Weight stigma among dental professionals and in the dental setting: a scoping review

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Key points

The current scoping review is timely and brings awareness to this topical area for dental professionals given recent global media attention on the subject of weight stigma.

Weight stigma is a complex, multifaceted subject and there is compelling evidence that weight stigma exists and needs to be addressed in obesity-related practice and policy.

Practical strategies for the role that dental professionals can play in the mitigation of weight stigma, including the assessment of one's own biases and future areas for research, are suggested.

Abstract

Background Weight stigma refers to discriminatory acts and ideologies targeted towards individuals because of their body weight and/or size. Weight stigma in healthcare settings generates major health disparities. To date, there have been no previous reviews exploring the issue of weight stigma among dental professionals (DPs) and in the dental setting.

Aims To synthesise current evidence on weight stigma among DPs and in dental care settings via a scoping review.

Methods A comprehensive search was carried out across four relevant electronic databases (Medline, Scopus, Psychinfo and Cinahl). A total of 25 full-text papers were included in the scoping review.

Results Most papers addressed the subject of weight stigma as a secondary finding (20 papers). Both quantitative and qualitative study methods were used to explore weight stigma across the broad categories of attitudes and beliefs about obesity, weight-based discussions, obesity education and training and service implications of obesity. Recommendations regarding weight stigma among DPs and in the dental setting were proposed but have not been formally assessed.

Conclusion Further studies addressing weight stigma in dental settings, including causes and consequences among DPs, are required to better inform and address this issue.

Introduction

What is weight stigma?

Worldwide, the increasing prevalence of obesity is a major public health concern due to the concomitant elevated risk of morbidity and mortality.[1] People living with obesity may be recipients of weight bias, stigma and discrimination.[2] Weight stigma refers to discriminatory acts and ideologies targeted towards individuals because of their weight and/or body size.[3,4] In the last decade, weight discrimination has increased by 60%, unlike discrimination or prejudice towards other social groups.[5] A central premise of weight stigma is the belief that causes of obesity are entirely within an individual's control.[6] Weight stigma has rarely been considered among dental professionals (DPs) or in the dental setting.

Weight stigma is a complex, multifaceted subject that can be both implicit, such as automatic, negative attitudes, or explicit, where it is conscious or deliberate.[7,8] In addition, weight stigma may be internalised, where a person may direct stigmatising attitudes towards themselves. Weight stigma manifests differently across settings, including in education, workplaces, personal relationships, media and healthcare settings.[9] Weight stigma in healthcare settings has the potential to generate major health disparities through changed practitioner behaviours and negative experiences for individuals living with obesity, which can lead to subsequent avoidance of health care.[10,11]

Why is weight stigma relevant to dental settings?

Recent reports provide compelling evidence that weight stigma exists and needs to be addressed in obesity-related practice and policy, including through an international consensus guideline.[3] Recommendations to address it are included in newer international obesity clinical practice guidelines.[2] Given the increasing prevalence of people living with obesity and consequently their need for dental services, DPs should be aware of the issue of weight stigma and its causes and effects. There have been no previous reviews of research exploring the presence of weight stigma among DPs, nor any studies to assess interventions to reduce weight stigma in the dental setting.

