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RESEARCH

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# Addressing weight bias among pediatric healthcare clinical staff

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## Abstract

**Background** Children with obesity may experience weight-based discrimination as a result of weight bias and stigma, which can have deleterious effects on their health and wellbeing, including increased risk of dysregulated, maladaptive, and disordered eating such as restriction, purging, and bingeing. Prior work has shown that weight bias occurs from healthcare workers caring for adults, but less is known about the prevalence of weight bias in the pediatric healthcare setting.

**Methods** We aimed to determine what proportion of pediatric healthcare professionals had attitudes of weight bias at our own institution by constructing a survey with questions from validated weight bias survey tools. Results revealed nearly half of all respondents had witnessed another healthcare professional make negative remarks about a patient with obesity, and many shared that they lacked the proper education/training and equipment to properly care for patients with obesity. Based on survey results, we created an electronic-based training module to educate healthcare professionals on weight bias and discrimination and how they may negatively affect care provided to children and families with obesity at our institution. Engagement with hospital leadership was a key strategy to ensure participation from medical and nursing/allied health staff in the survey, although only nursing/allied health leadership required the online training module resulting in limited physician engagement.

**Results** Feedback received regarding the training module was overwhelmingly positive.

**Conclusions** Our efforts illustrate that weight bias and discrimination exist in pediatric institutions, and that participation in a tailored electronic-based training module may be viewed as a helpful tool to raise awareness of how weight-based discrimination and bias can negatively affect patient care.

**Keywords** Weight, Obesity, Weight bias, Stigma, Discrimination, Training module, Pediatric healthcare professionals

## Plain English Summary

Weight bias and discrimination are present in pediatric healthcare settings and can lead to negative health effects for children with obesity, including increased risk of dysregulated, maladaptive, and disordered eating such as restriction, purging, and bingeing. Scientific studies on development of methods to address weight bias among child healthcare professionals is limited. In this article, we describe how we measured weight bias among clinical providers and staff in a large pediatric teaching hospital, and how this helped us obtain approval from hospital leaders to create training to help these child healthcare professionals understand the harmful effects of weight bias.

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## Background

Childhood obesity rates continue to climb in the United States. Obesity (BMI  $\geq$  95th percentile for age and gender) is now estimated to affect 18.5% of all children aged 2–19 years. [1] In addition to the many known chronic medical and psychological complications associated with obesity [2], children may also experience negative impacts from weight-based discrimination due to weight bias and stigma [3]. Weight bias and stigma is defined as negative beliefs about, and treatment towards, an individual based solely on weight [4]. Patients who experience weight-based discrimination can experience psychological impacts such as depression, negative self-esteem, decreased likelihood of exercise, as well as medical effects including decreased glycemic control and increased cortisol. It is also well established that the psychological distress of experiencing weight-based discrimination, as well as internalizing of those negative messages, can impact weight control behaviors. This can result in dysregulated, maladaptive, and disordered eating, such as restriction, bingeing, or purging, which creates additional levels of safety and health risk [5, 6].

Weight bias among health care professionals who treat adults is a known and documented problem [7, 8], however, less evidence currently exists examining the prevalence of weight bias among pediatric health care professionals [9]. A large, midwestern tertiary children's hospital organization created a specialized, multidisciplinary taskforce in 2014 called the Severe Pediatric Obesity Taskforce (SPOT committee), which focused on improving the safety and equity of care provided to children with obesity in both the inpatient and outpatient care settings. During an evaluation of issues impacting patient care, a member of the SPOT committee shared anecdotal stories of patients who perceived weight-based discrimination and bias from staff members. In one instance, an adolescent patient had such a negative experience related to weight bias that the family chose to seek care elsewhere in the future.

In light of these anecdotal experiences in our own institution and the knowledge gap regarding weight bias and weight-based discrimination in pediatric health care professionals, members of the SPOT committee created an advocacy initiative aiming to improve knowledge about weight bias and provide education and training to health care professionals that could ultimately improve the quality and equity of care provided to children with obesity, as well as reduce their risk of dysregulated, maladaptive, and disordered eating, through broadening staff members' knowledge on the topic. At the time this initiative began, there was no standardized training or education regarding weight bias or the effects of weight-based discrimination on patients and families at our institution.

Therefore, the initiative's objectives were to 1) determine the prevalence of weight bias among pediatric health care professionals, 2) identify specific knowledge gaps about obesity present among pediatric health care professionals, and 3) to create a tailored electronic based training (EBT) to educate health care professionals about weight bias and weight-based discrimination.

