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U.S. Health Professionals' Views on Obesity Care, Training, and Self-Efficacy

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Abstract

Background—Despite emphasis of recent guidelines on multidisciplinary teams for collaborative weight management, little is known about non-physician health professionals' perspectives on obesity, their weight management training, and self-efficacy for obesity care.

Purpose—To evaluate differences in health professionals' perspectives on: (1) the causes of obesity; (2) training in weight management; and (3) self-efficacy for providing obesity care.

Methods—Data were obtained from a cross-sectional internet-based survey of 500 U.S. health professionals from nutrition, nursing, behavioral/mental health, exercise, and pharmacy (collected from January 20 through February 5, 2014). Inferences were derived using logistic regression adjusting for age and education (analyzed in 2014).

Results—Nearly all non-physician health professionals, regardless of specialty, cited individual-level factors, such as overconsumption of food (97%), as important causes of obesity. Nutrition professionals were significantly more likely to report high-quality training in weight management (78%) than the other professionals (nursing, 53%; behavioral/mental health, 32%; exercise, 50%; pharmacy, 47%; $p < 0.05$). Nutrition professionals were significantly more likely to report high confidence in helping obese patients achieve clinically significant weight loss (88%) than the other professionals (nursing, 61%; behavioral/mental health, 51%; exercise, 52%; pharmacy, 61%; $p < 0.05$), and more likely to perceive success in helping patients with obesity achieve clinically significant weight loss (nutrition, 81%; nursing, behavioral/mental health, exercise, and pharmacy, all $< 50\%$; $p < 0.05$).

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Conclusions—Nursing, behavioral/mental health, exercise, and pharmacy professionals may need additional training in weight management and obesity care to effectively participate in collaborative weight management models.

Introduction

There are well documented barriers^{3–5} preventing physicians from treating obesity, which affects one third of the U.S. adult population¹ and is estimated to cost \$147 billion annually.²⁰ Physicians report a host of factors that limit their participation in weight management, including inadequate time,⁶ insufficient training, and poor knowledge of the tools needed to diagnose and treat obesity.^{4,7–9} Physicians' attitudes, including weight stigma¹⁰ and pessimism about weight loss success,^{11–14} contribute negatively to care. A recent synthesis suggests that health professionals generally hold negative attitudes toward overweight patients, which may impact clinical decisions or willingness or ability to provide.¹⁵ Underdiagnosis and undermanagement of obesity is common, where only a third of obese patients receive a diagnosis of obesity, only a quarter receive weight loss counseling, and patients typically only achieve modest weight losses.^{16–19}

It will likely be challenging for physicians to comply with the recent U.S. Preventive Services Task Force (USPSTF) recommendations that clinicians screen all adults for obesity, and “offer or refer” obese individuals to “intensive, multi-component behavioral interventions.”²⁰ The USPSTF has acknowledged primary care physicians' (PCPs') potential difficulty in offering this intensive intervention and has suggested that clinicians consider collaborative treatment with multidisciplinary teams,¹⁶ which appears to be effective.²¹ In addition, recent guidelines by the American College of Cardiology, American Heart Association, and The Obesity Society on the management of overweight and obesity in adults advise PCPs to refer patients to high-intensity lifestyle interventions delivered by trained interventionists.²²

Collaborative models of care are likely to soon become common to facilitate compliance with federal and clinical guidelines for weight management, particularly the Patient Protection and Affordable Care Act's incentives for care coordination to support primary care practices.²³ Therefore, understanding these non-physician health professionals' perspectives about obesity, their relevant training, and current self-efficacy in obesity care will be important. For example, prior research suggests that beliefs about the diet-related causes of obesity may translate into actionable nutritional counseling topics to use with patients.²⁴ Earlier studies also show that nurses' self-efficacy is most strongly associated with competency in helping patients lose weight.^{25,26}

The goal of this exploratory paper is to describe perspectives among health professionals on the causes of obesity, training in weight management, and self-efficacy for obesity care. This is the first study to examine perspectives about obesity care among a diverse group of non-physician health professionals.

