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Stigmatizing attitudes and beliefs about obesity among dental team members

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Abstract

Background: Weight stigma is prevalent within healthcare settings and is an aspect of the lived experience of people living with obesity. There is international evidence of weight stigma in the dental setting, where currently there is also evidence indicating limited training amongst dental professionals regarding obesity or obesity-related stigma. There has been Australian research and none have included dental support staff.

Aims: This cross-sectional survey aimed to assess stigmatizing attitudes and beliefs of dental professionals (registered general dentists, oral health therapists) and support staff (dental assistants, dental receptionists) working in private and public regional practices in New South Wales and specialists in Special Needs Dentistry across Australia toward people living with obesity.

Methods: An anonymous electronic validated survey was administered through REDCap™ to assess stigmatizing attitudes and beliefs held amongst respondents in relation to people living with obesity.

Results: Fifty-three participants completed the survey (n = 33 clinicians, n = 20 support staff). The majority 47/53 (88.7%) held positive attitudes toward people living with obesity. Of the clinicians, 15/33 (45.5%) reported 1 hour or less and 14/33 (42.4%) reported two to 5 hours of obesity-related education. 14/20 (70%) of the support staff reported no prior education or training about obesity. Of responses reflecting weight stigma, only three clinicians reported negative reactions toward the appearance, or discomfort during examination, of a patient with obesity, or a perception of laziness, compared with normal weight individuals. A higher proportion 4/20 (20%) of support staff reported responses indicating negative attitudes for people with obesity compared with normal weight individuals.

Conclusion: Survey responses reflected evidence of weight stigma in both dental professionals and support staff. Professional development targeting weight stigma reduction in the dental setting is needed for both clinicians and support staff.

KEYWORDS
attitudes, beliefs about obesity, dental professionals, knowledge, support staff, weight stigma

1 | INTRODUCTION

Weight stigma refers to discriminatory acts and ideologies targeted toward individuals because of their weight and/or body size.[1] There is evidence of widespread weight stigma within the healthcare setting, where healthcare professionals may hold conscious and unconscious stigmatizing attitudes and beliefs about obesity and people living with obesity.[2–4] Although the detrimental consequences of weight stigma on both physiological and psychological health have been recognized for decades,[5,6] weight stigma has been gaining global acknowledgment as undermining optimal weight-related healthcare. There is evidence between weight stigma and weight-related behaviors, and negative health consequences.[7] The consequences of weight stigma for people living with obesity include a lack of equitable access to healthcare, negative impacts on quality and nature of healthcare services provided and avoidance or delayed seeking of care.[8–10] There may also be resulting maladaptive eating behaviors, stress and weight gain.[7] Weight stigma is considered a psychosocial contributor to obesity.[7]

Weight stigma is pervasive[5,11] and driven by numerous factors, including perceptions of personal responsibility and lack of understanding about the complex drivers of obesity.[10,12,13] Prevalence of weight stigma is higher in women compared to men and has been reported to be 41.8% among individuals with severe obesity in a previous meta-analysis.[7,14] There is need for weight stigma to be addressed within obesity-related practice and by policies, including through implementation of a recently published international consensus guideline related to ending obesity stigma.[1]

Previous international studies have reported evidence of weight stigma in the dental setting through the assessment of attitudes and beliefs of dental professionals regarding both adult and pediatric patients.[15–18] These studies have all been carried out on student dentists and dental hygienists. Weight stigma has additionally been reported in previous studies evaluating the role of dental professionals in engaging in weight-based discussions.[19,20] Qualitative data have provided evidence of weight stigma occurrence throughout the entire patient journey for adult patients with obesity accessing bariatric dental services.[21] However, the perspectives of the entire dental team regarding obesity, including both clinicians and support staff, are lacking in the literature and no Australian based data is currently available.

The aim of this cross-sectional study was to assess the presence of stigmatizing attitudes and beliefs toward people living with obesity among dental professionals (registered general dentists, oral health therapists) and support staff (dental assistants, dental receptionists) working in private and public regional practice in New South Wales (NSW) and among specialists in Special Needs Dentistry across Australia.

