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Breaking Academic Silos: Pedagogical Recommendations for Equitable Obesity Prevention Training and Research During an Age of Nutrition Polarization



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Introduction: Obesity is a preventable chronic condition and a risk factor for poor health and early mortality. Weight stigma and weight-neutral medicine are popular topics in social media that are often at odds with current medical guidelines on obesity treatment and prevention. This conflict may erode the public's trust in science, impede research progress on preventing obesity in marginalized groups, and uphold the ongoing and historical lack of diversity among nutrition trainees.

Methods: The authors conducted a series of student-led dialogue sessions with nutrition graduate students in Boston, Massachusetts, from March to May 2023 to understand perceptions of obesity research, health equity, and racism and discrimination. This article summarizes the lessons learned and provides pedagogical recommendations for jointly addressing obesity at the population level and the recruitment, training, and retention of diverse scholars, clinicians, and public health practitioners.

Results: Dialogue sessions revealed that students perceive a disproportionate focus on the harms of obesity as a chronic disease, highlighting that inadequate attention is given to weight stigma and discrimination. Some participants believed that weight-based discrimination is equally detrimental to individual health and wellbeing as having obesity. Discussions also emphasized the need to pinpoint the multidimensional and cultural manifestations of weight stigma, which necessitates collaboration across social sectors and academic disciplines. Students recognized the urgent need to apply an equity lens to obesity research and teaching but felt limited in their access to experts within nutrition science who specialize in racism, discrimination, eating disorders, and weight stigma.

Conclusions: This study identified concrete opportunities for urgently needed new training and research in population-level obesity prevention, emphasizing antiracism, harm reduction, and elimination of stigma and bias across multiple levels of science and society. Overall, the decision to use the BMI within pedagogy and training must be explicitly stated—research, population surveillance, decision-making, or treatment pedagogy and training—while acknowledging its strengths and limitations across diverse settings. Finally, the social determinants of obesity should incorporate not only weight stigma but also racism and multiple forms of discrimination.

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INTRODUCTION

The rising prevalence of obesity and weight stigma in the U.S. are interconnected and polarizing public health concerns.^{1–4} For instance, obesity has been described as a preventable chronic health condition and a risk factor for poor health owing to its known adverse effects on cardiovascular health, cognition, quality of life, and life expectancy.⁵ At the same time, there are increasing calls to abandon the focus on body weight, urging the practice of weight-neutral medicine instead.^{6,7} Public health and nutrition scientists must give voice to these varying schools of thought to cocreate nuanced and equity-oriented approaches to obesity research and treatment to achieve optimal health across the population.

Martin et al. (2023) provide a comprehensive roadmap to achieving racial equity among academic leaders and researchers, which decision-makers must prioritize.⁸ However, to the present study's authors' knowledge, less attention has been given to how the stigmatizing content of obesity prevention and BMI could inherently contribute to the lack of racial, ethnic, and socioeconomic diversity of students and trainees. Therefore, to gain new insights toward diversity and inclusion within the obesity and nutrition fields, beginning with students, and to cocreate actionable solutions to eliminate obesity inequities, the authors convened 3 dialogue sessions with graduate students at the Friedman School of Nutrition Science and Policy in Boston, Massachusetts, from March to May 2023. They invited nutrition graduate students to voice their concerns about the inconsistencies and misalignment in the public and academic dialogues of obesity prevention around weight stigma, bias and discrimination, and the use of BMI.

METHODS FOR EXPLORATORY STUDENT-LED DIALOGUE SESSIONS

Student Involvement

The authors circulated emails through a student-only listserv and posted flyers in person and in a weekly newsletter to advertise the anonymous drop-in sessions held in English to recruit multidisciplinary graduate trainees in dietetics, nutrition communication and behavior change, biochemical and molecular nutrition, food and nutrition policy, and agriculture and environmental science. Dialogue sessions did not require a

formal participation invitation. The authors encouraged in-person attendance, but all sessions were held in a hybrid structure to maximize inclusion, with some students participating via Zoom. Before each session began, the authors reminded students that the summarized, high-level findings of the discussions might be reported publicly and to university leadership to improve research and curricula. Students were free to discontinue participation at any point.