Methods

Study Design

Data were obtained from a nationally representative, Internet-based, cross-sectional survey of U.S. health professionals among the following groups: nutrition, nursing, behavioral/mental health, exercise, and pharmacy. These groups were selected because they might contribute to the delivery of weight management services as a single provider or as part of a multidisciplinary team. Nutrition professionals include registered dietitians (RDs), certified clinical nutritionists (CCNs), and certified nutrition specialists (CNSs). Nursing professionals include nurses (excluding nurse practitioners). Behavioral/mental health professionals include behavioral psychologists or mental health professionals, such as psychotherapists. Exercise professionals include exercise physiologists, physical therapists, personal trainers, and health coaches. Pharmacy professionals include pharmacists and PharmDs. The goal was to recruit 100 professionals from each group to participate in order to test for differences across groups.

A total of 1,052 panel members who responded to the survey invitation were screened; two hundred ninety were excluded as ineligible for not fitting the list of included professionals or for working less than 15 hours per week in an ambulatory setting, and 45 qualifying respondents were excluded for incomplete questionnaires (response rate, 25%). The calculated completion rate (completed interviews/total estimated working qualifying e-mails) was 68%. The final sample included 500 non-physician health professionals, with 100 in each professional group.

Survey Development and Implementation

Detail about the survey development, recruitment, and participation can be found in the Appendix. Data collection was conducted online between January 20 and February 5, 2014. One hundred respondents from each of the five professions were recruited. In order to qualify for the study, respondents needed to: (1) confirm their profession; and (2) indicate that they work at their profession at least 15 hours a week in an ambulatory setting. Participants were recruited from the Medical Market Research Panel, which consists of 200,000 non-physician health professionals. E-mails were sent to 3,308 randomly selected non-physician health professionals who met the inclusion criteria. Those who agreed to participate received a small stipend.

This study was approved by the Johns Hopkins Bloomberg School of Public Health IRB and determined to be exempt.

Measures

Non-physician health professionals' perspectives on the following topics were evaluated: (1) the causes of obesity; (2) training in weight management; and (3) self-efficacy for providing obesity care.

Health professionals' beliefs about the causes of obesity were assessed by asking: *How important is each of the following possible causes of obesity for your patients?* All causes

are listed in the Appendix, which fall into three categories of biological, patient-level behaviors, and social/environmental factors.^{27,28} For each cause, health professionals indicated whether it was *very important*, *somewhat important*, *not very important*, or *not at all important*, which were dichotomized as “very/somewhat important” and “not very/not at all important.”

The quality of weight management training was assessed by asking: *How would you describe the training you received regarding obesity care and weight loss counseling during your health professional degree or educational training?* Health professionals indicated whether it was *very good*, *somewhat good*, *not very good*, or *not at all good*, which was dichotomized based on the distribution of response as “high-quality training” (very/somewhat good) and “low-quality training” (not very/not at all good). The receipt of additional training was assessed by asking: *Have you received additional training either in-person or online (such as a certification, lecture, seminar, workshop, or conference) on how to help your obese patients or clients lose weight? (yes or no).* Respondents who reported receiving additional training were also asked the survey question: *What additional training did you receive?* Responses were categorized as *continuing education credit*, *certification*, *workshop*, *conference*, or *other (lecture, seminar, on the job training, independent study/reading, other)*. Specific areas of obesity care they received additional training in were assessed by asking: *In which specific areas have you received this additional training?* Respondents could select *nutrition*, *exercise*, *patient care after bariatric surgery*, *counseling techniques or motivational interviewing*, *awareness of obesity bias*, *eating disorders*, *medication management*, or *other*.

Self-efficacy was assessed by asking: *How confident are you in your ability to help your obese patients or clients achieve a clinically significant weight loss (at least 5% of body weight)?* and *How successful are you are helping your obese patients or clients achieve a clinically significant weight loss (at least 5% of body weight)?* Responses were dichotomized as “very/pretty confident or successful” and “not very/not at all confident or successful.”