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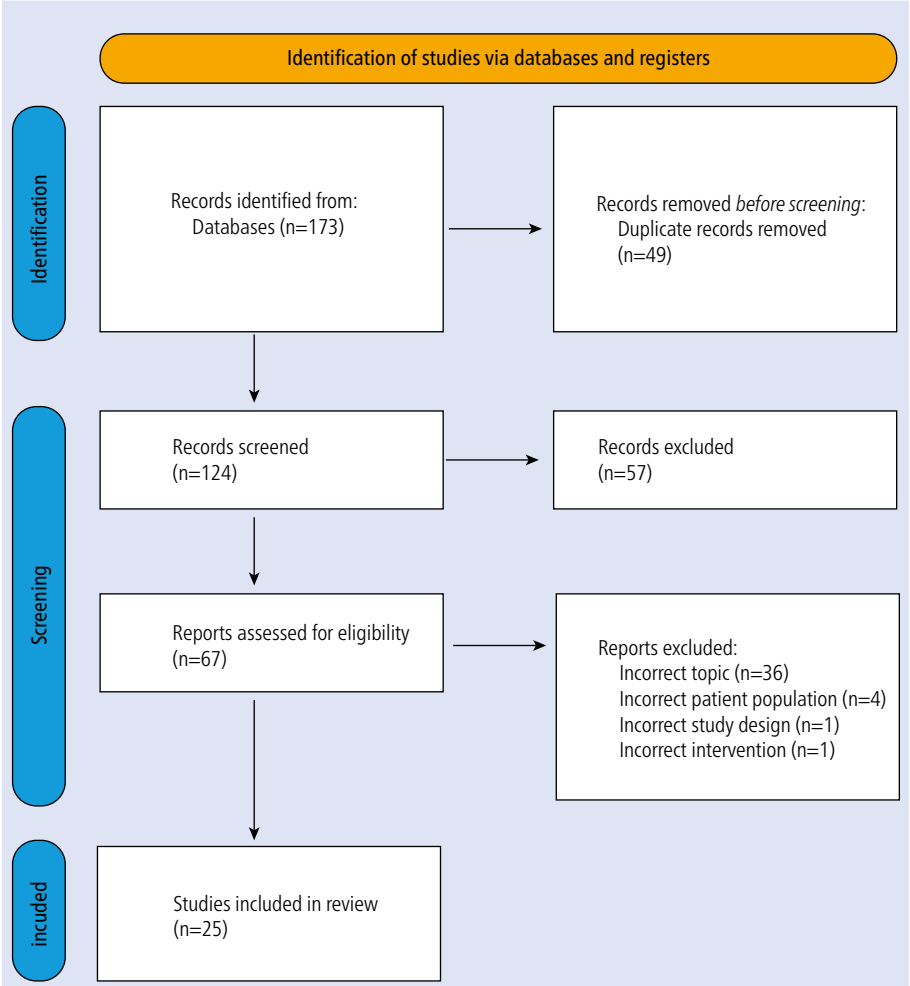
Fig. 1 PRISMA flow diagram of the included and excluded references



Materials and methods

Ethics approval was not required as this is a scoping review of published literature. A comprehensive search (online Supplementary File 1) was carried out across four relevant electronic databases: Medline, Scopus, Psychinfo and Cinahl. These databases were selected after discussion with a medical librarian for oral health and obesity-related literature. Papers dating from 1990–2022, based upon relevant topic, study participants, intervention, patient population, or study design, were included, with the aim to answer the following research question: what is the existing evidence for weight stigma among DPs or in the dental setting for all patients across the lifespan?

Grey literature was not considered to avoid repetition of findings from previous scoping reviews addressing dental care implications of adult obesity.[12] The scoping review was registered with the Open Science Framework.

The search strategy utilised terms 'social stigma or stigma', 'weight prejudice', 'attitude', 'discrimination', and 'antifat bias' to elicit results regarding weight stigma. The entire team of DPs were reflected, using search terms 'dental team', 'dental professional', 'dental therapist', 'oral health therapist', 'oral health professional', 'oral health practitioner', 'dental hygienist', 'dentist', 'dental technician or prosthetist' and 'dental admin'.

Two members of the research team (ZM, DH) performed title and abstract screening of the articles identified from the electronic search. The Covidence platform was used to remove any duplicates and PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines were followed to resolve any conflicts by a third reviewer (CC). A comprehensive review of full-text papers for inclusion/exclusion criteria (see Figure 1) and relevance to the study question was carried out. The full texts were incorporated into a customised data extraction spreadsheet (online Supplementary File 2).

Scoping review methodology was employed to explore the issue of weight stigma among DPs and in the dental setting, given the sparsity of available literature, a desire to map all research published and to ascertain whether a future systematic review may be warranted.

Results

The searches across the four databases yielded 173 papers, with 49 duplicates. Of the remaining 124 results, 57 studies were excluded via abstract screening, as they did not meet inclusion criteria. From 67 full texts, a further 42 were excluded, as they did not meet the inclusion criteria for a variety of reasons. In total, 25 full texts were subsequently included for comprehensive review (see Figure 1).

Study characteristics

Online Supplementary File 2 summarises characteristics from all 25 included studies. These included two editorials; one systematic review, synthesising evidence from eight cross-sectional studies; two qualitative studies; one single-blind, quasi-randomised controlled study; fifteen surveys; and six qualitative studies utilising semi-structured interviews or focus groups. Ten papers focused on issues related to childhood obesity only, with insights from the perspectives of both DPs, including paediatric dentists, and parents.[13,14,15,16,17,18,19,20,21,22] No studies included the perspectives of administrative and dental assistant staff or commented on their role in the dental teams' contribution to weight stigma.