The dialogue sessions were an exploratory process guided by the overarching goal of providing students the space to discuss their perceptions around disparities in obesity prevalence and risk, misconceptions of the BMI, and curriculum gaps in the topics of racism and other root causes of obesity and related health inequities. Dialogue is a powerful way to initiate difficult conversations and share different perspectives, and it also provides the opportunity for people to voice their values. Through this process, the authors did not perform formalized human subject research; thus, they did not seek IRB approval for this project. However, after discussing their observations during the dialogue sessions, they felt that there were potentially important implications for the public health field, which motivated the authors to compile this informational report. In this paper, the authors are interested in contributing to the ongoing national and global conversations around the current controversies of obesity and BMI. This paper aims to stimulate ideas about potential new research and scholarly questions that equitably improve population health and mitigate longstanding racial and ethnic obesity disparities, representing the beginning of the knowledge translation cycle without aiming to develop or produce generalizable knowledge.

Analysis/Identifying Themes and Recommendations

The author team met a priori to plan the topics of each dialogue session, which included (1) weight bias and polarization, (2) BMI and racism, and (3) achieving obesity prevention equity. Students were provided with and asked to read a thematically relevant article before attending each session. Details on the readings are provided in [Table 1](#).^{1–3,9–11} Team members have been formally trained in facilitating dialogues on sensitive topics and have combined expertise in health equity, race/ethnicity, racism, energy metabolism and obesity, and

Table 1. Suggested Readings That Guided the Student-Led Dialogue Sessions on Obesity Prevention and Health Equity

Dialogue session	Authors	Article title
1	Terry ⁹ (2023)	New Obesity Guidance for Pediatrics: Medicalizing Obesity or Acquiescing to Our Obesogenic Culture?
2	Rubino et al. ¹⁰ (2023)	Lancet Diabetes & Endocrinology Commission on the Definition and Diagnosis of Clinical Obesity
3	Okah et al. ¹¹ (2022)	Race-Based Care and Beliefs Regarding the Etiology of Racial Differences in Health Outcomes

multisectoral stakeholder engagement. In terms of positionality, team members represent various stages in the academic career track (a PhD candidate, a postdoctoral research fellow, an assistant professor, an associate professor, and a professor). This diversity improved the group's ability to plan and conduct the dialogues and benefited the team when unpacking the emergent themes and formulating feasible recommendations. The PhD candidate on the team, who initially conceptualized the project, ran each session, encouraging open communication and an environment of peer-to-peer discussions among the student body. Attendance was limited to graduate trainees only, and no students were turned away, but faculty and staff could not attend. At least one additional team member participated in each session as a note taker. This individual did not lead the dialogue facilitation but could ask clarifying follow-up questions during the discussions as necessary. After each dialogue session, the team debriefed and discussed emergent topics. After all the sessions were completed in June 2023, the team reported overall findings and further discussed the emergent results with the leadership team of the Tufts Institute of Global Obesity Research, which was a university-wide research consortium of multidisciplinary researchers focused on preventing obesity and supporting healthy weight. These post-student dialogue discussions with researchers in obesity prevention helped to shed additional light on their perceived limitations and curriculum gaps in racism and health equity, which also informed subsequent recommendations.

General Observations During the Exploratory Student-Led Dialogue Sessions

Below, the observations that emerged during the internal debriefing sessions after each dialogue session are discussed. Each session was attended by between 10 and 15

students. Students had domestic and global interests and geographic origins.

Promoting obesity prevention can cause more harm than good, especially without addressing weight stigma, disordered eating, and social norms around body size. In general, the authors observed that students agreed that there is a disproportionate focus on the harms of overweight and obesity without sufficient attention to disordered eating and rampant weight stigma. Some individuals felt that there is evidence that weight stigma and obesity (as a chronic condition) perpetuate equal amounts of harm to both physical and mental health. This raised doubts regarding the legitimate health consequences of having obesity and questions whether obesity is a chronic disease itself rather than a poorly measured risk factor for other health conditions. Students feel that a greater focus should be on the cultural, structural, and social factors related to a person's body size. They expressed that weight stigma exists and manifests differently in various communities, yet the focus continues to center on individual-level determinants of obesity.

On multiple occasions, the perception was raised that weight stigmatization causes clinical providers and researchers to overlook and ignore eating disorders, such as binge eating, which mainly harms populations with larger bodies by forcing them to go undiagnosed and untreated. Students rejected the scientific and political framing of obesity as an epidemic, pointing out that this messaging causes harm by reinforcing weight stigma. Grappling with whether proponents of the Health at Every Size (HAES) movement and obesity prevention could ever achieve a common ground, some students even referred to the BMI as a social construct lacking biological relevance. They also felt that public health and medical institutions typically center the narrative of PhD- and MD-level researchers trained in obesity prevention and Western medicine without giving equal weight to experts in the psychological and sociologic sciences, community members with invaluable lived experiences, or fat activists. In summary, students urged improvement in the way obesity prevention and obesity as a chronic health condition are framed and approached rather than trying to change the mind of every member of society.