Respondents were asked to report their height and body weight (in order to calculate BMI) as well as respond to a series of questions about their demographic characteristics.

Statistical Analyses

The data were weighted to address concerns with systematic under- or over-representation of health professional subpopulations in the panel and account for systematic non-response along known demographic parameters of these professions. The data were weighted so that the final sample approximated the known distribution of individuals actively working in these professions in the 2010–2012 American Community Surveys (ACS).

Descriptive analyses were conducted for all variables. Inferences were derived using logistic regression adjusting for age and education and setting the statistical significance at $p < 0.05$. Age was dichotomized as 44 years versus 45 years based on the cut points in the data. Statistical analyses were performed in 2014 using the STATA, version 13.0 (StataCorp LP, College Station TX). The weighted margin of error for the survey was $\pm 5.3\%$.

Results

Table 1 provides the characteristics of the study sample. The majority of non-physician health professionals were women with a range of 54% female for pharmacy professionals and 95% for nutrition professionals. Roughly three fourths of each group was white. Age varied between groups, with exercise professionals including more young people (34% aged 45 years), where behavioral/mental health professional included more older people (62% aged 45 years). In most groups, approximately 50% of respondents were overweight or obese, except among nutrition professionals where 25% were overweight or obese. Education ranged considerably, with 49% of nursing professionals and nutrition professionals reporting more than a college education compared to 96% of behavioral/mental health professionals. For each group, roughly one third reported completing training more than 20 years ago. Nutrition professionals were most likely to report working in a practice where almost all patients are obese (34%) and pharmacy professionals were least likely (3%). Nursing professionals were more likely to primarily practice in primary care offices (43%), which was uncommon among the other groups.

Table 2 describes health professional perspectives on the important causes of obesity by specialty group. Most professionals, regardless of specialty, endorsed individual-level biological factors as important contributors to obesity. Nutrition professionals were more likely to identify genetics or family history as an important factor contributing to obesity than nursing or behavioral/mental health professionals ($p<0.05$ for both). Exercise professionals were more likely to report physical disability as a contributor to obesity than nutrition professionals ($p<0.05$). Overall, individual-level behavioral factors were overwhelmingly identified as important causes of obesity, with nearly all health professionals citing insufficient physical activity, overconsumption of food, restaurant or fast food eating, consumption of sugar-sweetened beverages, lack of will power, and lack of information on good eating habits. Among social and environmental factors, more professionals endorsed cultural factors or lack of access to healthy foods as important determinants of obesity. Nursing and nutrition professionals were more likely to endorse cultural factors as a more important causes of obesity as compared to exercise and pharmacy professionals ($p<0.05$).

Table 3 presents self-reported training in weight management and self-efficacy for providing obesity care by specialty group. Nutrition professionals were significantly more likely than all other groups to report high-quality weight management training during their degree program ($p<0.05$ for all comparisons) and were significantly more likely to have engaged in other additional training in obesity care ($p<0.05$ for all comparisons). Among health professionals who received additional weight management training, many took part in continuing education credit and this training focused primarily on nutrition, exercise, or counseling techniques for motivational interviewing, although additional training varied widely from 20% among exercise professionals to 83% among nutrition and behavioral/mental health professionals. About one third of each professional group had additional training in obesity and stigma. Finally, nutrition professionals were significantly more likely, compared to other health professionals, to report high confidence and success in helping obese patients achieve clinically significant weight loss ($p<0.05$ for all

comparisons). Only one third of nursing (38%), exercise (38%), and pharmacy professionals (33%) reported success in helping patients achieve clinical significant weight loss. In supplementary analyses (Appendix), the association between self-efficacy and training was examined; having high-quality training and additional training was associated with increased self-efficacy.

