Facilitators for increasing dental attendance of people from vulnerable groups: a rapid review of evidence relevant to the UK

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Key points

Equitable access to oral healthcare based on need is a key principle of the NHS, yet barriers to vulnerable groups accessing oral healthcare exist.

Facilitators for access have been proposed. Many require reform to enable coordination of services that support vulnerable groups and include addressing physical and structural factors, dental team development and skill-mix use, increased awareness of vulnerable groups' needs, and flexible services.

There is a lack of evidence about the effectiveness of these measures for increasing dental attendance. Research is needed to inform policymakers and dental professionals and educators about the best ways to increase access to oral healthcare services for vulnerable populations within the UK.

Abstract

Objective To rapidly review facilitators of access for vulnerable groups and to evaluate their effectiveness.

Methods Data sources: MEDLINE via Ovid. Publications in English from 2000. Data selection: Research involving 'vulnerable groups' relevant to UK health systems, with a primary outcome of increasing attendance. Data extraction: One author extracted and tabulated data. These were audited by a second author. Data synthesis: A narrative synthesis was produced.

Results Data from 31 studies were available for ten vulnerable groups: people with learning, physical or sensory disabilities (n = 8); people experiencing homelessness (n = 6); prisoners (n = 4); asylum-seekers and refugees (n = 3); people living in socioeconomically deprived areas (n = 3); people with severe mental health conditions (n = 2); vulnerable children (n = 2); dependent older people (n = 1); Gypsy, Roma or Traveller groups (n = 1); and people with drug dependency (n = 1). Many facilitators involved organisational reform and more integration of health, social and other services. Other facilitators included: modification of premises; team development and skill-mix use; and awareness of needs and flexible services to meet them. Few studies evaluated effectiveness.

Conclusion Although facilitators for access for vulnerable groups have been proposed, there is little evidence to support or refute their effectiveness. Efforts are needed to promote access for vulnerable groups in the UK with evaluation plans embedded.

Introduction

Definitions of vulnerable populations vary. In part, this is because vulnerability can be seen as a continuous spectrum rather than something that is present or absent but also because groups overlap.[1,2,3] The health of vulnerable populations has been considered in four categories:

1. Physical (for example, disability or chronic illness)
2. Psychological (for example, severe mental health conditions)
3. Social (for example, the effects of homelessness, displacement, seeking asylum)
4. Economic (for example, low income, unemployment).[1,4,5,6]

Despite overall reductions in the prevalence and severity of dental caries in the UK and advances in oral healthcare, inequalities in oral health still exist. Vulnerable populations are disproportionately at higher risk of poor oral health. For example, socioeconomic inequalities in oral health are long established, yet those experiencing homelessness are even more likely to experience caries, periodontal disease, and oral cancer and have lower oral health-related quality of life than those residing in socioeconomically disadvantaged areas.[7] In addition, there is evidence that the most vulnerable are also less likely to access oral healthcare services.[7,8,9,10,11]

There are many definitions of 'access' to healthcare.[12,13,14,15] For the purposes of this review, access is 'the opportunity or ease with which consumers or communities are able to use appropriate services in proportion to their need'.[16] There has been recognition of inequities in access for more than five decades, where those with the greatest need for care paradoxically have the worst access to it.[17] Yet, with its origins in notions of social justice,[18] equity of access to primary healthcare remains a key principle of international health agreements[19,20,21] and the NHS,[22] and addressing inequity of access is

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part of tackling the determinants of health globally.[23]

There is a large body of literature on access to healthcare, including oral healthcare services, which often emphasises barriers to access. A recent rapid review aimed to identify barriers to oral healthcare for vulnerable groups in the global literature. It included 300 articles with common barriers linked to affordability, accessibility, limited availability of appropriate care, and lack of public funding for specialised services. These barriers existed at the individual, organisational and policy level.[24]

In contrast to the body of literature on barriers to accessing oral healthcare, little is known about its facilitation; that is, how to overcome those barriers. This rapid review aimed to identify facilitators for access to oral healthcare for vulnerable groups and evaluate their effectiveness for increasing attendance at dental appointments. It looked for evidence relevant to UK healthcare systems. This could be used to inform service design that supports vulnerable people to take up oral healthcare opportunities.