## Methods

While anecdotal evidence indicated potential knowledge gaps related to pediatric obesity and weight bias/stigma, more information was needed to identify and describe what specific knowledge gaps existed for pediatric health care professionals prior to the creation of an EBT. An interdisciplinary group was formed by the SPOT committee, including representation from nursing, physicians, psychology, and patient/family liaisons to further explore the issue and create a survey regarding childhood obesity and weight bias. Items from two previously validated survey instruments designed to measure weight bias in health care professionals. One author contacted the author of the Attitudes of Health Care Providers about Treating Patients with Obesity questionnaire [10] and was provided with a copy of the most current tool directly from the original author. Permission was received to modify the questionnaire to include three items from the Anti-Fat subscale from the NEW Attitudes Scale [11], along with demographic data. The final survey tool included 32 items: 25 items from the prior validated instruments specifically addressing negative attitudes towards patients with obesity, anti-fat attitudes, perceived efficacy in treatment for obesity, and perceptions of weight bias among other professionals, plus added questions collecting demographic information from respondents, including their previous lived experiences with weight-based discrimination, and allowing for general comments (Supplemental File 1).

Prior to dissemination of the survey to nursing and medical staff, leaders of the interdisciplinary group approached the Chief Medical Officer (CMO) and Chief Nursing Officer (CNO) for support. Through discussion of available evidence and anecdotal reports from our own institution, hospital leadership was supportive of the effort, and the survey was sent to all medical and nursing care staff via email from the CMO and CNO (approximately 3,900 staff members). The anonymous survey was administered using the institutional Research Electronic Data Capture (REDCap) system. The survey results would identify specific knowledge gaps, thereby informing targets for creation of a tailored electronic based training (EBT) program for pediatric health care professionals.

**Results**

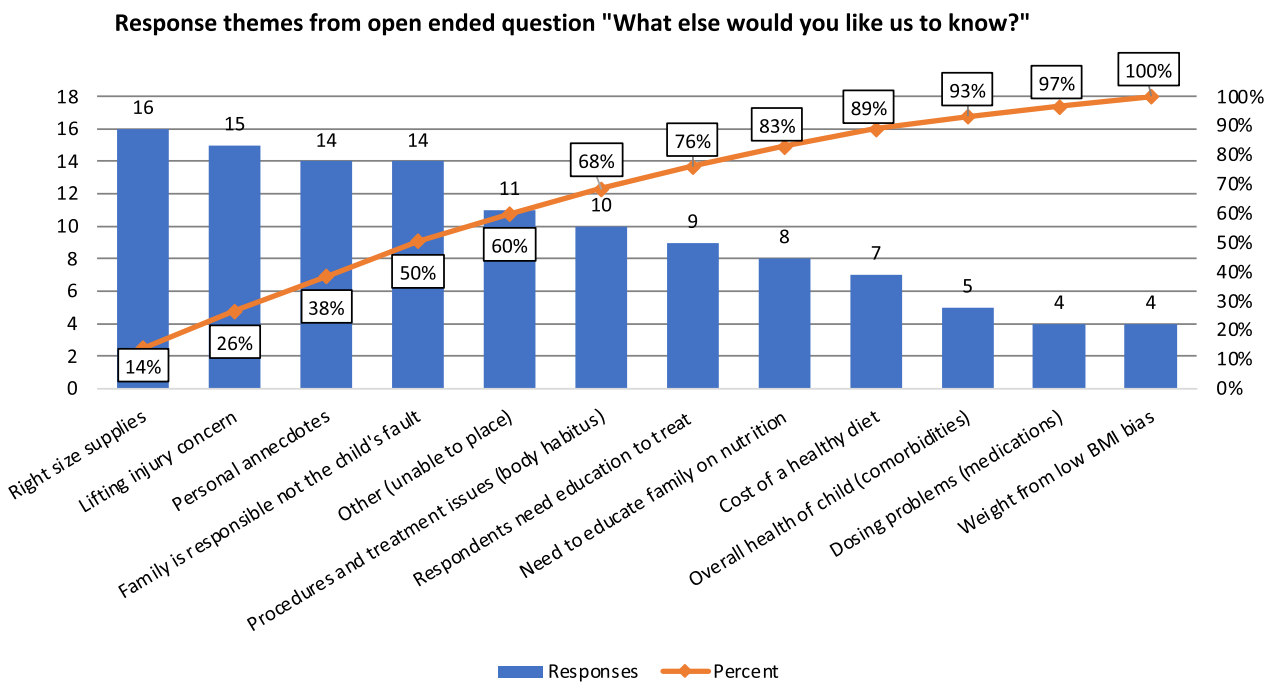
A total of 891 (23%) health care professionals responded to the survey. Of all survey respondents, 561 (63.0%) were nurses, 186 (20.9%) were physicians, and 144 (16.1%) were other health care professionals (e.g., certified nursing assistants, nurse practitioners, pharmacists, clinical psychologists). Approximately 50% of respondents worked in an ambulatory care setting, while the rest worked in an inpatient or surgical setting. Most (73%) indicated they had either a personal history of overweight or obesity or they were close to someone with overweight or obesity, and 26% reported being teased because of their weight in the past.