2 | METHODS

Recruitment was carried out between January and March 2023. An email invitation to participate in the study was sent to dental professionals (general dentists, oral health therapists) and support staff (dental receptionists, dental assistants, administrative staff) working in a local health district in NSW, Australia. Email invitations were sent through organization email databases, which included 107 staff working in the health service's public oral health clinics and 300 members of the local Australian Dental Association group. It was also sent to the Australian and New Zealand Academy of Special Needs Dentistry email database, including 25 registered specialists working in Special Needs Dentistry Units in Australia. These two participant groups were selected to provide insights from a general dental setting where there was access to a bariatric dental chair in the geographical region, and from a specialist dental setting. To achieve this, national recruitment was required due to the very limited number of registered dental specialists in Special Needs Dentistry. The participant information sheet and an anonymous electronic survey link using the REDCap™ (Research Electronic Data Capture) web-based software platform were included in the email invitation. A reminder email for survey completion was sent to all invited participants 1 month after the initial invitation. Consent was obtained through participants clicking "Yes, I consent" prior to the commencement of the online survey to retain their anonymity and reduce potential sources of bias.

The foundational survey for clinicians was conducted by Foster et al.[22] This survey examined physician attitudes toward obesity and was modified for use in dental and dental hygiene students in 2005 by Magliocca et al.[15] This survey included basic theoretical knowledge-based questions about obesity, questions relating to perceptions of professional responsibility and attitudes toward obesity. The knowledge-based questions commenced by asking participants to select the total number of hours (didactic/lecture presentations) they felt had been devoted to the topic of obesity since they first began their oral health studies. It was further peer-reviewed and validated by Awan et al. in 2015 and deemed to be comprehensive.[16] The phrasing of survey questions for our study, while based on Magliocca et al., was written to reflect adult obesity and person first language. Socio-demographic questions were added to the survey, including questions about age, stated gender, ancestry, how participants would classify their own weight (living with obesity, overweight, normal weight, underweight, or prefer not to say), year of graduation and number of years working in active oral health practice, role and practice type. For clinicians, a question asking participants to qualify where the amount of time their learning on the topic of obesity was predominantly acquired was added, to better appreciate the Australian educational context (undergraduate or postgraduate training for their initial oral health qualification, postgraduate training for specialist qualification, continuing professional development courses or if they had not received any teaching on the topic of obesity). The survey was further modified for support staff by removing questions irrelevant to their role, or knowledge-based questions that were beyond their scope of practice. Support staff who identified as reception staff were further asked whether their interaction with patients was "nil," "minimal," or "regular," and dental assistants were asked if they predominantly worked in a clinic or in reception to better reflect the diversity of support staff roles (See

Supporting Information S1: Appendix A for clinician and support staff surveys used).

Participants were asked to rate their level of agreement with several statements reflecting their knowledge of adult obesity, professional responsibility relating to adult obesity and attitudes toward adult obesity, as per the validated survey. Five responses were possible on a Likert scale from "strongly agree" to "strongly disagree." Responses were categorized into three groups "Agree," "Neutral" and "Disagree" for ease of analysis. Data were presented as frequencies and percentages for categorical variables (see Table 1). Data were represented in graphical form to assist interpretation where appropriate. Descriptive statistics were used for the remaining results. Statistical analysis via chi-squared test for independence was carried out to assess the agreement between clinician and support staff regarding responses to the statement "It is difficult for me to feel empathy for a patient with obesity." The null hypothesis was that there was no significant difference between the groups (clinicians and support staff) in their response. Further evaluation of responses among the included dental professional groups (specialists in Special Needs Dentistry, general dentists, oral health therapists) tested whether there were significant differences in agreement with the statement and whether the participant's self-reported weight status (normal weight vs. overweight/obesity) significantly influenced the results. A p-value of less than 0.05 was set for statistical difference.

Ethics approval was obtained from the local Human Research Office (number 1122-101C).

3 | RESULTS

3.1 | Socio-demographic details of participants

Fifty-three participants completed the study ($n = 33$ clinicians, $n = 20$ support staff). The majority of participants 44/53 (83%) were female and aged between 31 and 40 years of age (see Table 1). A large proportion of participants self-identified as overweight 23/53 (43.4%), whilst the majority identified as having normal weight 28/53 (52.8%). Of the clinician group, the majority of clinicians were dental specialists in Special Needs Dentistry (11/33; 33.3%), and dental assistants comprised the majority of the support staff respondents (15/20; 75%). Of the five reception staff members, three had no or minimal interaction with patients, and two had regular interactions with patients. Of the 15 identified dental assistants, 12 (80%) were predominantly working in the clinic, while three predominantly worked in reception. Most participants were in public oral health practice and had been practicing for 10 or more years.

