Assessment of Weight Bias Among Pediatric Nurses and Clinical Support Staff Toward Obese Patients and Their Caregivers[1]

Janelle T. Garcia PhD [a,*], Ernest K. Amankwah PhD [a], Raquel G. Hernandez MD, MPH [a,b]

[a]All Children's Hospital, Johns Hopkins Medicine, St. Petersburg, FL
[b]Johns Hopkins University School of Medicine, Department of Pediatrics, Baltimore, MD

The increasing burden of obesity is prevalent in the pediatric populations. Pediatric nurses are spending increasing amounts of time and effort caring for obese patients however no prior studies have explored how nurses perceive obese patients. The purpose of this study is to identify weight bias in pediatric nurses (RNs) and clinical support staff (CSS) working in a pediatric hospital setting. A convenience sample of RNs and CSS from an urban, pediatric hospital were surveyed using the Nurses' Attitudes toward Obesity and Obese Patients Scale (NATOOPS), which consists of 6 patient-care factors with an additional factor added to assess bias towards the patient's caregiver. Mean factor scores ≥ 50 indicated bias. Data were summarized using descriptive statistics and means were compared using independent t tests. Multivariate logistic regression models were used to determine the association between putative risk factors and weight bias. RNs and CSS ($N = 308$) demonstrated weight bias toward obese patient characteristics (mean = 61.9) and perceived controllability of obesity (mean = 65.8). CSS felt negatively about their supportive roles in caring for obese patients (mean = 52.5). Respondent weight status and professional title resulted in variability of biased attitudes. Race, employment status, number of obese patients cared for daily, and department were predictive of biased attitudes. Weight biased attitudes toward obese pediatric patients and their caregivers were found among RNs and CSS. Future qualitative research will assist in the understanding the factors that cause nurse weight bias.
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PEDIATRIC OBESITY CONTINUES to be a major public health concern in the U.S. (Ogden, Carroll, Kit, & Flegal, 2014). Healthcare providers, specifically nurses, are spending increased time and effort caring for obese children affected by weight-related health problems (Centers for Disease Control and Prevention, 2015a; Pelone et al., 2012). Concurrently, weight bias, which is the tendency to form unreasonable judgments based on a person's weight, has become more prevalent in the U.S. and is being viewed as a social justice issue (Andreyeva, Puhl, & Brownell, 2008; Puhl et al., 2015). Most Americans believe that obesity is the result of an individual's inability to exhibit self-control or commit to beneficial behavior change, ignoring the role of genetics, environment and other socio-ecologic factors (Andreyeva et al., 2008; Brown, Stride, Psarou, Brewins, & Thompson, 2007; Centers for Disease Control and Prevention, 2015b). This perspective has been felt to limit awareness of the pediatric obesity burden as well as provider engagement in obesity treatment (Obesity Society, 2010).

Biased attitudes have been shown to affect an obese individual's health outcomes and willingness to seek medical

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treatment (Amy, Aalborg, Lyons, & Keranen, 2006; Puhl & Heuer, 2009, 2010). Recent studies indicate healthcare professionals caring for obese adults experience "dread, repulsion, and discomfort" (Budd, Mariotti, Graff, & Falkenstein, 2011; Garcia, Chaney, Stopka, Chaney, & Neff, 2012; Phelan et al., 2015; Puhl & Heuer, 2010), which is problematic, especially among nurses, due to their frequency of contact with patients in a clinical setting. Moreover, obese adults have been found to be more likely to report adverse treatment by nursing staff in various medical settings (Puhl & Heuer, 2010). The issue of weight bias is particularly relevant in pediatric populations where young patients are acutely sensitive to how others perceive them (Littleton & Ollendick, 2003). Victim blaming of overweight adults is common among healthcare professionals, however the parents or caregivers of overweight children are typically blamed for a child's weight status (Adler & Stewart, 2009; Faith et al., 2012; Puhl & Heuer, 2010). Despite the frequency by which nurses encounter obese pediatric patients, research on the attitudes of nurses towards pediatric obese patients and their caregivers is limited; though such work will provide pertinent information on the quality of care delivered to obese pediatric patients.