Several specific weight-bias related knowledge gaps were identified among survey respondents, reflecting the presence of bias. Over half endorsed the belief that people can eat a healthy diet if they wish to, showing a lack of awareness of common barriers to obtaining healthy foods [12]. Twenty percent indicated the belief that patients with obesity are often non-compliant with treatment recommendations. More than one third indicated health professionals in their field have negative stereotypes towards patients with obesity, and nearly half had overheard a colleague make negative comments about a patient with obesity.

Responses to the open-ended question at the end of the survey, (“What else would you like us to know?”) were analyzed and grouped into themes, several of which were

related to barriers, concerns, or misconceptions (Fig. 1). Responses are displayed in a pareto graph to highlight the most frequently assigned categories of concern as a total percentage of all response categories (Fig. 1). The top two themes related to logistical concerns regarding the ability to provide safe care to patients with overweight or obesity, listing lack of access to appropriate sized equipment (14%), such as fitted sheets for bariatric beds, and bariatric blood pressure cuffs; and concerns for injuries associated with moving/lifting patients with obesity (13%). Notably, several specific responses included concern over sustaining “back injuries” and “not getting hurt” while moving patients despite the existence of a Safe Patient Handling (SPH) policy and decision algorithms to aid in selecting SPH equipment for use in patients over 15 kg. This could be related to knowledge gaps of weight limits for specific SPH equipment as one respondent suggested creation of a chart listing proper equipment and weight limits for moving patients with obesity. Other respondents (8%) suggested they lacked the appropriate knowledge or training to appropriately treat or care for patients with obesity and would appreciate additional training. This need was further demonstrated by response categories including indicating the family is responsible for the patient’s condition (12%) or the need to provide better nutrition education (7%).

Survey results were shared with the CMO and CNO, leading to their support for the development of education



**Fig. 1** Response themes from comments on weight bias survey

for the surveyed groups. The interdisciplinary group created an EBT using an existing weight bias educational video from the Rudd Center for Food Policy and Obesity paired with anecdotal patient experience stories, results from the survey at the organization, and links to additional resources, including safe patient handling resources and an internal web page containing instructions for ordering supplies designed for this patient population [3, 4]. The approximately 20-min EBT used multiple learner engagement strategies including video, reflective questioning, and a request for employee commitment to make a change in practice. The educational module was assigned as required learning to all nursing care and allied health staff. The module was provided as an optional training to physician/psychologist medical staff, as attempts to include it as required training were not successful.

The EBT was directly assigned to 3,706 nursing and allied health employees and completed by 3,618 (97.6%) between October 2018-January 2019. Since the module was not directly assigned to medical providers, there was not a clear denominator for calculating a completion percentage. As a proxy measure, completion records were filtered for physician and advanced practice provider titles, yielding a list of 110 staff meeting those criteria, who were not directly assigned the EBT but completed the education during the same timeframe. Feedback and comments were requested from EBT participants and were overall positive, with 83% of respondents saying they would recommend the EBT to others. Many respondents felt learning more about weight bias in health care was a worthwhile topic, with some expressing validation of their own experiences or stating they had witnessed weight bias firsthand from other bedside providers. One respondent stated they “had an ‘a-ha’ moment where [they] realized how [weight] bias could impact care.” Another felt the EBT “should be recommended for everyone” in the organization. A few respondents provided positive feedback regarding the multiple engagement strategies employed by the EBT. The few negative comments focused mostly on perceived long length of the EBT. At the end of the EBT, all participants that completed the training were able to identify at least one way in which they would change their practice as a result of what they had learned.

## Discussion

Our multidisciplinary team, motivated by anecdotal negative family experiences related to weight bias and weight-based discrimination, was able to create and disseminate a survey tool utilizing prior validated questionnaires to effectively determine that a substantial proportion of pediatric health care professionals

(physicians, nursing staff, and others) possess feelings/beliefs of weight bias and stigma towards patients with obesity. These biases may affect the safety and equity of care provided to patients and families with obesity, as well as increased risk of dysregulated, maladaptive, and disordered eating such as restriction, purging, and bingeing. After identification of these knowledge gaps, a tailored EBT was created and completed by all nursing and allied health staff, and was made optional for medical staff. Following completion of the weight bias training, health care professionals committed to make a change in their practice with many providing a specific actionable change, and feedback for the course was overwhelmingly positive.

