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RESEARCH BRIEF

Exposure to Weight Management Counseling Among Students at 8 U.S. Medical Schools

Karen M. Ashe, PhD,[1] Alan C. Geller, MPH,[2] Jyothi A. Pendharkar, MBA, MS,[1] Lori Pbert, PhD,[1] Sybil Crawford, PhD,[1] Melissa A. Clark, PhD,[1] Christine F. Frisard, MS,[1] Cassie A. Eno, PhD,[3] Jamie Faro, PhD, RN,[1] Judith K. Ockene, PhD, MEd, MA[1]

Introduction: Clinical guidelines support physician intervention consistent with the Ask, Advise, Assess, Assist, Arrange framework for adults who have obesity. However, weight management counseling curricula vary across medical schools. It is unknown how frequently students receive experiences in weight management counseling, such as instruction, observation, and direct experience.

Methods: A cross-sectional survey, conducted in 2017, of 730 third-year medical students in 8 U.S. medical schools assessed the frequency of direct patient, observational, and instructional weight management counseling experiences that were reported as summed scores with a range of 0–18. Analysis was completed in 2017.

Results: Students reported the least experience with receiving instruction (6.5, SD=3.9), followed by direct patient experience (8.6, SD=4.8) and observational experiences (10.3, SD=5.0). During the preclinical years, 79% of students reported a total of ≤3 hours of combined weight management counseling instruction in the classroom, clinic, doctor's office, or hospital. The majority of the students (59%–76%) reported never receiving skills-based instruction for weight management counseling. Of the Ask, Advise, Assess, Assist, Arrange framework, scores were lowest for assisting the patient to achieve their agreed-upon goals (31%) and arranging follow-up contact (22%).

Conclusions: Overall exposure to weight management counseling was less than optimal. Medical school educators can work toward developing a more coordinated approach to weight management counseling.

INTRODUCTION

More than half of primary care office visits involve patients with more than 1 chronic disease; obesity, hypertension, hyperlipidemia, arthritis, diabetes, and cancer account for the majority of these conditions.[1] Primary care physicians are an important point of contact, particularly for patients with limited resources.[2] Primary care physicians who assist patients with their chronic disease management can help patients address lifestyle factors using the Ask (seek permission to talk about obesity and lifestyle issues), Advise, Assess, Assist, Arrange (5A's) framework.

The development of weight management counseling (WMC) during the medical school years could increase the likelihood that students will deliver WMC in their future work as physicians. However, information on medical school WMC curricula is limited.

From the [1]Division of Preventive and Behavioral Medicine, Department of Population and Quantitative Health Sciences, University of Massachusetts Medical School, Worcester, Massachusetts; [2]Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health, Boston, Massachusetts; and [3]School of Medicine, Creighton University, Omaha, Nebraska

Address correspondence to: Judith K. Ockene, PhD, MEd, MA, Division of Preventive and Behavioral Medicine, Department of Population and Quantitative Health Sciences, University of Massachusetts Medical School, 368 Plantation Street, Worcester MA 01605. E-mail: judith.ockene@umassmed.edu.

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The aims of this study were to describe students' (1) direct, observational, and instructional experiences; (2) self-reported exposure to educational experiences; and (3) practice of the 5A's for WMC.

METHODS

The survey was administered as part of the matching and randomization process for a group RCT designed to test the effect of a multimodal curriculum on WMC skills compared with the effect of a traditional curriculum within medical schools, previously described in more detail.[3,4] Third-year medical students at 8 U.S. medical schools were surveyed in 2017.

Students were asked to report the number of patients with whom they had direct experience in conducting each of the 6 WMC items on the basis of the 5A's framework (2 Assess items). Item responses were categorized as none (0), 1−3 patients (1), 4−9 patients (2), or ≥10 patients (3). The mean summed score for the 6-item scale was reported. The score range was 0−18 (Cronbach's α=0.91).

Students were asked to report how many times they observed a physician or preceptor perform the 6 WMC items on the basis of the 5A's framework. Item responses were categorized as none (0), 1−3 times (1), 4−9 times (2), or ≥10 times (3). The mean summed score for the 6-item scale was reported. The score range was 0−18 (Cronbach's α=0.94).