3.2 | Knowledge related to adult obesity

The clinicians reported predominantly 0–1 or 2–5 h devoted toward obesity-related education (see Figure 1). Eight clinicians (24.2%) reported no undergraduate education on obesity during their oral health training. Of specialists in Special Needs Dentistry, 5/11 (45.5%) reported that their knowledge of obesity was acquired predominantly during postgraduate training for their specialist qualification. Of the support staff, 14/20 (70%) had no prior education or training about obesity.

There were mixed responses for interest in learning more about obesity. A higher proportion of clinicians (31/33; 93.9%), compared with support staff (12/20; 60%), were interested in learning about obesity as a subject for continuing professional development, while 2/33 (6.1%) clinicians and 4/20 (20%) support staff remained neutral. There were no clinicians who expressed disinterest in learning about obesity compared with 4/20 (20%) support staff.

Regarding the knowledge base, there was overall agreement for the statement that obesity was a chronic medical disease, with 29/33 (87.9%) clinicians and 18/20 (90%) support staff in agreement. Awareness of "obesity being associated with serious medical conditions" was widespread amongst all 33 (100%) clinician participants, whilst 13/20 (65%) support staff agreed to this statement. Less than half (10/33 (30.3%) clinicians and 5/20 (25%) support staff) agreed with the statement that "most weight control problems are inherited". In response to the clinician specific knowledge based questions about obesity, 10/33 (30.3%) clinicians reported they could correctly identify the World Health Organization (WHO) definitions of people with overweight, obesity, and clinically severe obesity, 7/33 (21.2%) were able to provide a differential diagnosis list for obesity and 31/33 (93.9) clinicians were aware that small weight losses (5%–10% of body weight) could produce important medical benefits for patients living with obesity.

Regarding the implications of managing people living with obesity in dentistry, 29/33 (87.9%) clinicians and 18/20 (90%) support staff agreed that specific bariatric equipment and dental surgery furniture would be required.

3.3 | Attitudes towards adult obesity

The majority of participants (47/53; 88.7%) held positive attitudes toward people living with obesity, as evidenced from the proportion of both clinicians and support staff who disagreed or were neutral in their response to the statement "It is difficult for me to feel empathy for a patient with obesity" (see Table 2). A higher proportion of support staff (4/20; 20%), compared with clinicians (2/33; 6.1%), found it difficult to empathize toward people living with obesity. Of the seven participants who strongly disagreed with this statement (7/33; 21.2%), three were specialists in Special Needs Dentistry, three were oral health therapists and one was a general dentist.

Of responses reflecting weight stigma, 3/33 (9.1%) clinicians reported negative reactions toward the appearance or discomfort during examination of a patient with obesity, or held a perception that the person with obesity was lazy when compared with normal weight individuals. A higher proportion of support staff (6/20; 30%) agreed with the statement that individuals with obesity tend to be lazier, and 8/20 (40%) thought that they lacked willpower and

TABLE 1 Demographics of the study population $n = 53$ and by clinician and support staff groups.

Variable	Entire cohort $N = 53$	Clinicians $N = 33$	Support staff $N = 20$
Age (number, % within group)			
20–30	13 (24.5)	9 (27.3)	4 (20.0)
31–40	21 (39.6)	15 (45.5)	6 (30.0)
41–50	9 (17.0)	4 (12.1)	5 (25.0)
51–60	7 (13.2)	4 (12.1)	3 (15.0)
61–70	3 (5.7)	1 (3.0)	2 (10.0)
Gender (number, % within group)			
Male	8 (15.1)	8 (24.2)	0 (0.0)
Female	44 (83.0)	24 (72.7)	20 (100.0)
Other	1 (1.9)	1 (3.0)	0 (0.0)
Ancestry (number, % within group)			
Caucasian	26 (49.1)	12 (36.4)	14 (70.0)
Asian	12 (22.6)	10 (30.3)	2 (10.0)
South Asian	5 (9.4)	5 (15.2)	0 (0.0)
African	1 (1.9)	1 (3.0)	0 (0.0)
Aboriginal and torres straight Islander	3 (5.7)	2 (6.1)	1 (5.0)
Pacific Islander	1 (1.9)	0 (0.0)	1 (5.0)
Multi-racial	3 (5.7)	2 (6.1)	1 (5.0)
Other	2 (3.8)	1 (3.0)	1 (5.0)
Self-reported weight description (number, % within group)			
Living with obesity	2 (3.8)	1 (3.0)	1 (5.0)
Overweight	23 (43.4)	11 (33.3)	12 (60.0)
Normal weight	28 (52.8)	21 (63.6)	7 (35.0)
Underweight	0 (0.0)	0 (0.0)	0 (0.0)
Prefer not to say	0 (0.0)	0 (0.0)	0 (0.0)
Position (number, % within group)			
Dentist	8 (15.1)	8 (24.2)	
Oral health therapist	14 (26.4)	14 (42.4)	
Dental assistant	15 (28.3)		15 (75.0)
Receptionist/administrative staff	5 (9.4)		5 (25.0)
Specialist special needs dentistry	11 (20.8)	11 (33.3)	
Years in active oral health practice (number, % within group)			
0–5 years	18 (34.0)	10 (30.3)	8 (40.0)
6–10 years	12 (22.6)	7 (21.2)	5 (25.0)
10+ years	23 (43.4)	16 (48.5)	7 (35.0)
Practice type (number, % within group)			
Public	33 (62.3)	19 (57.6)	14 (70.0)
Private	2 (3.8)	2 (6.1)	0 (0.0)
Mixed	18 (34.0)	12 (36.4)	6 (30.0)