Methods

A rapid review method was used. This simplifies the systematic review process to produce information that can be used to inform policy in a shorter timeframe.[25,26,27] Although specific methods vary, rapid reviews streamline the search process and focus on the needs of the end user. This includes limiting the number and scope of the questions posed, searching fewer databases, reducing hand-searching, and simplifying evidence synthesis.[28] A protocol was not published before undertaking this review.

The populations included in this review are those described in health and social care literature as 'vulnerable groups',[1,4,5] including: those with learning, physical or sensory disabilities, those experiencing homelessness, prisoners, asylum seekers and refugees, those living in socioeconomically deprived areas, those with severe mental health conditions, vulnerable children, those from Gypsy, Roma or Traveller groups, those with drug dependency, and sex workers. Any intervention or initiative in any aspect of oral healthcare (that is, primary, secondary and tertiary care) and relevant to UK health systems was included. Interventions and initiatives considered were focused on dimensions of access to healthcare[13,15] including, but not limited to, affordability, availability, accessibility, accommodation, acceptability and awareness. Studies did not have to include a control group; however, where comparisons were made, these could include one or more other active interventions or no intervention. The primary outcome of interest was factors that facilitated or enabled dental attendance.

Data source

A simplified search strategy was employed. The database search was limited to Medline via Ovid (16 January 2023) and to full-text English language publications from 2000 onwards. It combined free-text search terms and controlled vocabulary subject headings for comprehensive record retrieval, and Boolean operators (AND and OR) were applied to refine the relevance of retrieved records (Box. 1). After conducting the searches, the identified records were exported in RIS format and imported into EndNote X9. In addition, reference list searching of included studies and *ad hoc* searching was undertaken.

Data selection

Synthesised evidence (that is, systematic reviews, policy guidance) and primary research articles (experimental and observational) published in peer-reviewed journals were included. The priorities were: systematic reviews; UK-based research; and recent publications. All records were screened in duplicate by three of the authors (AMG, LM, TD). When systematic reviews were identified, primary studies were only included if they were not included in systematic reviews. Where evidence was limited, discussion papers and narrative reviews were included. Consistent with other systematic reviews on barriers and facilitators,[29,30] articles were included based on their relevance rather than methodological rigour.

Data extraction

A single author (AMG/TD) extracted and tabulated data, including: evidence type; research design; participant characteristics (that is, vulnerable group); characteristics of interventions; assessed/reported outcomes relevant to review scope; and outcome data.

Box 1 Search strategy

1. Dental Health Services/
2. (dental adj2 (care or treatment or therapy or check-up$)).tw.
3. exp Dental Care/
4. oral health.mp. or Oral Health/
5. 1 or 2 or 3 or 4
6. Homeless Youth/ or Homeless Persons/ or homeless.mp.
7. Prisoners/ or prisoners.mp.
8. exp Mental Disorders/ or exp Learning Disorders/ or mental health.mp. or Mental Health/
9. exp Disabled Persons/ or exp Intellectual Disability/ or disabilit$.mp.
10. exp "Sexual and Gender Minorities"/
11. exp Sexual Behavior/
12. exp Gender Identity/ or exp Sex Reassignment Procedures/
13. Sex Workers/ or Sex Work/
14. exp Religion/
15. racial.mp. or exp Ethnic Groups/
16. exp Age Factors/
17. gypsy.mp. or Roma/ or traveller$.mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]
18. Refugees/ or asylum seekers.mp.
19. Vulnerable Populations/
20. 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19
21. 5 and 20
22. (UK or United Kingdom or England or Scotland or Northern Ireland or Ireland or Wales or Channel Islands).mp.
23. 21 and 22

A second author (TD/AMG) independently audited the included studies for their suitability for inclusion and the interpretation of their findings.

Data synthesis

Due to the significant heterogeneity in the methods and outcomes used across the included studies, quantitative syntheses, sensitivity analyses, subgroup analyses, and publication bias assessment were deemed inappropriate.[31] A narrative (descriptive) synthesis of identified data was produced, which summarised facilitators identified for each vulnerable group. No risk of bias assessment or quality assessment were undertaken, although methodological limitations were recorded and discussed where appropriate.