Health care professionals also indicated several barriers to providing care to patients with obesity, including lack of access to appropriate equipment, difficulty with safely moving these patients, and lack of knowledge or training to provide treatment. These barriers have been identified in prior literature [13–15], and some hospitals around the United States have made progress in addressing them through various initiatives. One children’s hospital, for example, implemented a hospital-wide pediatric obesity care guideline that directly addressed several broad categories known to affect care for patients with obesity: 1) equipment and infrastructure, 2) airway management, and 3) drug dosing and pharmacology [13]. At our own institution, the SPOT committee was formed in 2014 to address barriers to care for patients with obesity in all care settings. Interventions to date have included creation of specialized carts on inpatient care units containing bariatric equipment for patients with severe obesity, procurement of appropriate beds/chairs/couches for patients and parents with obesity, increasing the proportion of bariatric seating in all waiting rooms to 30% or greater, construction of specialized bariatric patient rooms in the hospital (including bariatric patient lifts), and multidisciplinary engagement in creation of a new pediatric/adolescent bariatric surgery program in 2017. At the time of the survey, those interventions were limited to inpatient areas, which may explain the continued concerns depicted in survey responses. Additional work is needed to ensure equity of resources across all care areas for the safety of patients and staff. Addressing these various problems resulting from weight bias and weight discrimination will lead to safer and more equitable health care for children with obesity, as well as lessen their risk of dysregulated, maladaptive, and disordered eating.

The SPOT committee and our multidisciplinary team for this advocacy initiative was created with the overwhelming support from hospital leadership, which was a major factor in our success in rolling out both the

survey and EBT to health care professionals. The support received from the CNO and CMO likely increased buy-in from participating health care professionals and led to an increased survey response rate. We believe our efforts to engage with hospital leadership, including providing information on specific patient experiences and current knowledge gaps regarding the role of weight bias in pediatric health care professionals, played a key role in our overall success in achieving our objectives.

We encountered some difficulty in creating buy-in from physician leadership for the EBT. Specifically, we had hoped to release the EBT in our institution's electronic curriculum center as a brief but required training session, similar to the process by nursing and allied health staff leadership. Despite interest and support for the EBT generally, it was ultimately decided that the weight bias EBT would be an optional training for the medical staff providers due to multiple other competing initiatives requiring training at the time and taking priority.

Our efforts should be viewed in light of some limitations. Firstly, our initial survey response rate of all pediatric health care professionals at a single pediatric institution was approximately 33%, and respondents were primarily nursing staff. Therefore, our results regarding presence of weight biases may not be generalizable across professions or institutions. Because most respondents were nurses, with smaller proportions being distributed across other professions (e.g., physician, pediatric trainee, allied health, etc.), between-group comparisons of survey responses were not possible. Additionally, while all nursing and allied health professionals completed the EBT and provided feedback, very few physicians opted to complete the training and so results and feedback from physicians are limited. Comparisons of weight bias experiences across demographics groups and health care professions/roles is an area requiring further study. Lastly, participant satisfaction is a low-level evaluation for educational delivery. Best practice would have a follow up survey to assess the impact of the training on overall weight bias among the target population, however this was not possible within the organization due to competing priorities.

## Conclusions

Our work adds to the current knowledge base regarding how weight bias may play a role in how pediatric health care professionals interact with patients and family members with obesity in all care settings. Weight bias and weight discrimination exist in pediatric healthcare institutions. Our work to help mitigate the effects of these forces within our own institution will continue as a part of the SPOT committee's work moving forward. The EBT will continue to be offered as optional training

for all physicians, nursing and allied health staffs, and we will continue to work toward inclusion of this module as mandatory education for all health care professionals. We also plan to advocate among hospital leadership for inclusion of the weight bias EBT in the required onboarding education for all new hires at our institution.

With the current increasing focus on health equity for patients of varying backgrounds, identities, and health statuses, now is the time to address disparities in care for patients with obesity, as well. Obesity is known to be associated with many poor health outcomes, and the role of weight bias and discrimination as part of the additive psychosocial trauma experienced by children with obesity should not be ignored [16]. As such, our future aims are to incorporate weight bias training into the important and growing health equity training at our institution and advocate that similar trainings be instituted at other institutions around the country.

## Abbreviations

BMI	Body mass index
SPOT committee	Severe pediatric obesity taskforce
EBT	Electronic based training
CMO	Chief medical officer
CNO	Chief nursing officer

## Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40337-024-01123-8>.

Additional file 1.

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## Author contributions

K.K. participated in the advocacy effort, collected data, drafted the initial manuscript, and reviewed and revised the manuscript. G.G, C.C, S.H. designed the data collection instruments, collected data, carried out the initial analyses, and reviewed and revised the manuscript. A.B. conceptualized and designed the study, coordinated and supervised data collection and analysis, directed creation of the EBT, and critically reviewed the manuscript for important intellectual content. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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## Data availability

All data generated or analyzed during this study are included in this published article [and its supplementary information files].

## Declarations

### Ethics approval and consent to participate

Not applicable.

### Consent for publication

Not applicable.

**Competing interests**

The authors have no competing interests relevant to the development of this manuscript.

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