Discussion

This study is the first to assess perspectives among a diverse group of non-physician health professionals about the causes of obesity, weight management training quality, and self-efficacy for delivering obesity care. Most health professionals, regardless of specialty, identify individual-level behavioral factors as important causes of obesity followed by individual biological factors and then social and environment factors. Nutrition professionals are significantly more likely than the other groups to report high-quality training in weight management, additional training in obesity care, and self-efficacy for helping patients lose weight. These results suggest that nursing, behavioral/mental health, exercise, and pharmacy health professionals may need additional training in weight management and obesity care to effectively participate in collaborative multidisciplinary weight management models.

The finding that nearly all health professionals point to individual behavioral factors is similar to past research among physicians who overwhelmingly identified individual behavioral factors as important causes of obesity.^{3,5,29,30} Yet, this opinion differs from many obesity researchers who overwhelmingly point to environmental and social factors as key drivers of obesity, particularly for disadvantaged populations.^{31,32} Given that other research has suggested that beliefs about causes of obesity translate into actionable issues on which physicians counsel their patients,²⁴ the results may also have important implications for non-physician health professionals' counseling. For example, physicians who believe overconsumption of food to be a major contributor to obesity are significantly more likely to counsel their patients to modify nutritional habits related to this belief, including reducing portion size, reading nutritional labels, and avoiding high-calorie ingredients when cooking. Therefore, targeted continuing educational programming about major diet-related contributors to obesity and counseling techniques may be a feasible strategy that facilitates both physician and non-physician health professionals' delivery of brief, frequent nutritional messages to patients. Providing non-physician health professionals with contextual information (e.g., access to healthy foods) may help improve message relevance to a patient's personal environmental challenges, rather than focusing only on individual behavior or possibly assigning blame. Generally, obesity training has been shown to improve obesity care.⁷

Primary care physicians represent an important gateway to obesity care, averaging 560 million office visits each year.³³ However, rather than directing patient weight loss, PCPs prefer a peripheral role in obesity care.³⁴ This lack of desire among PCPs to "drive" obesity care supports the growing interest and empirical support for the use of collaborative care models to deliver obesity-related services. For example, the USPSTF recommends collaborative treatment¹⁶ and the Patient Protection and Affordable Care Act includes incentives for care coordination (e.g., Patient-Centered Medical Home) to support primary

care practices.²³ This approach of creating teams of PCPs and other relevant health professionals has been effective for delivering behavioral weight loss interventions among obese patients.^{35,36} However, many of these studies have included non-physician health professionals, such as health coaches, who are experienced in delivering obesity interventions. Little research has examined how to utilize non-physician health professionals in real practice to implement the various components of a weight loss intervention or program to ultimately result in the best delivery of collaborative obesity care. As the evidence base for collaborative obesity care models expands, it will be important to consider the role of the health professionals included in this study, who have experience working with obese patients but are not currently included in trials.

As this study includes a representative sample of non-physician health professionals in current practice, the results raise concerns that many non-physician health professionals included in a collaborative care model might not be adequately trained to assist their physician colleagues in multidisciplinary teams. With the exception of nutrition professionals, a minority of those in the other professional groups received high-quality weight management training. To facilitate the federally recommended collaborative care models²³ for the treatment and management of obesity, improved training among non-physician, non-nutrition health professionals will be critical. These professionals may also be receptive to more training in this area, as additional education may improve self-efficacy in helping patients with obesity to lose weight. A key vehicle for providing this education may be through continuing education credits, which may be a particularly useful strategy for nursing and pharmacy professionals who have more of such requirements to maintain licensing. Based on reports of additional training in obesity, all health professionals could use more preparation related to obesity bias and stigma and some would benefit from more preparation in motivational interviewing. However, given the evidence supporting a team-based approach,^{35,36} it will be important for this additional training to be complimented by collaborative obesity care. Training opportunities that use interprofessional education—interactive instruction between two or more health professional groups—have been shown to improve efficiency, patient satisfaction, and patient outcomes,³⁷ and may facilitate a culture shift towards more collaborative obesity care.