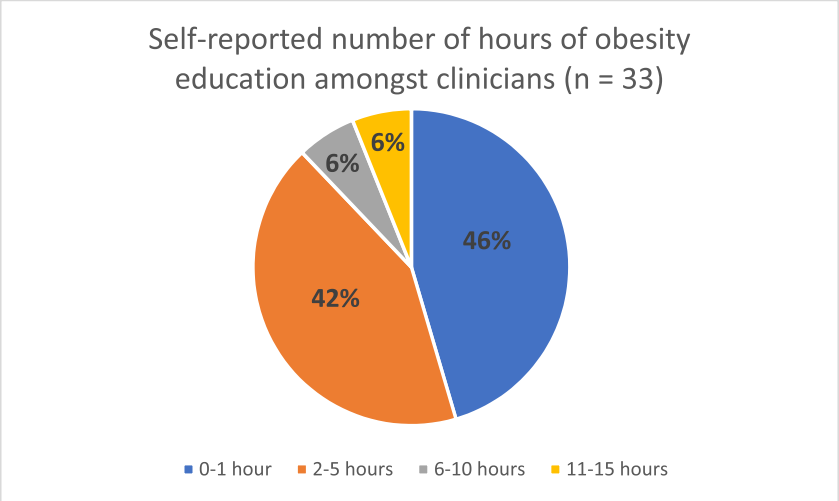

FIGURE 1 Clinician self-report of number of hours of obesity education.

TABLE 2 Attitudinal statements reflecting weight stigma across the participant clinician and support staff groups.

	Clinicians $N = 33$			Support staff $N = 20$		
Attitudinal statements	**Agree**	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**
I have negative reactions toward the appearance of a patient with obesity	3 (9.1)	6 (18.2)	24 (72.7)	2 (10.0)	6 (30.0)	12 (60.0)
It is difficult for me to feel empathy for a patient with obesity	2 (6.1)	5 (15.2)	26 (78.8)	4 (20.0)	1 (5.0)	15 (75.0)
People who are overweight tend to be lazier than normal weight people	3 (9.4)	3 (9.4)	26 (78.8)	6 (30.0)	3 (15.0)	11 (55.0)
People who are overweight lack willpower and lack motivation in comparison to normal weight people	2 (6.1)	7 (21.2)	24 (72.7)	8 (40.0)	3 (15.0)	9 (45.0)
I would feel uncomfortable asking a patient with obesity about his or her dietary habits	8 (24.2)	9 (27.3)	12 (36.4)	n/a	n/a	n/a
I would feel uncomfortable asking a patient with obesity about his or her past use of appetite suppressants or current and past anti-obesity medications	14 (42.4)	6 (18.2)	11 (33.3)	n/a	n/a	n/a

motivation compared with people with normal weight. Two support staff participants also reported negative reactions toward the appearance of people living with obesity.