Racism, discrimination, disordered eating, and weight stigma are out of the scope of mainstream health science nutrition curriculums across the U.S. When discussing social oppression and the overarching resistance to obesity prevention efforts, students' opinions seemed to be primarily influenced by social media. Students believe that academic researchers could improve their engagement with social media and public activism to reach more diverse audiences. There was a resounding interest

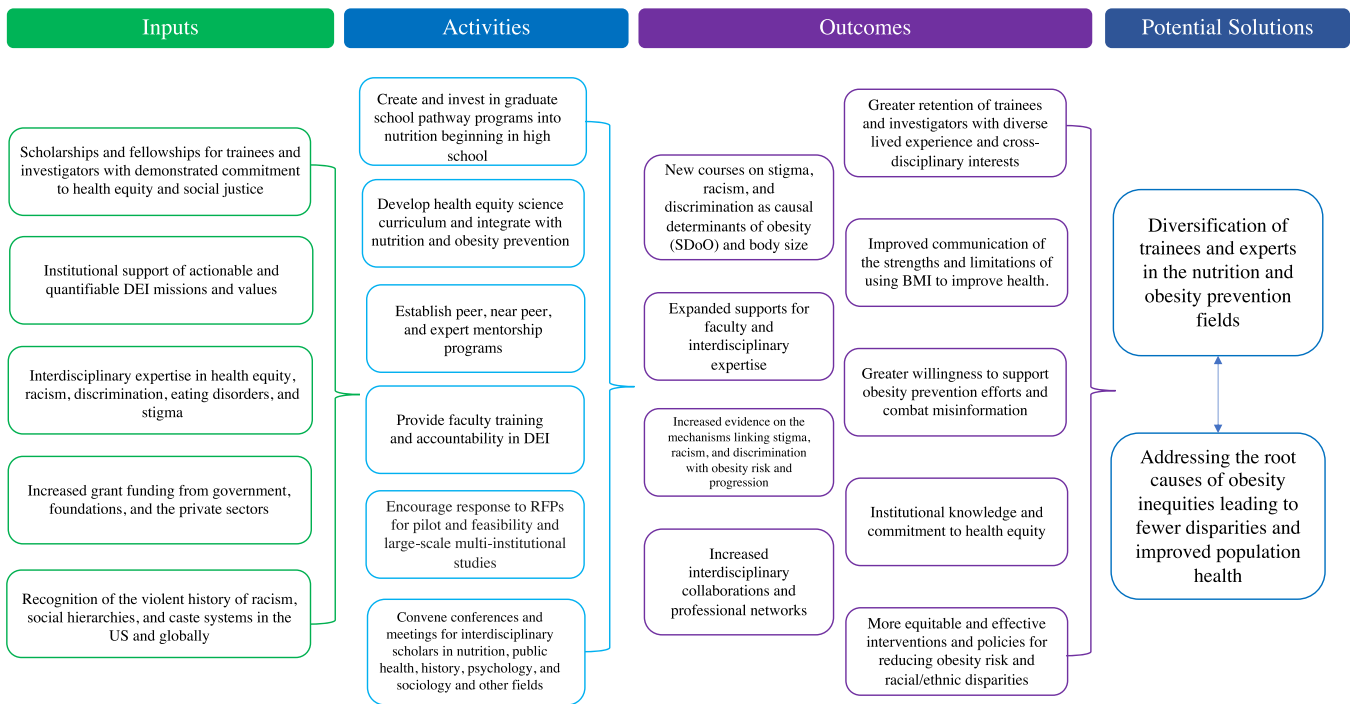


Figure 1. Recommendations to improve training, pedagogy, research, and investigator diversity toward obesity prevention equity.

in formalized coursework, seminars, and research opportunities to learn about and address racism and other determinants of inequities. However, many students felt unequipped to measure and discuss these constructs in scientific spaces owing to the shortage of mentors and researchers with relevant expertise. Students might be more open to studying and supporting obesity prevention efforts if researchers in the clinical and public health nutrition science fields were more explicit about addressing stigma and discrimination in their work. Finally, opportunities to work with investigators whose expertise includes racism, discrimination, and stigma, including individuals who specialize in preventing disordered eating and cultural norms, were suggested to quell hesitations to supporting the use of the BMI and naming obesity as a chronic disease.

Key Recommendations Based on the Exploratory Student-Led Dialogue Sessions

This section discusses several key recommendations the authors developed iteratively through group consensus regarding equitable obesity training. It also considers curricular and pedagogical changes that may support the recruitment and retention of diverse future leaders committed to improving health, preventing obesity, and eliminating all forms of stigma. The authors provide recommended action steps with potential outcomes and long-term solutions in [Figure 1](#).