Interestingly, there is a disconnect between confidence in helping patients lose weight and prior success in actually helping patients achieve this goal. Research among physicians shows that doctors are overly optimistic that their patients would follow their recommendations and lose weight.³⁸ When asked about helping patients achieve clinically significant weight loss, nursing, exercise, and pharmacy professionals are almost twice more likely to report confidence than success. This mismatch between confidence and success could be problematic if health professionals with more self-efficacy are less receptive to additional training to improve their weight management practices. In contrast, nutrition and behavioral/mental health professionals just are as likely to report confidence and success in helping patients achieve clinically significant weight loss. Future research is needed to better understand what additional training would be most effective in improving successful delivery of obesity care among non-physician health professionals.

There are several limitations to this study. First, the measures of health professional attitudes do not represent the full possible spectrum of attitude measures in the literature (such as perceived skills³⁹ or comfort in caring for obese patients⁴⁰), which may bias the results towards the null. Second, some of the included health professionals may have had extensive additional training in obesity (considering themselves “obesity specialists”), which could have biased the results positively. Although information on perceived quality of training and receipt of additional training in obesity care was collected, it was not possible to account for the huge variation in curricula across various health professional degree programs and it was based on self-report. Third, even though the survey was reviewed by experts in the field of obesity and among each included health professional group and pilot tested for comprehensibility, it is possible that respondents had differential interpretations of questions or responses. Fourth, the survey response rate was low (25%), which may limit generalizability, but the completion rate was high (68%).

In conclusion, this study suggests that non-physician health professionals most frequently identify individual behavioral factors as the most important causes of obesity. With the exception of nutrition professionals, the other health professional groups reported low-quality training in weight management and low-self efficacy in helping patients achieve clinically significant weight loss. The results suggest that non-physician health professionals may need additional training in weight management and obesity care in order to effectively participate in a collaborative weight management model. Such training may help practices effectively leverage opportunities in the Patient Protection and Affordable Care Act related to collaborative care, and to comply with federal recommendations that call for collaborative obesity care.¹⁶

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Characteristics of non-physician health professionals in the study sample

	Nursing (%)	Nutrition (%)	Behavioral/Mental Health (%)	Exercise (%)	Pharmacy (%)
Health professional characteristics					
Female	91	95	69	69	54
White	81	80	82	82	72
Age 45 and older	50	45	62	34	41
Overweight or obese	55	25	49	54	54
Seriously trying to lose weight at this time	49	33	35	41	44
Educational experience					
More than college education	49	49	96	65	59
Completed training more than 20 years ago	32	38	35	31	39
Health professional-reported patient demographics					
Almost all patients are obese	17	34	8	6	3
Most obese patients are low income	44	44	48	24	49
Practice characteristics					
Primarily see patients in primary care setting	43	15	7	3	13

Source: Survey of health professionals between January 20 and February 5, 2014.

Note: Numbers may not add up to 100% because of rounding.

Table 2

Non-physician health professionals' perceptions about the important causes of obesity by specialty (%)

	Nursing (%)	Nutrition (%)	Behavioral/Mental Health (%)	Exercise (%)	Pharmacy (%)
Individual biological factors					
Genetics or family history	75 ^{b,d,e}	91 ^{a,c}	73 ^{b,d,e}	89 ^{a,c}	87 ^{a,c}
Metabolic effect	62	60	60	57	52
Endocrine disorder	57	60 ^c	41 ^b	54	52
Physical disability	63 ^b	43 ^{a,d}	58	63 ^b	53
Medication side effects	56	57	61	46	45
Individual behavioral factors					
Insufficient physical activity	98	100	99	99	99
Overconsumption of food	96	100	98	100	99
Restaurant or fast food eating	94	96	92	96	97
Consumption of SSBs	95	98	90	93	96
Lack of will power	85	85	85	89	92
Lack of information on good eating habits	90	81	86	86	87
Social and environmental factors					
Cultural factors	82 ^{d,e}	83 ^{d,e}	74	67 ^{a,b}	68 ^{a,b}
Lack of access to healthy food	79 ^d	68	75	61 ¹	70
Lack of safe exercise locations	54 ^e	50	40	40	34 ^a

Source: Survey of health professionals between January 20 and February 5, 2014.