Papers were categorised regarding main themes relating to weight stigma among DPs and in the dental setting. Qualitative techniques encouraged nuanced and detailed understanding of the research questions under investigation, for example, the exploration of disability-focused themes in a cohort with clinically severe obesity,[23] while quantitative analyses assisted in establishing significance and strength of findings.[24] Qualitative methods were used in papers reporting direct experiences of patients living with obesity who had experienced weight stigma from DPs.[23,25]

Attitudes and beliefs about obesity and people living with obesity

Two studies explicitly investigated attitudes and beliefs regarding obesity and people living with obesity, with findings reflecting weight stigma in DPs.[26,27] Study populations

included convenience samples of dental students in years 2–4 of their studies and dental hygiene students. The study groups were based in the USA and Pakistan.[26,27] Participants were surveyed to determine any negative reactions towards the appearance of patients with obesity, whether empathy was challenging, if there were any feelings of discomfort during examination of a patient with obesity, or perceptions of people with obesity by asking if they thought they were 'lazier, lacking willpower and motivation'[26,27] in comparison to patients without obesity. One study found that >31% of a dental and dental hygiene student cohort agreed that they considered people with overweight as having reduced motivation and willpower, and 21% reported negative reactions towards the appearance of a person with obesity.[26] In the study by Awan *et al.*, 64% of dental students associated obesity with personality traits of laziness, lack of motivation and self-control.[27] Similar results were evident from a US study, which explored attitudes of 518 dental hygienists towards obesity.[28] The primary outcome, weight stigma, was assessed using two survey instruments – the Fat Phobia scale[29] and the Anti-fat Attitudes Questionnaire[30] –revealing mildly negative attitudes and slight fat phobia among dental hygienists towards people with obesity.[28]

In contrast, another US study reported overall slightly positive attitudes among dental hygienists towards people with obesity,[15] using the Nutrition, Exercise and Weight Management Attitudes scale. This study predicted that participants with a positive attitude towards children with obesity were more likely to provide weight-related counselling.[15] Of concern is that 7% of participants in this study agreed with the statement 'I do feel a bit disgusted when treating a patient with obesity'.[15]

Weight-based discussions with people with obesity related to weight stigma

Findings across multiple studies reported a lack of confidence of DPs to provide education for obesity prevention and management.[15,31] Surveys were predominantly used to assess discomfort in asking about dietary habits, initiating discussion of weight issues and asking about current or historical use of appetite suppressants or anti-obesity medications. Providing a contrasting patient perspective from adults with clinically severe obesity, one study reported weight stigma as a factor influencing weight discussions and willingness to engage with the dental team.[23] Another study reported that individual engagement with health promotion messages was not influenced by weight stigma towards DPs.[32]

Qualitative methods were also used to establish perceptions about the role in weight-based discussions and barriers faced by DPs. Both positive and negative perceptions were reported. The most common finding, which was reported in two papers as being statistically significant,[14,18] was an apprehension among DPs in providing treatment and concern that they may offend parents or patients, or appear judgemental.[14,15,18,21] These were also the major barriers identified in a large US survey involving 2,965 dentists.[33] Other barriers to weight-based discussions included the fear of creating dissatisfaction among parents; a perceived lack of accepting guidance about obesity; lack of time; training or knowledge of obesity-related guidelines about best practice; and a lack of appropriate reimbursement.[14,15,18,22,33] Several studies found that DPs cited a weak link between obesity and oral disease as a reason for not addressing obesity with their patients.[14,18,22,31,33,34]

A lack of training was identified in multiple studies as a barrier to obesity prevention and management and weight-based discussions by DPs.[13,14,15,18,21,22,31,33,34,35,36,37] In one study, 93% of dental hygienists reported no postgraduate continuing education courses relating to obesity.[28] In two other studies, based in the US and Pakistan, there were variable reports of 40% and 78.9% of the dental student and >35% of dental hygienist student cohorts having received up to one hour of obesity education, while 80% reported fewer than five hours.[26,27] While number of hours were not investigated, another study involving paediatric residents reported that only 47% received formal obesity education within their specialist training curriculum.[20] One included study investigating the inclusion of obesity topics in predoctoral dental curricula in 62 US dental schools revealed that obesity had been incorporated into the curricula; however, this was variably applied practically.[38]

Service implications – an example of structural stigma

Structural stigma is a type of weight stigma.[39] It can occur when institutions, including in the health sector, have policies, procedures, a culture and/or physical environments that disadvantage people with obesity, including via exclusion.[9,39] This was reflected in two studies that explored the perspectives of adults living with obesity using focus groups and semi-structured interviews.[23,25] Participants described a lack of tailored and suitable services or accommodation of their needs, in addition to discrimination and a lack of awareness of care pathways.[25]