There was no significant association between the clinician and support staff groups and their agreement with the statement "It is difficult for me to feel empathy for a patient with obesity" ($p = 0.1836$). There were no significant differences between the specialists in Special Needs Dentistry, general dentists, or oral health therapists within the clinician group ($p = 0.507$) in relation to their agreement with the statement. Of the two clinicians who agreed with this statement, both reported their role as oral health therapists and had been in active oral health practice for 0–5 years and 6–10 years. Both self-reported to have normal weight. Of the support staff who agreed with this statement, three reported their role as dental assistants, with one reporting 6–10 years and two reporting 10+ years in active oral health practice, and one reported their role as reception staff with 6–10 years in active oral health practice. Self-reported personal weight status did not influence attitudes toward empathy for people living with obesity in our sample ($p = 0.555$).

4 | DISCUSSION

The current study findings provide some evidence of the presence of weight stigma in the dental setting, especially amongst support staff, although not of a high prevalence overall. There was no significant difference in the degree of weight stigma between clinicians and support staff with respect to their agreement that it was difficult to feel empathy for a patient living with obesity. There was low reported education on obesity during oral health training, which may contribute to stigma in working life. Previous research has neglected to include support staff in dental research despite the major role they may have on the dental experience of people living with obesity. Whilst the responses reflecting weight stigma were from a minority of participants, the presence of any stigma is damaging and so there is a need to address negative stereotypes and assumptions urgently to prevent the negative consequences of weight stigma for individuals living with obesity and seeking dental care. These consequences may include dental attendance for emergency or relief of pain type appointments, delaying care and decreased engagement with the dental team.

This study's results were consistent with international comparisons of attitudes reported by dental and dental hygiene study participants. However, this study indicated a lower proportion of positive findings of stigma. In this study, 11.3% of study participants, compared with 17% in a US based study[15] and 50.5% in a Pakistan based study[16] reported difficulty in feeling empathy for a patient living with obesity. Other US based research examining attitudes toward people living with obesity has reported significant differences in the views of participants who self-identified as being overweight compared with those who were underweight. Specifically, those self-identified as having overweight, strongly disagreed that people living with obesity made them feel uncomfortable.[18] Similarly, the lower proportion of respondents in the current study reporting weight stigma may be influenced by the finding that 23/53 43.4% of participants identified as having overweight. Potentially, these participants could display less attitudinal bias due to their own lived experience of obesity. The results may also be due to changes in the obesity education delivered in Australia or possibly attributed to cultural and/or demographic differences within the cohorts examined.

The current survey results are also consistent with the evidence of implicit and/or explicit weight bias toward people living with overweight or obesity within general healthcare. This was confirmed by a recent systematic review and meta-analysis of 41 studies involving health care professionals, including medical doctors, nurses, dietitians, psychologists, physiotherapists, occupational therapists, speech pathologists, podiatrists, and exercise physiologists.[4] Weight bias in these studies was measured using various scales; however, the overall quality of evidence was rated as very low.[4] This study contributes to the existing literature and can be included in future systematic reviews in this area. This will allow for dental profession representation and comparisons between weight stigma in the dental setting compared with other healthcare settings.

Self-report of obesity education in this study was consistent with international comparisons in the dental and dental hygiene student population. Of the clinicians in the current study, 45.5% self-reported 1 hour or less of obesity education ever, compared with 39% of dental students and 36% of dental hygiene students in a US based study[15] and 79% of dental students in a Pakistan based study.[16] Whilst this comparative international data was collected in 2005 and 2015, almost a third of the clinician participants in the current study entered oral health practice within the last 5 years, reflecting the likelihood that a lack of obesity related education continues to be deficient in tertiary curricula in the Australian context. One hour of obesity education remains inadequate to ensure core understanding and requires urgent attention in future professional development activities. Comparatively to other clinician members surveyed, almost half of the specialists in Special Needs Dentistry surveyed reported that their obesity knowledge was acquired during their postgraduate qualification. Obesity education and training are key to ensuring a comprehensive understanding of the science of obesity and its many drivers and addressing unconscious biases and clarifying any misconceptions, thereby reducing weight stigma and improving comprehensive care.[13,18] Similar to international comparisons, less than half of the survey respondents were able to define obesity. This is an area for further education for dental professionals, as different classifications of obesity exist beyond the use of body mass index with a greater consideration of complications and functional impairments, or risk of harm from excess fat which is the basis of the WHO classification where obesity is defined as "abnormal or excessive fat accumulation that may impair health."[23] Other classifications include those which incorporate subclinical risk factors of obesity, obesity-related comorbidities requiring medical intervention and the degree of obesity-related end-organ damage.[24] These classifications could also have been utilized to reflect obesity knowledge and awareness among participants.