Note: Percentages represent the proportion of that group that identified the indicated factor as a very or pretty important cause of obesity. All analyses are adjusted for age and education.

^a significantly different from nursing professionals group, $p < 0.05$

^b significantly different from nutrition professionals group, $p < 0.05$

^c significantly different from behavioral/mental health professionals group, $p < 0.05$

^d significantly different from exercise professionals group, $p < 0.05$

^e significantly different from pharmacy professionals group, $p < 0.05$

Table 3

Training in weight management and self-efficacy for providing obesity care among non-physician health professionals (%)

	Nursing (%)	Nutrition (%)	Behavioral/Mental Health (%)	Exercise (%)	Pharmacy (%)
Received training in weight management during degree program					
Received high quality weight management training during degree program ^a	53 ^j	78 ^{h,j,k,m}	32 ^{h,i,k}	50 ^j	47 ⁱ
Received other training in obesity care^b	51 ⁱ	87 ^{h,j,k,m}	40 ⁱ	46 ⁱ	57 ⁱ
Type received among those who had additional training ^c (n=281)					
Continuing education credit	59	76 ^j	50 ^{i,m}	55	77 ^j
Certification	5 ⁱ	21 ^{h,m}	14	21 ^m	1 ^{i,k}
Workshop	25 ^j	37	56 ^{h,k,m}	23 ^j	24 ^j
Conference	32 ^{i,m}	55 ^{h,j,m}	20 ^{i,k}	48 ^{j,m}	14 ^{h,i,k}
Other ^d	66	72	75 ^m	73	52 ^j
Area of training in obesity care among those who had additional training ^e (n=281)					
Nutrition	88	91 ^j	68 ⁱ	75	82
Exercise	64 ^{j,k}	50 ^k	40 ^{h,k,m}	96 ^{h,i,j,k}	66 ^{j,m}
Patient care after bariatric surgery	16 ⁱ	40 ^{h,m}	27	22	13 ^h
Counseling techniques and/or MI	53 ^{j,i,k,m}	83 ^{h,k,m}	83 ^{h,k,m}	20 ^{h,i,j}	29 ^{h,i,j}
Awareness of obesity bias and stigma	34	42	39	29	34
Eating disorders	41 ^j	45 ^j	79 ^{h,i,k,m}	28 ^j	45 ^j
Medication management	41 ^{k,m}	30 ^m	45 ^k	15 ^{h,j,m}	64 ^{h,i,k}
Other	0	3	5	3	0
Perceived self-efficacy for obesity care					
Confident in helping patients with obesity achieve clinically significant weight loss ^f	61 ⁱ	88 ^{h,j,k,m}	51 ⁱ	52 ⁱ	60 ⁱ
Success in helping patients with obesity achieve clinically significant weight loss ^g	38 ⁱ	81 ^{h,j,k,m}	45 ⁱ	38 ⁱ	33 ⁱ

Source: Survey of health professionals between January 20 and February 5, 2014.

Note: All logistic regression analyses adjusted for age and education.

^aSurvey question: How would you describe the training you received regarding obesity care and weight loss counseling during your health professional degree or educational training?

b Survey question: Have you received other additional training either in-person or online (such as a certification, lecture, seminar, workshop, or conference) on how to help your obese patients or clients lose weight?

c Survey question: What additional training did you receive?

d Other includes lectures, seminars, on the job training, independent study/reading, other

e Survey question: In which specific areas have you received this additional training?

f Survey question: How confident are you in your ability to help your obese patients or clients achieve a clinically significant weight loss (at least 5% of body weight)?

g Survey question: How successful are you at helping your obese patients or clients achieve a clinically significant weight loss (at least 5% of body weight)?

h significantly different from nursing professionals group, $p<0.05$

i significantly different from nutrition professionals group, $p<0.05$

j significantly different from behavioral/mental health professionals group, $p<0.05$

k significantly different from exercise professionals group, $p<0.05$

m significantly different from pharmacy professionals group, $p<0.05$