Similarly, deficiencies within the physical environment were also described in two opinion papers. Descriptions were made of inadequate doorway entry to the practice, mobility issues, inadequate toilet facilities, narrow waiting room chairs without arm rests and the features of the dental chair itself,[40] including dental chair dimensions and/or limited safe working weight limits.[41] While situations like these can lead to compromised care approaches, this may additionally have medicolegal implications.[41]

Implications of weight stigma or mitigation strategies in the dental setting

When weight stigma was specifically mentioned, negative impacts on quality and access to dental services have been reported,[23,25] and weight stigma should be reduced in order to ensure that comprehensive dental care is provided.[28] No specific intervention for reduction of weight stigma in the dental setting was identified from the included studies targeting DPs. It has been documented that unconscious biases held by DPs, and at the institutional level, need to be addressed when providing obesity-related education and managing the dental needs of this population.[28]

Discussion

The aim of the current review was to synthesise evidence to date on weight stigma among DPs and in dental settings. A key finding of the current scoping review is that weight stigma, as indicated by negative attitudes and beliefs about people with obesity, is present among DPs and in the dental setting. The review highlighted the scarcity of research (6/25 included studies) investigating weight stigma in the dental setting as a primary outcome. This suggests that weight stigma has not been prioritised in the literature pertaining to dentistry and obesity, consistent with findings in other healthcare settings. Within the included papers where weight stigma was a primary outcome or formally assessed, a range of survey instruments were used.

It remains unknown whether a particular measure of weight stigma is best utilised in the dental setting.

This study noted minimal obesity-related training received by DPs, consistent with findings in other healthcare settings.[3] This limited training may reflect a lack of obesity prioritisation by healthcare providers and institutions, an example of structural stigma.[27] However, it should be noted that several of the included studies assessing obesity-related training were published more than ten years ago and it is uncertain whether improvements have been made in dental tertiary curricula since that time and whether weight stigma is now included. A fragmented understanding or knowledge of the multifactorial causes and biology of obesity has been suggested as a reason for overemphasis on individual blame and stigmatising views by dental practice staff.[13]

Another key review finding was the role of obesity stigma as a barrier for DPs initiating weight-based discussions. From the multiple barriers cited by DPs, lack of confidence and hesitation or discomfort in engaging in weight-based discussions were prominent.[14,15,31,33] These barriers were largely consistent across the different groups of DPs investigated and may be linked to the minimal obesity education and training received. It also supports the need for improving communication and awareness of weight stigma across the entire dental team, regardless of level of training. However, the barriers cited by DPs may also be due to learned experiences of weight stigma, whether implicit or explicit, as a common barrier cited by DPs was a fear of causing offence to people with obesity. This may indicate either baseline stigmatising attitudes held by DPs or an inability to provide advice which will not further stigmatise. It is possible that the currently delivered preventive strategies and weight-based discussions (both taught and adopted in practice) are inherently stigmatising; however, this has not been investigated to date.

The absence of the perspectives of the entire dental team in the literature is problematic given that dental support staff are often the first point of contact for the individual with obesity. The absence of clear guidelines was another specific barrier to obesity-related discussions cited by DPs. Given no consensus guidelines currently exist, clinical practice guidelines, similar to those for other health care professionals, should be developed for the entire dental team as a matter of urgency. This should be undertaken by an appropriate working group, ensuring the inclusion of weight stigma, suggested communication approaches and oral health preventive advice which are non-stigmatising. Any guidelines should include a current understanding of the complex relationships and correlations between obesity and chronic periodontal disease and dental caries parameters.[42,43] While inconclusive relationships between obesity and dental disease may exist due to limitations in the current literature, this knowledge may contribute to improving confidence among DPs in providing evidence-based discussions. In order to overcome structural stigmas, these guidelines could include the minimum standard of equipment required in dental facilities for the dental management of people with obesity and referral pathways, to ensure equitable and safe dental service delivery.[25]

The lack of studies investigating interventions to reduce weight stigma in the dental setting or among DPs is consistent with minimal evidence in other healthcare settings[44,45] and is an area for further research. No studies to date have used methodology assessing weight stigma measures in the dental setting pre and post an intervention designed to reduce weight stigma, which is practically more relevant. As such, the implications for reduction of weight stigma in the dental setting or for DPs is unclear at both an individual and societal level.

The current review is timely, given recent global media attention on the subject of weight stigma. It brings awareness of this topic area to DPs globally.[6,8] The strength of this review was the scoping review methodology and comprehensive search strategy across four different databases and the inclusion of papers pertaining to both paediatric and adult populations.

