disadvantages.

A fourth theme emerged from contradictory findings between different ethnic minority groups. Some studies noted higher risks of delayed referrals or missed appointments among Black adolescents compared to their White peers. In contrast, other analyses found no such disparities or even identified protective factors, like strong community support networks [21, 33, 34]. Similarly, some studies showed that Asian groups had lower use rates, while others found they had comparable or higher engagement once referred. These differences reveal the complexity within broad ethnic categories and highlight the pitfalls of using broad labels that overlook variations within groups.

Lastly, the synthesis highlighted the complicated relationship between ethnicity and socio-economic status. In some models, socio-economic disadvantage worsened ethnic disparities, while in others it reduced them [7, 33]. This suggests that context plays a crucial role, influenced by local service setups, the cultural competence of providers, and policy environments. This complexity underscores the need to view inequality as a dynamic interaction of multiple structural factors rather than a straightforward result of single identity categories [34].

While many statistical associations did not meet standard significance levels, the patterns in directionality, magnitude, and contextual differences indicate that both ethnicity and socio-economic status are important, although in interconnected and conditional ways. The narrative synthesis thus takes a careful interpretative approach, acknowledging the limits of isolated effect estimates while highlighting important signals that arise from comparing different studies.

Discussion

Health inequalities result to different health outcomes between certain groups and individuals, with some groups more likely than others to experience poorer health outcomes in comparison to others. Among various society groups, adolescents and children are one group where health disparities are obvious and increasing in recent times. The extent of evidence-based studies on the ethnic minority children's mental health has been low over the past decades, with slight improvement around the year 2021 because of issues surrounding the event of George Floyd protests in May 2020, which drove attention towards ethnicity [37]. In this regard, the review offers a different direction as to previous similar or related studies [14, 23, 24]. Despite recent changes to UK mental health policies [30] and the implementation of the changes, studies have highlighted that disparities may persist among certain population groups such as ethnic minority and adults [23]. This review considered a dimension of disparity beyond the scope of some studies [36, 3] and highlights a significant heterogeneity among studies.

Ethnicity Minority, NHS and Community-based Interventions

The work by [4] indicated that less evidence-based are available on the mental health problems in ethnic minority children. Despite establishing the differences in ethnic minority with mental health problems such as internalizing or externalising mental issues; however, these differences were not explained by child sex, socioeconomic status, maternal depressive symptoms, and maternal immigrant status, highlighting the need for further research exploring the factors that underpin ethnic inequalities in child mental health. The study by [27] identified series of factors contributing to the mental health inequalities which was linked to personal and environmental factors and impact of long waiting times for initial assessment, language barriers, poor communication between service users and providers among others. The work of [3] considered the relationship between ethnicity and adolescent mental health using household's income, social support, participation and adversity. The finding suggests that ethnic differences are partly but not fully accounted for by income, social support, participation, and adversity. Addressing income inequalities and socially focused interventions may protect against mental health problems irrespective of ethnicity. Healthcare utilisation is determined by the need for care and whether intervention can be accessed. However, this review found that accounting for disparities in need was not routinely considered and represents a deficiency in current ability to accurately understand inequalities in access to mental health intervention. The outcome was similar to those suggested by [2, 22, 23]. More so, [14] suggested the need for multifaceted analyses considering socioeconomic and cultural factors, beyond simple ethnic categorisations, to inform mental health services that effectively meet the diverse needs of the UK's child population. A similar study conducted by [33] suggested that addressing disproportionate ethnic disparities and their potential implications for decision-making and care is crucial to ensuring equity in mental health, regardless of ethnicity. Furthermore, recognising these disparities can inform practice and policy changes to enhance quality and reduce RT, benefiting everyone. The review and the included studies highlights the importance of a multifaceted approach in mental health research, where simple ethnic categorisations are insufficient to reflect complex mental health dynamics in their social and economic context; however, many studies are required for robust interpretation ethnicity disparities in mental health intervention.

Socioeconomic Position and NHS and Community-based Interventions

Studies of [5] and [15] were the eligible studies that centred on socio-economic inequalities among adolescent's mental health in the UK within the age bracket of 14 and 17 years and 5 – 24 years respectively. Also, [15] suggested that various socio-economic indicators such as parent education, household income, household wealth, parent occupational status, and relative neighbourhood deprivation can influence adolescent internalising mental health; however, the study was limited in reporting the intervention or mental health outcome. [21] examined the socioeconomic disparities in access to mental healthcare among children and young population. The study showed that low utilization of mental health services did not show a clear association between socioeconomic deprivation, even when adjusted for other factors such as age, gender and ethnicity. The studies by [6] and [27] had suggested that it is not clear whether disparities in access to mental health services reflect variation in actual black and minority ethic (BME) mental health needs or are

the product of institutional, cultural and/or socioeconomic exclusion factors, which disadvantage those from a BME background. The work of [20] had provided an empirical finding regarding the "hard-to-reach" groups, including BME, are less likely to obtain appropriate mental healthcare and may be disadvantaged either because they are unable to access services or because they receive inadequate help from services [25, 33]. Inadequate evidence-based intervention from the studies suggests a cautions interpretation. Also, [24] had previously suggested that policy makers feel existing research does not indicate which interventions are most effective in tackling health inequalities and that evidence is dominated by evaluations of behavioural interventions. Hence, the findings of the study further identify a crucial gap in the evidence required to inform policies which effectively tackle health inequalities in adolescence.