1. Improve communication of the strengths and limitations of using BMI to improve population-level public health. High rates of obesity incur tangible population-level health consequences that should not be overlooked or understated. A host of comorbidities—diabetes, hypertension, cardiovascular disease, shortened life expectancy, and more—accompany obesity and excess body fatness.^{5,12} Moreover, obesity is positively associated with psychological distress, anxiety, and depression, primarily owing to stigma and other forms of discrimination.⁵ The growing resistance to obesity prevention research and education may be partially driven by the widespread misunderstanding of the nuances of BMI as a population-level measure of adiposity.^{10,13} Body fatness (adiposity) is measured in various ways. Body composition experts consider dual-energy X-ray absorptiometry (DXA) to be the gold standard.¹⁴ However, DXA is expensive and invasive; thus, its widespread use in population surveillance is not feasible. From an equity perspective, the use of DXA in marginalized, low-income, and rural communities may be limited, given its high cost burden. BMI, derived by dividing body mass (kg) by the square of the body height (m), serves as a proxy measure for adiposity. A recent population-based study found a strong correlation between BMI and DXA-derived fat mass ($a=0.94$ in men; $a=0.98$ in women).¹⁵ In addition to its high reliability with clinical markers of adiposity, BMI is a critical

tool for population-level surveillance studies because self-reported height and weight, although not the gold standard but informative nonetheless, are shown to have high internal validity with objective measures in child and adult populations.^{16,17} There are other proxy measures for adiposity, such as assessing visceral fat by measuring waist circumference. However, it is crucial to recognize that self-reported waist circumference exhibits very low predictive validity in population-based and surveillance health research compared with measures collected by trained research or clinical staff. In particular, individuals with the poorest health status may be the most likely to underestimate their waist size, but additional research on the topic is warranted.^{18,19}

As reflected in the American Medical Association's recent statement, appropriate and inappropriate uses of BMI in clinical settings must be identified and addressed.²⁰ It must be recognized that BMI is a surrogate for body fat, and its utility varies by individualized factors.^{15,21} For example, offering or withholding treatment during clinical encounters based solely on one's BMI is inappropriate. In such situations where BMI may provide only a poor indicator of excess adiposity, treatment courses should rely on other measures of adiposity, including other cardiometabolic health indicators, more broadly, that better account for individual-level variation in disease risk. Concerning the use of BMI to understand population-level trends in adiposity, the American Medical Association's new guidance states that "BMI is significantly correlated with the amount of fat mass in the general population but loses predictability when applied on the individual level." The decision to use the BMI across various settings must be clearly aligned with the reasons for its use: research, population surveillance, decision-making, or treatment.

To move the field forward equitably, the authors urge experts across disciplines to foster a more comprehensive and nuanced understanding of BMI, including its strengths and limitations, through timely and evidence-based obesity pedagogy for researchers, physicians, clinical staff, and trainees. Such a curriculum requires rigorous training, standardized guidelines for interpreting and synthesizing adiposity metrics, and developing a common language across various disciplines. Overall, researchers and educators must understand and clarify to students the intention and utility of BMI as a population-level surveillance tool for adiposity and obesity risk to prevent perpetuating harmful stigmatization against individuals in larger bodies.

2. Educate on health equity science and weight stigma, racism, and other forms of discrimination as social determinants of obesity. Through the dialogue

sessions, nutrition students echoed a need for exposure to the praxis of health equity science. They stated a desire for more mentors across the U.S. and globally with interdisciplinary expertise, including obesity, health equity, eating disorders, racism, discrimination, and weight stigma. Such mentorship could enable students to approach and discuss controversial topics such as BMI confidently in personal and professional spaces. However, the authors believe that very few researchers in the nutrition field receive the appropriate training to apply an equity lens to obesity programming, research, and policy; thus, they may err on the side of caution, avoiding the pressing issues of stigma, bias, and racism.²² Although this decision is not incorrect, it may leave students without the content knowledge, skill, or competency to approach controversial topics, such as the utility of BMI. Even worse, students may presume that avoiding such issues implicates them as inherently problematic and worth dismantling.

Some scientists, public health advocates, and members of society now view and utilize the HAES framework to address weight stigma.^{23,24} The HAES movement has an inherently positive message, calling for the essential humanization of everyone regardless of body size. Although body weight should certainly not be wholly disregarded given the corollaries between weight category, health status, and mortality,¹² the HAES advocates do correctly acknowledge that increased focus on obesity can drive exposure to weight discrimination,²⁵ contributing to these individuals being socially and medically marginalized.^{26,27} Obesity and nutrition experts historically lack the training and understanding that although there are essential benefits to naming and treating obesity as a disease (i.e., health insurance reimbursement), they also have the responsibility to address and eliminate weight stigmatization, which itself as a psychosocial stressor can lead to excess weight gain.