Results

Database searching identified 1,224 records. Five additional records were identified through reference list and *ad hoc* searching. The first screening of titles and abstracts identified 69 potential articles for inclusion. However, further screening of the full-text articles found 38 of these studies did not meet the inclusion criteria, leaving 31 studies to be included in the review (Fig. 1).

Of the 31 studies included in this review, eight focused on those with learning, physical or sensory disabilities, six on those experiencing homelessness, four on prisoners, three on asylum-seekers and refugees, three on people living in socioeconomically deprived areas, two on people with severe mental health conditions, two on vulnerable children, one on dependent older people, one on people from Gypsy, Roma or Traveller groups, and one on people with drug dependency (see online Supplementary Information for details of the reviews and studies). No studies were identified for other vulnerable populations, including sex workers, sexual and gender minorities, and ethnic, racial, and religious minorities.

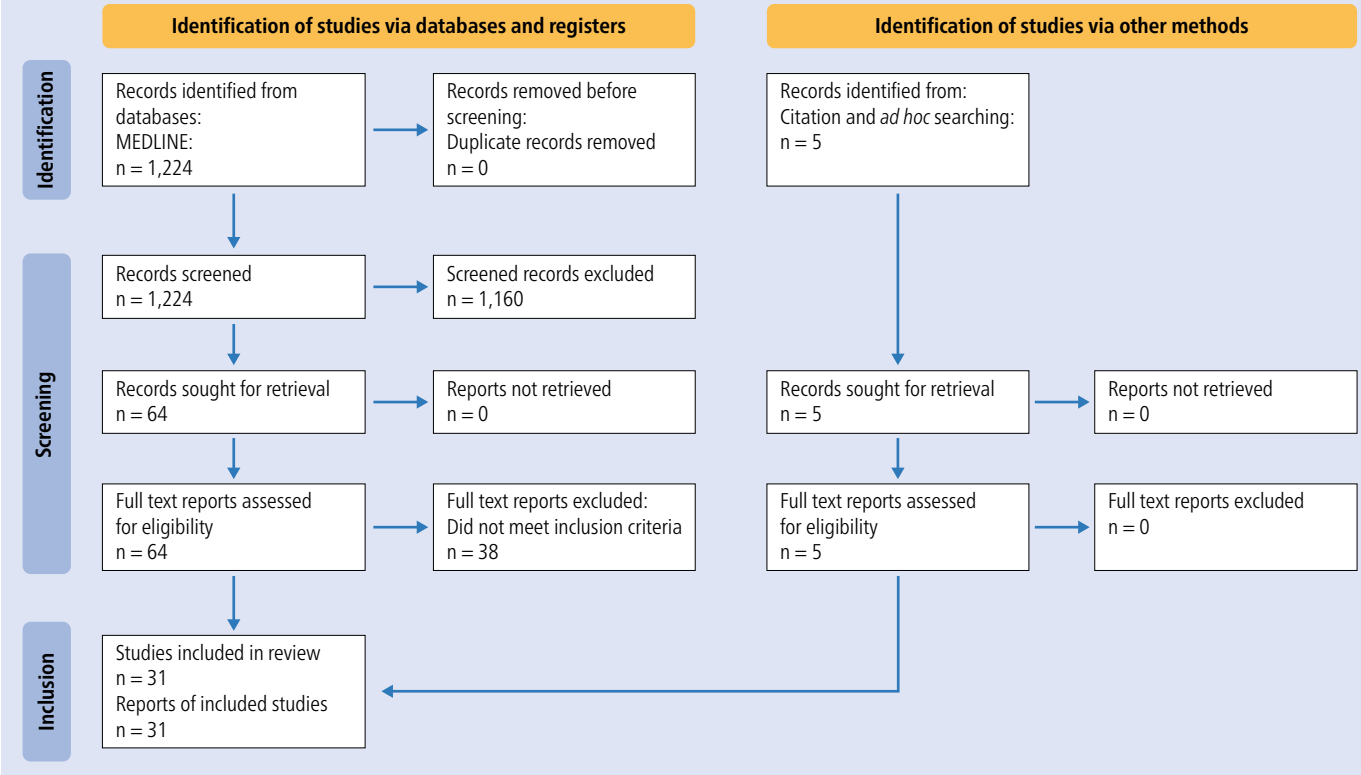
People with learning, physical or sensory disabilities