The current scoping review was limited by the poor quality of evidence resulting from most of the included studies due to unsatisfactory methodologies and bias (online Supplementary File 2). Qualitative research methods were used to provide

Box 1 Gaps in the evidence

- Studies assessing the presence of both explicit and implicit weight stigma as a primary finding among various DPs and the entire dental team, including administrative and dental assistant personnel
- Multi-centre trials across multiple countries to identify the presence of weight stigma in the dental setting or by DPs in differing social contexts
- Studies investigating how weight stigma contributes to the economic impact of obesity in the dental setting
- Studies investigating how to reduce weight stigma and bias
- Studies assessing current approaches for education in obesity prevention and management for DPs as being sensitive to the topic of weight stigma, including the perceptions of people with lived experience of obesity
- Formal assessment of tertiary curricula for DPs for obesity education, including weight stigma and bias

Box 2 The DP's role in weight stigma cessation – how can we adapt the existing evidence-based recommendations around weight stigma for DPs?

- DPs should assess their own attitudes and beliefs regarding people with obesity and how this may be influencing their dental service provision. Consider taking the Project Implicit Weight Implicit Association Test: https://implicit.harvard.edu/implicit/takeatest.html
- Be receptive to people living with obesity speaking about their experiences of weight bias
- Support the cessation of weight stigma and bias at an individual and professional level including collectively by the entire dental profession at an international level
- Always use appropriate terminology including people first language when discussing people living with obesity among colleagues, in the community and in written work and research. Language is integral to affording people with obesity the respect they deserve[43]
- Weight stigma is a collective responsibility. System-based strategies which are health-focused, weight-inclusive and use a multi-pronged approach targeting healthcare settings, higher levels of government and society will likely be required

direct evidence of weight stigma from the perspective of people with obesity. However, there is a lack of qualitative data exhibiting weight stigma in the dental setting and by DPs. As such, the results rely heavily on survey-based assessments of weight stigma, which are limited by responder bias.[24] While these limitations mean readers should interpret the results with caution, the scoping review provides an overview of research to date and a framework upon which to build future research in this area. The review has highlighted considerable gaps identified in the evidence base, which are listed in Box 1.

Future directions and recommendations

To address weight stigma in the future, gaps in infrastructure in dental settings must be addressed to overcome the dimension of structural weight stigma. Comprehensive obesity education and training of DPs at both undergraduate and postgraduate levels is required. The latest evidence suggests obesity education needs to include increasing awareness of weight stigma and the types, sources, impact and implications of stigma.[28,45] However, education about weight stigma among DPs should be informed by a more robust assessment of weight stigma and bias. This would allow for the development of an informed intervention to address weight stigma at a system and individual level. The suitability of an implicit or explicit weight bias tool and its effectiveness among various DPs, and extension to support staff, would be an area for further investigation.

Education should be provided for the entire dental team, in an effort to ensure cohesion and minimise weight stigma in the workplace, while addressing the practising workforce who may not have any formal baseline obesity knowledge.[19,28,31] Interprofessional education initiatives and practical training should emphasise communication approaches which are not stigmatising and be developed and assessed in collaboration with those with lived experience of obesity.[18,31,35,37,44,46]

At a system level, professional commitment to awareness and reduction of weight stigma and further research in this area are required to address the gaps in the evidence. The promotion of internationally recognised resources targeting prevention of weight stigma would be beneficial action that key DP organisations could take. Practical strategies DPs may utilise in weight stigma cessation are summarised in Box 2.

Conclusion

The existing weight stigma literature has examined attitudes and beliefs of DPs and their weight-based discussions. This highlights minimal obesity education and training and structural stigma in the dental setting. No DP-focused interventions for weight stigma reduction were identified and this is an area for further research. Practical strategies for the role that DPs can play in the mitigation of weight stigma, including the assessment of one's own biases and use of people-first language, were suggested. A robust assessment of weight stigma and bias for dental settings is needed to ensure a comprehensive and contemporary understanding of its impacts, ahead of developing informed interventions.

Ethics declaration

The authors declare no conflicts of interest. Ethical approval was not required for this scoping review of published literature. The search protocol and summary of included studies in this scoping review are available in the supplementary files. The data used in this scoping review were derived from previously published papers available in publicly accessible databases. No new data were generated for this study. The references for all included papers are provided in the reference list.

Author contributions

Zanab Malik, Clare E. Collins, Kathryn Williams and Deborah Cockrell were involved in the conception and design of the study, Zanab Malik and Denise Higgins were involved in the acquisition of data, all authors were involved in the analysis and interpretation of data. Zanab Malik prepared the manuscript which was revised by all authors.

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