To understand instructional experiences, students were asked to report the number of times they were instructed on how to perform the 6 WMC items on the basis of the 5A's framework. Item responses were categorized as none (0), 1−3 times (1), 4−9 times (2), or ≥10 times (3). The mean summed score for the 6-item scale was reported. The score range was 0−18 (Cronbach's α=0.92).

Curriculum characteristics were determined on the basis of the report by students on the number of hours of preclinical WMC–specific instruction that they had received for the first 2 years. Students were asked to consider all instruction that occurred in the classroom, clinic, doctors' offices, or hospitals. Students were then asked how long and how often they had been taught how to conduct WMC using any of the following methods: case-based discussion, simulated patient encounter, clinical skills course, web-based/online course, classroom peer role-play exercise, didactic lecture, 1-on-1 discussion with faculty/preceptor/mentor, or other. Item responses for the number of times exposed to a particular teaching method were *none* (0), *1 time* (1), or *>1 time* (2); frequencies were reported for each.

Categorical variables are reported as frequency distributions, and continuous variables are reported as means and SDs. Analysis was completed in 2017.

RESULTS

Of the 1,151 third-year medical students eligible to take the survey, 796 (69%) began the survey and 730 (63%) completed all the information required to be eligible for analyses. The average age of students was 26.5 years, and 46% of the students were female. In total, 95% of the students reported having started or completed at least 1 of the 3 core clerkships at the time of the survey. Students reported having had direct patient experience implementing WMC (summed score=8.5, SD=4.8) and having observed a physician or preceptor performing WMC (summed score=10.3, SD=5.0). Students reported the lowest summed score for receiving instruction on how to perform WMC (summed score=6.4, SD=3.9). Overall, students reported a mean score of 2.6 on a scale of 1−4 (SD=0.5) for perceived WMC skills (Table 1).

During the preclinical years, 79% of the students reported a total of ≤3 hours of combined WMC instruction in the classroom, clinic, doctor's office, or hospital. The most frequently reported teaching methods were didactic lecture, 1-on-1 discussion, and case-based discussion. The majority of the students (59%−76%) reported never receiving skills-based instruction for WMC (Table 2). Of the 5A's queried in this study, the least frequent direct experiences (≥4 patients) were for assisting the patient to achieve their agreed-upon goals by identifying and addressing barriers to meet them (31%) and for arranging the follow-up contact to provide ongoing assistance and support for the treatment plan or providing a referral to more intensive specialized treatment (22%) (Table 3).

DISCUSSION

Students reported minimal receipt of WMC training. A significant majority of students reported receiving ≤3 hours of preclinical WMC curriculum by the spring of their third year. The most frequently reported type of educational experience was observing a physician or a preceptor perform WMC.

In this study, the majority of the students reported learning how to conduct WMC through didactic lectures, 1-on-1 discussions with faculty/preceptor/mentor, and case-based scenarios. The latter 2 are interactive methods considered to be the most effective teaching methods.[5] For skills-based learning, previous research has shown that discussion-based learning has positive outcomes in the development of practical skills and self-efficacy compared with lecture only.[6] By contrast, about two thirds of the students reported no exposure to skills-based instruction such as skills clinics, simulated patients, or role play.

This study highlights deficits in WMC training for medical students consistent with a 5A's approach, especially for Assist/Arrange behaviors. Specific instruction for using the 5A's framework could be incorporated into preclinical curricula in primary care core clerkships.

As seen in experimental trials and real-world evaluations, patient engagement over time is critical to achieving weight loss and improved clinical outcomes.[7,8] A patient-tailored or -focused physician intervention may

Table 1. Individual and Sample Characteristics (N=730)

Characteristic	% (*n*)	Mean (SD)	Range
Age, years	—	26.5 (3)	20–46
Sex			
Female	46	—	—
Core clerkship[a]			
Family medicine	28	—	—
Internal medicine	31	—	—
OB/GYN	36	—	—
Other	5	—	—
Direct experiences, summed score	—	8.5 (4.8)	0–18
Observational experiences, summed score	—	10.3 (5.0)	0–18
Instructional experiences, summed score	—	6.4 (3.9)	0–18
Weight bias (NEW Attitudes)[b]	—	19.56 (18.19)	–56 to 63
Weight management skills	—	2.6 (0.5)	1–4
Preclinical weight management counseling, hour,[c]	—	—	—
≤1	36 (264)	—	—
2	25 (185)	—	—
3	18 (129)	—	—
≥4	20 (148)	—	—

[a]Most recently completed core clerkship.
[b]NEW Attitudes Scale, Anti-Fat subscale.
[c]Frequency based on 726 responses.
GYN, gynecologist; NEW, Nutrition, Exercise, and Weight; OB, obstetrician.