Eight studies focused on people with learning, physical or sensory disabilities: one scoping review, one narrative review, one needs assessment, one test of a theoretical model, one mixed-method study and three qualitative studies. Key facilitators identified for this group were: accessibility of clinical facilities,[33,34,35,36] disability awareness education,[33,35,36,37,38,39,40] development of skills in caring for people with additional needs for the dental team, and the use of skill mix.[36] In addition, promotion and development of special care dentistry as a speciality were seen as important.[38] The availability of appropriate equipment was also emphasised, including domiciliary equipment,[33,34,35,36] and the use of joint working and technology to be able to coordinate care with other medical specialties.[37] With regards to accommodation and accessibility, consideration should be given to transportation to and from a practice or clinic, alongside other requirements, when scheduling appointments.[35] Familiarity with the dental team and their affective behaviour (that is, their professionalism and caring attitude) were reported as important to service users in improving acceptability of a service.[33] Financial facilitators included development grants to help support structural changes to improve accessibility, and changes to contractual arrangements to allow for additional time required for appointments to accommodate needs.[35] None of the included studies evaluated the impact of the facilitators on dental attendance.

People experiencing homelessness

Six studies focused on those experiencing homelessness: one systematic review,[41] one realist synthesis,[42] three qualitative studies,[43,44,45] and one mixed-method evaluation.[46] Many

Fig 1 PRISMA diagram of literature search process[32]



potential facilitators were identified. These included the importance of location of services;[43,44] for example, alongside a GP practice or with other homelessness services to maximise accessibility[46] and prioritising availability of emergency dental care.[42] In terms of workforce-related facilitators, staff training was recommended, which focused on the specific difficulties that those experiencing homelessness face daily.[41,42,45] In addition, multidisciplinary teams, with the dental team establishing relationships with other stakeholders/health professionals, were perceived as beneficial. They fostered a holistic approach to care including increasing awareness of other health services.[41,42,45] All studies discussed the importance of dental teams' interpersonal skills and compassion for reducing anxiety, developing trust and increasing service acceptability. The importance of familiarity and continuity of care[43,45] and tailoring care for individual patients' needs were identified.[42] Flexibility in scheduling care was reported as a potential facilitator; making allowances for challenging lifestyles by allowing flexible, single appointments and providing consistency in service delivery, was seen as important in improving the accommodation of services.[42,43,44,45] None of the studies evaluated the impact of facilitators on dental attendance.

Prisoners

Four studies considered access to dental services for people who are prisoners: one analysis of existing dental programmes, two discussion papers, and one qualitative study.[47,48,49,50] A key facilitator proposed was the need to improve service availability, and particularly timeliness of care. Increasing the number of sessions available and better coordination with health and other services were measures proposed for this. As with other vulnerable groups, the need for good interpersonal skills to build prisoners' trust in the dental team was emphasised to improve acceptability.[47] None of the studies evaluated the impact of facilitators on dental attendance.

Asylum-seekers and refugees

Three studies considered asylum-seekers and refugees: two qualitative studies[51,52] and a discussion paper.[53] Measures to facilitate access to oral healthcare for asylum-seekers and refugees focused on improving the accommodation and acceptability of services.[51,52,53] Recommendations included dental team training to improve knowledge of entitlements, how to signpost to appropriate services, and to increase awareness of the impact of their life experiences. More integration and partnership working with care agencies and services was proposed.[52] Providing accessible oral health education and information on the structure and function of the NHS, use of high-quality interpreting services, and scheduling additional time for assessments and treatment were also emphasised.[51,52,53] One study recommended that asylum-seekers and refugees should be involved in service design.[52] No study evaluated the impact of these recommendations on dental attendance.