The purpose of our study was to assess the presence of weight bias in a population of pediatric registered nurses (RN) as well as clinical support staff (CSS), which include licensed practical nurses (LPN), medical assistants (MA), and certified nursing assistants (CNA). To our knowledge, only two studies exist that measure nurses' weight biased attitudes using an instrument that utilizes a continuous scale to reduce response bias (Garcia et al., 2012; Watson, Oberle, & Deutscher, 2008), however neither study has identified a diverse pediatric population by which to further study weight bias. A secondary objective was to determine if pediatric nurse weight status is associated with weight bias. Understanding the attitudes of pediatric clinical staff will inform ongoing prevention and management strategies and provide an opportunity to improve the quality of care delivered to pediatric patients.

Methods
Design
A cross-sectional study design was utilized in this study with data collection taking place from April 2013 through August 2013. Survey dissemination via department nurse managers was employed in two phases utilizing different survey methods, Web-based and paper, due to technological issues some participants experienced when logging into online survey.

During phase I, Web-based surveys, with built in informed consent, were distributed by department managers' to eligible staff via a recruitment email. Consented participants were able to complete the web-based NATOOPS and provide their demographic data. Self-report height and weight were requested at the end of the questionnaire to assess participant weight status. In order to prevent duplicate response errors, each respondent used an authentic username and password to access the survey.

Phase II was employed shortly after the close of Phase I utilizing a paper version of the NATOOPS. Surveys, including written informed consent, were distributed to eligible participants by their respective nursing mangers and were returned in a sealed confidential envelope. Participant names obtained in the Informed Consent were crosschecked between the completed Web and paper surveys to prevent duplicated surveys from being included in the final analysis.

Participants
This was a cross-sectional study of pediatric RNs and nursing residents (herein referred to as RNs) and CSS ($n = 574$) from a 259 bed urban, freestanding children's teaching hospital located on Florida's Gulf Coast. Inclusion criteria included being a current full-time/part-time/per diem RN or CSS whose primary job responsibilities involved direct patient care. Staff was ineligible for the study if they were under 18 years of age or if their job responsibilities did not include direct clinical patient care. The All Children's Hospital Johns Hopkins Medicine Institutional Review Board approved this study in spring 2013.

Instrument
The Nurses' Attitudes toward Obesity and Obese Patients Scale (NATOOPS) is a previously validated, theory-based instrument designed to assess weight bias among nurses using a visual analog scale (Watson et al., 2008). The 36 item survey consists of the following five patient-centered factors: (1) response to obese patients (i.e. negative feelings toward obese patients), 14 items; (2) characteristics of obese individuals (i.e. negative psychological characteristics), 9 items; (3) controllable factors contributing to obesity (i.e. controllable variables that lead to obesity and causal understanding between obesity and behavior), 8 items; (4) stereotypic characteristics of obese patients (i.e. negative personal attributes), 2 items; and (5) supportive roles in caring for obese patients (i.e. nursing activities expected in supporting obese patients), 3 items (Watson et al., 2008). Overall internal consistency reliability of NATOOPS was measured using Cronbach's alpha (.81) (Watson et al., 2008).

The NATOOPS was adapted into a Web-based survey via Qualtrics (Qualtrics, 2013) using a 0–100 sliding scale to mimic the original tool. Survey questions were made relevant by replacing the noun "adult" with "pediatric patient" and an additional factor was included in which 7 items from the original survey were rewritten to reflect nurses' attitudes toward the caregivers of obese pediatric patients. The new items were pilot tested on 5 random hospital staff members as well as the hospital's Chief Nursing Officer (CNO) to determine if the questions were clear, understandable and relevant. Overall internal consistency, reliability of the revised NATOOPS was measured using Cronbach's alpha (.91).

Demographic characteristics including gender, age, race, education, and income were reported. Additionally, questions exploring respondent area of nursing (department), work shift, obesity-related educational course attendance, employment status, and number of obese patients cared for daily were assessed and used in logistic regression analyses as potential predictors of weight bias.