In NSW and most states within Australia, there are internal specialist referral pathways for dental management of adults needing bariatric dental chairs, which are situated currently in public dental clinics. Specialists in Special Needs Dentistry provide comprehensive dental management for people living with severe and complicated obesity. However, in regional centers in NSW, where this survey was undertaken, there is unique access to a bariatric dental chair, where dental treatment is provided by both general dentists and oral health therapists. As such, the key advantage of this study was the inclusion of a variety of dental team members, including both clinicians and support staff, who were practicing with differing experience levels. This allowed for analysis of varying perspectives across the team and allowed for contribution to the literature beyond student participants which were used in international studies. In particular, there was a wide representation of support staff who participated in various roles, as either dental assistants or reception staff, with or without regular patient contact.

Exploration of the presence of weight stigma across the dental team is imperative given that adult patients living with obesity may encounter stigmatizing interactions before the commencement of their dental treatment. Therefore, the current study allowed for a more comprehensive assessment of potential weight stigma in the dental setting, when compared with previous studies and necessitated a team approach in our methodology. There was also an explicit focus on adult obesity, which has not been as much of a focus to date, with pediatric settings studied more frequently. To the authors' knowledge, this is the first study to utilize an online survey to assess attitudes and beliefs, with the intention of assessing weight stigma as an outcome, in a dental setting. It is also the first study nationally to include the perspectives of dental specialists in Special Needs Dentistry on obesity. This is important given their role in managing patients with clinically severe obesity.

The study limitations included self-reported perspectives on obesity-related education and simplistic assessment of attitudes and beliefs about obesity using the Likert scale compared with a weight stigma assessment tool. However, the choice of the survey in this study was based on its validation in dental student participants in previous studies across the United States, Pakistan and India.[15–17]

Participant responses were additionally subject to the presence of responder bias, survey bias, misinterpretation of survey questions, or increased interest in the study topic. There is also the possibility of social desirability or approval bias, although this may have been minimized due to the anonymity of responses. Furthermore, the pilot exploratory nature of this study utilized a representative sample from a regional center in NSW, which limited study participant numbers and prevented the findings from being generalized to the entire dental clinician and support staff population in Australia. These small numbers precluded further statistical analysis of the influence of education or active oral health practice, and potentially clinical exposure to people living with obesity on the weight stigma responses, which is an area for future research.

A robust assessment of weight stigma and bias in dental settings is needed to ensure a comprehensive and contemporary understanding of prevalence and any impacts of professional practice or patient outcomes, particularly given the unique physical challenges that are present in the dental setting. It would be beneficial to incorporate stigma evaluation in future studies to further elicit elements of weight stigma not captured by the survey utilized and additionally make comparisons with other healthcare settings. Future studies, including a larger sample on a national level, would be useful in addition to an exploration on the role of obesity education in reducing stigma in dental settings. A review of national curricula on obesity-related education in dentistry is indicated. Given the interest in further education about obesity by both clinicians and support staff in this study, and findings of weight stigmatizing attitudes, the development of continuing professional education with a stigma awareness lens may be warranted. This is consistent with emerging recommendations for the reduction of weight stigma.[11]

5 | CONCLUSIONS

Survey responses indicate some evidence of weight stigma amongst both dental professionals and support staff in the current study. There was a higher proportion of support staff holding stigmatizing attitudes toward obesity. Further evaluation and optimization of comprehensive obesity-related education for dental professionals and support staff is recommended in both tertiary curricula and continuing professional education courses, including a study of its impact on reducing stigma. A team approach to weight stigma reduction in the dental setting is needed, including the involvement of both clinicians and support staff.

AUTHOR CONTRIBUTIONS

Zanab Malik, Kathryn Williams, Deborah Cockrell and Clare E Collins were involved in the conception and design of the study, Zanab Malik was involved in the acquisition of data, and 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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CONFLICT OF INTEREST STATEMENT

ZM, DC and CEC have no conflicts of interest to declare in the publication of this paper. KW reports grants, personal fees and non-financial support from Novo Nordisk, grants and other from Boehringer Ingelheim, outside the submitted work, and is the Clinical Lead and Manager of the Nepean Blue Mountains Family Metabolic Health Service, a tertiary lifespan obesity service in Greater Western Sydney, New South Wales, Australia.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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