People living in areas of deprivation

Three studies focused on people living in areas of deprivation: an evidence summary,[54] a qualitative study,[55] and an equity audit.[56] The evidence summary reported facilitators for this group that focused on accessibility and availability, where the importance of the location and types of clinics was emphasised.[54] While acknowledging the very low quality of studies and uncertainty of the evidence, it reported the effect on attendance of a range of interventions. Dental access centres reported a higher proportion of people attending who resided in deprived areas than local dental practices. After dental screening in schools, a higher proportion of children attended mobile dental units than standard clinics/practices and treatment completion was higher. Parental advice from health visitors, which also included a registration voucher that could be used at dental practices, increased dental attendance in 0–2-year-olds, but there was no effect for 3–5-year-olds. Two studies supported the role of school screening, with or without specific referral criteria.[54,55] One study included in the evidence summary reported higher attendance rates in those screened positive compared with those who were not screened positive. However, less than a quarter received appropriate treatment thereafter. Overall, the authors concluded that screening provided little benefit and would not reduce inequalities. In another study included in the evidence summary, more adults reported taking their children to a dentist after reading a dental health display in a local shopping centre in a deprived area than before. However, as attendance was self-reported by parents, the risk of social desirability bias was high.[54] Other facilitators proposed by parents and caregivers, but not evaluated, included text message reminders for appointments and a systems approach, incorporating other key services (children's centres, other health services including dental), and connecting actively with first-time parents.[55] Finally, a health equity audit suggested that dental practices in more deprived areas tended to be accessed by a higher proportion of people from more deprived communities than those in less deprived areas. The authors recommend the use of heath equity audits to inform resource distribution to reduce inequalities in access.[56]

People with severe mental health conditions

One systematic review[57] and one qualitative study[58] described the barriers to, and facilitators of, oral healthcare for people affected by severe mental health disorders. They identified the importance of improving acceptability and awareness by establishing a collaborative approach using multidisciplinary teams and an integrated approach to care, ensuring staff were empathetic to the needs of the group and tailored care accordingly. Undergraduate training in special care dentistry was also emphasised.[57] None of the included studies in the review,[57] nor the qualitative study,[58] evaluated the impact of the proposed facilitators on dental attendance.

Vulnerable children

Two studies considered facilitators for attendance of vulnerable children, including those identified at risk of dental neglect[59] and those in social care.[60] A pilot study evaluating the impact of a mobile dental unit (MDU) located near schools identified facilitators of access.[59] As well as using an MDU, recommendations included: working closely with schools to identify children at risk of dental disease; service planning to ensure adequate resourcing and staffing; and use of networks within the local community to include stakeholder views and any cultural and language issues. Following the introduction of a dental care pathway for 'looked after children', a mixed-method evaluation anecdotally reported better attendance.[60] The pathway included: dental health assessment on entering care and referral to a community dental service; sharing dental health action plans with medical and social care teams; oral health advice for foster families or residential units; and arranging recalls with a dental practice or re-entry to the pathway. Neither study formally evaluated the impact of recommendations on attendance.

Dependent older people

In a systematic review involving caregivers, managers, dentists and dependent older people, the most frequently identified facilitators for oral healthcare were a regular visiting dentist and increased awareness of, and routine assessment by staff. Other facilitators included improving affordability by reducing costs of treatment, and accessibility by using a treatment room in the facility or an MDU.[61] None of the included studies evaluated the effectiveness of these measures on dental attendance.

People from Gypsy, Roma or Traveller groups

Recommendations for these groups mainly centred on accommodation, including methods of communication and scheduling of appointments. Facilitators included providing verbal and written appointment reminders, greater flexibility with appointment timings, and booking check-up appointments immediately following a pain appointment.[62] No study evaluated the impact of these measures on dental attendance.

People with drug dependency

Evaluation of a community-based advice service for people with drug dependency supported the involvement of service users and providers in service planning and supported the use of drop-in sessions for service delivery. The effectiveness of these approaches for increasing attendance at dental appointments was not evaluated.[63]

Table 1 Summary of proposed facilitators of dental attendance for vulnerable groups

Category	Details
Learning, teaching and training	Undergraduate and postgraduate education, including: • Increasing awareness of needs of vulnerable groups • Appropriate use of communication skills and cultural sensitivity • Interprofessional and intersectoral approaches to care • Appropriate use of skill-mix • Increased awareness and development of special care dentistry
Organisation of oral healthcare services	A systems approach to integrated oral healthcare services, including: • More integration of health and social care, education services, and voluntary and charity services • Inclusive primary dental care service • Targeted resource use following health equity audit • Involvement of vulnerable groups in planning • Better use of skill-mix • Managed clinical networks in special care dentistry
Accessibility and accommodation to needs	Services provided appropriate to vulnerable groups' needs, including: • Appropriate physical accessibility of premises and development grants • 'Outreach' approaches including mobile dental units and community-based information • Flexible appointment times • Interpreting and translational services • Domiciliary care • Culturally and needs-appropriate reminder systems