Table 2. Teaching Method

Teaching method[a]	Never, % (*n*)	Once, % (*n*)	More than once, % (*n*)
Didactic lecture	20 (143)	49 (354)	32 (230)
1-on-1 discussion with faculty/preceptor/mentor	44 (317)	28 (200)	29 (209)
Case-based instruction	47 (339)	33 (240)	20 (148)
Clinical skills course	59 (428)	30 (218)	11 (78)
Simulated patient encounter	61 (445)	28 (203)	11 (80)
Web-based/online course	68 (492)	22 (160)	10 (74)
Classroom peer role-play exercise	76 (548)	17 (126)	7 (49)

[a]Frequency based on 723–727 responses.

be particularly important to assist patients who are disproportionately affected by obesity.[8–11]

To the authors' knowledge, this is the largest sample of third-year medical students surveyed on WMC education consistent with the 5A's framework, which is an approach supported by the U.S. Preventive Services Task Force guidelines.[12] Surveying third-year students is optimal because the majority of them have had time to practice skills through core clerkships and remain on campus more often than fourth-year students.

Limitations

There are several limitations to this study. This is a cross-sectional observational study that limits interpretation beyond correlation. A limitation of self-report data includes the potential for volunteer and recall bias that may lead participants to answer affirmatively. Follow-up studies include testing the acceptability, effectiveness, and use of different training programs to improve students' knowledge, skills, attitudes, and effectiveness in using the 5A's for obesity prevention/reduction, but the 5A's are not sufficient alone to treat obesity. It should be noted that other approaches to the 5A's framework must be considered when developing a WMC curriculum, including the broader adoption of policy changes that could be advocated for by medical school educators and integrated more seamlessly into their curriculum.

Table 3. Frequency of 5A's Exposure by Type of Educational Experience (N=730)

Variable	Direct experience: number of adult patients				Observational experience: number of times observed				Instructional experience: number of times instructed on how to provide WMC			
	None, % (*n*)	1–3, % (*n*)	4–9, % (*n*)	≥10, % (*n*)	None, % (*n*)	1–3, % (*n*)	4–9, % (*n*)	≥10, % (*n*)	None, % (*n*)	1–3, % (*n*)	4–9, % (*n*)	≥10 % (*n*)
Assessed for the patient's BMI and behavioral health risks and factors that contribute to weight gain willingness to change behavior	8 (57)	28 (205)	27 (198)	37 (270)	6 (41)	26 (187)	28 (205)	41 (297)	11 (83)	56 (410)	22 (158)	11 (79)
Advised that weight loss is recommended on the basis of the patient's personal health information (e.g., BMI and risk factors)	10 (72)	30 (217)	30 (220)	30 (221)	4 (31)	25 (185)	30 (216)	41 (298)	13 (98)	56 (412)	20 (149)	10 (71)
Assessed the patient's level of readiness to make lifestyle changes to achieve weight loss	15 (109)	35 (257)	32 (231)	18 (134)	11 (78)	34 (249)	31 (226)	24 (177)	19 (141)	59 (428)	17 (123)	5 (38)
Partnered with the patient to select treatment goals and methods on the basis of the patient's interests and willingness to change behavior	22 (160)	42 (305)	25 (180)	12 (85)	12 (91)	39 (282)	28 (205)	21 (152)	25 (177)	56 (412)	15 (109)	4 (32)
Assisted the patient to achieve their agreed-upon goals by identifying and addressing barriers to meet them	26 (192)	43 (315)	20 (143)	11 (80)	14 (102)	39 (285)	28 (203)	20 (140)	26 (187)	56 (412)	14 (103)	4 (28)
Arranged follow-up contact to provide ongoing assistance and support for the treatment plan and/or provided referral to more intensive specialized treatment	46 (332)	32 (235)	15 (109)	7 (54)	21 (153)	37 (270)	24 (178)	18 (129)	36 (265)	50 (361)	11 (78)	4 (26)

5A's, Ask, Advise, Assess, Assist, Arrange; WMC, weight management counseling.

CONCLUSIONS

Results of this study provide indications that medical schools do not have a consistent, structured, and common method for teaching WMC.

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