Strengths and limitations

The review combined ethnicity minority and socioeconomic disparities as an indicator of mental health intervention limitation to establish empirical findings that support the growing concerns of mental health inequalities in the UK [21, 24]. The generalisability of the selected studies was strengthened by the population size involved in their study except for [35]; however, the demographic scope of the studies was limited by studies such as [21] and [35] which were predominantly focused on specific area. Hence, the review and its synthesis further established the need for more evidence-based findings on adolescence mental health across ethnicities and socioeconomic disparities. Also, the specificity of socioeconomic indicators that could influence mental health problems was shown to also influence the intervention outcome. The review was able to subgroup various socioeconomic indicators other than income that could influence inequalities towards intervention adoption and outcome, thus emphasizing the novelty of this study.

The limitations encountered in this review were like those reported by [14]. Among others is the high heterogeneity in study designs and methodologies restricts the ability to aggregate the results. Therefore, a narrative synthesis instead of a meta-analysis was conducted to analyse the results. While narrative synthesis offers flexibility for complex data, it cannot quantitatively weight studies with large samples or a low SE. This procedure is akin to the suggestion of [33]. Secondly, the extent of included studies was limited in offering robust empirical establishment of the research questions. Most of the studies were cohort and qualitative studies and thus lack methodological rigor of clinical and randomised controlled trials. Additionally, the findings of this review may not be generalisable to other countries due to differences in ethnic distributions and healthcare systems. For example, the UK's ethnic minority populations are predominantly from South Asian, Black African, and Caribbean backgrounds, reflecting historical migration patterns from Commonwealth countries. In contrast, in the US, the largest ethnic minority group is Hispanic and Latino, which introduces different socio-cultural factors affecting mental health outcomes [13]. These variations in ethnic group distribution result in distinct challenges and protective factors for children in each country. Finally, some of the studies that meet the inclusion criteria might have been limited by the publication year of interest. Despite the adoption of multiple search approaches, ethnicity and socioeconomic-related findings are often hidden within the main body of a publication instead of in its abstract, which can make it challenging to include all the studies meeting the inclusion criteria.

Key Practitioner Message

What is known?

- Ethnic minorities and socioeconomically disadvantaged adolescents in the UK experience significant disparities in accessing mental health interventions due to factors like language barriers, stigma, inadequate services, and systemic inequalities.
- There is limited evidence on effective strategies to address these disparities, creating uncertainty about whether current interventions narrow or widen health inequalities among adolescents.

What is new?

- This systematic review uniquely synthesizes evidence specifically on the impact of ethnicity and socioeconomic status on NHS and community-based mental health interventions for UK adolescents, highlighting gaps in addressing and understanding intervention outcomes for these groups.
- The review identifies a critical lack of adolescent-focused studies compared to adult populations, emphasizing the urgent need for targeted research.

What is significant for clinical practice?

- Practitioners should recognize and address barriers specific to ethnic minority and socioeconomically disadvantaged adolescents, such as tailored communication strategies, culturally competent care, and addressing systemic inequalities to improve mental health outcomes.

Due to the preliminary nature of current evidence, further dedicated research is necessary to develop robust interventions and policies aimed at reducing mental health inequalities in this vulnerable population.

Conclusion

The systematic review has further established the influence of both ethnicity minority and socioeconomic disparities on various available mental health interventions. Despite limited evidence-based studies, the review established that various factors other than ethnicity and specific socioeconomic factors contributes to intervention outcome among the adolescent population. The current evidence base focuses on adults. Drawing conclusions from adult studies can be risky because developmental tasks, like school engagement and family dependence, and referral patterns, such as school to primary care to CAMHS, significantly change the paths and risks of disengagement. Some of the models included showed no significant associations, but the imprecision and small subgroup sizes mean we should be careful in interpreting "no difference" as "no inequity." Without deliberate design for equity, interventions for adolescents may end up repeating or increasing disparities at crucial points, especially during the first referral, the start of treatment, and the transition to adult services. Therefore, the review advocate that the priority should be to create evidence that focuses on adolescents and aims for equity while also making equity governance a regular part of both commissioning and frontline practice. Furthermore, the review recommends that more evidence-based studies be carried out to establish whether mental

health interventions narrow or widen inequalities based on ethnicity and socioeconomic disparity for adolescents and this remain a priority for public health research and practice.

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