Discussion

There is a large body of literature on barriers to access to oral healthcare services faced by vulnerable groups globally.[24] In contrast, this rapid review has revealed there has been relatively little published on facilitators of access relevant to UK oral healthcare services. The articles included predominantly described potential facilitators but did not evaluate them, and those that did are of limited methodological quality. Unsurprisingly, many of the proposed facilitators were intended to address barriers identified in previous research, and these related to a range of dimensions of access (Table 1).[13,15] Many would require organisational reform to allow more collaboration and integration with other healthcare, social, educational, voluntary, and charitable services to address the complex needs of vulnerable groups. Other measures included addressing physical and structural factors, dental team development and increased skill-mix use, more awareness and understanding of vulnerable groups' needs, and flexible services that can meet them. However, there is very little evidence for the impact of any of these measures on dental attendance of vulnerable populations.

Global barriers to oral healthcare for vulnerable groups and the need for change are well established.[24,64] In a recent policy statement, the World Dental Federation (FDI) based recommendations for improving oral healthcare access for vulnerable and underserved populations on two of the United Nations' Sustainable Development Goals (SDGs): SDG3 'Good Health and Well-being' and SDG10 'Reduced Inequalities'.[65] Many of the recommendations are consistent with the findings of this review. In particular, the FDI encourages greater financial investment in services for vulnerable populations and embedding appropriate training in undergraduate and postgraduate education. More opportunities for dental team training in underserved areas are also recommended. In addition, the policy acknowledges that any strategies to increase access should be evidence-based and research funding is needed to support this.

A more collaborative, integrated systems approach to oral healthcare services is consistent with longstanding primary care principles[66] and recommended in many of the included studies.[36,41,42,43,46,47,52,53,54,55,57,58] Such an approach should be feasible in the NHS, where a principle of ensuring access on the basis of needs exists.[22,67] However, it is clear that research is needed to establish the impact of the measures proposed. Given their variety and the different vulnerable groups involved, evaluations should be rigorously designed with the involvement of potential service users (including groups categorised as vulnerable that were absent in this review), and use a mixed-methods approach suited to evaluating processes, outcomes and health economics. To facilitate this, the research capacity and competence of dental professionals and the opportunities for such research should be enhanced.

The rapid review method is useful for providing a synthesis of evidence to inform service providers, policymakers, and commissioners in a short timeframe. However, the limitations of the approach should be considered. The search strategy was limited by the language of publication, time period covered, and the database searched, although given the focus on interventions relevant to the current UK health system, restricting the search in these ways is unlikely to have excluded relevant studies. In addition, there was consistency across studies in the facilitators proposed and with barriers identified in earlier research with broader inclusion criteria.[22,68] Nonetheless, it is possible that relevant studies have been missed. Finally, although no formal risk of bias and quality assessments were undertaken, it is unlikely that the interpretation and conclusions drawn would have changed if they had been.

Conclusion

A range of facilitators of access for vulnerable groups has been proposed. To address their complex needs, organisational reform is often recommended to enable more collaboration and integration with other health, social, educational, voluntary, and charitable services. Other measures include addressing physical and structural factors, dental team development and skill-mix use, increased awareness of needs through training of dental professionals and undergraduate students, and services that can accommodate needs, including flexible scheduling of appointments. However, there is little evidence to support or refute the impact of any of these measures on access for vulnerable populations. Efforts are needed to promote access for vulnerable groups in the UK. Any new initiative aiming to increase attendance should be rigorously evaluated, using appropriate methods to ensure resources are used effectively.

Ethics declaration

Cochrane Oral Health was commissioned by the then Public Health England for its involvement in this rapid review. As this is a rapid review of published data, ethical approval was not required to undertake the study, and consent would have been sought by the authors of the primary studies so is not applicable in this study.

Author contributions

AMG, LM, and TD designed the work that led to the submission, ran the search, acquired and audited extracted data, interpreted the results, drafted the manuscript and approved the final version. AI, KJ, SW-P, and ZM conceived the work that led to the submission, interpreted the results, revised the manuscript and approved the final version.

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