Increasing evidence indicates that interpersonal discrimination (unfair treatment based on aspects of one's identity) can increase obesity risk through behavioral coping mechanisms that offset energy balance (i.e., unhealthy eating or poor sleep quality) and biological pathways independent of health behaviors (i.e., increased activity of the glucocorticoid hormone, which increases abdominal fat deposits).^{28–30} Additional research is needed to clarify the metabolic and biological effects of discrimination on health and energy metabolism, independent of behaviors.³¹ Despite the fact that individual behaviors may not effectively protect against the harms of stress on cardiometabolic health (i.e., adiposity, blood pressure) brought on by interpersonal and structural discrimination exposure, the HAES movement encourages a focus solely on health behaviors owing to the deep-rooted weight bias in the U.S.

Minimizing the utility of BMI as a health surveillance tool and consciously overlooking the health consequences of obesity may symbolize the perpetuation of centuries-long inequality built upon racial caste systems.³² Specifically, to purport that the goal of preventing obesity is racist, unjust, or inhumane and should be eliminated as an issue of public health concern places individuals in larger bodies—many of whom belong to marginalized racial and ethnic groups and already face a disproportionate risk of adverse health through exposure to racism^{29,33,34}—at an even greater disadvantage in achieving optimal health and wellbeing.³⁵ Obesity prevention equity can be conceptualized as the fair and just distribution of resources and opportunities to prevent and treat obesity, regardless of race, ethnicity, gender identity, sex, socioeconomic status, or other social determinants of health. Achieving obesity prevention equity could be realized through additional research into the overlooked social determinants of obesity (SDoO) (i.e., discrimination, weight stigma, structural racism, and interpersonal racism) that uphold inequities. A recent study found that exposure to racial discrimination was associated with greater adiposity over time in children and adolescents, but research in this domain is lacking.³⁶ Researchers with expertise in multiple forms of discrimination typically work in fields and departments, such as sociology, that may be disconnected from public health nutrition and medical obesity researchers. Thus, curriculum gaps in SDoO persist at leading nutrition institutions and may be missing from the discussions among stakeholders at national health associations.³⁵ As a result, solutions that support population-level healthy weight maintenance and jointly address stigma, discrimination, and racism are lacking, lending to a narrative that undermines the rigor, potential impact, and ability to prevent racial obesity disparities. Finally, it is plausible that the lack of intersectionality demonstrated by this curriculum gap perpetuates a confusing and harmful message that weight stigma is the only or the most potent form of discrimination contributing to health inequities. Additional research among diverse samples of nutrition students is necessary to substantiate this idea. Overall, researchers should be better informed on the SDoO to facilitate learning environments that encourage diverse perspectives and the ability to challenge and resolve false or conflicting narratives.^{4,37}

CONCLUSIONS

Many students in the discussion groups felt that the polarizing viewpoints between weight-neutral medicine advocates and traditional obesity researchers were off-putting and, owing to the lack of clear scientific

communication, felt that they may leave or avoid entering the field of obesity science and prevention entirely. Additional formalized research is needed to understand whether these attitudes and perspectives are generalizable to other trainees in public health nutrition. Reducing preventable obesity disparities is urgent. Yet, students may avoid or advocate against obesity prevention research because of the popular yet counterproductive narrative that BMI and obesity are inherently harmful and stigmatizing. Nutrition is one of the least racially and ethnically diverse fields in science. Along with diversifying the leadership, granting agencies, universities, journals, and public health agencies should provide adequate resources and incentives for obesity and nutrition experts to receive evidence-based training in SDoO with a focus that is clearly antiracist and not weight-stigmatizing. Downstream, such tools could lead to an inclusive, equity-informed curriculum that may inherently attract a more diverse pool of students and trainees in the nutrition and obesity prevention sciences. The nutrition and obesity sciences have long been ripe with controversies, which are exponentiating in the digital age. The international spotlight on obesity-related debates is more salient today than ever, with widespread public discourse surrounding the use of weight loss drugs and pediatric bariatric surgery. Rather than remain in academic silos or avoid discussing complex and polarizing topics out of fear and uncertainty, researchers and practitioners must encourage a diversity of perspectives among relevant fields' trainees by developing a unified approach, providing interdisciplinary training and incentives in antiracism and harm reduction, and raising awareness of the harms of scientific miscommunication at all levels of obesity policy, research, and education.

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