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among minority persons in this country (5,6).

ADA has initiated a number of efforts to attain a more diverse membership. Incentive programs, professional recruiting, networking groups, and the recent development of a mentoring program tool kit are some of the initiatives that have been undertaken to enhance minority recruitment and retention (5,7,8). However, from 1981 to 1999 substantial increases in minority and male representations were not realized (9-14).

The number of students from underrepresented groups enrolled in dietetics programs has remained lower than the number of white females. In 2001 the percentage of racial minority persons in didactic programs (23%) was higher than the percentage participating in supervised practice programs (17%). Only 9% of all dietetic program participants were men (Commission on Accreditation for Dietetics Education, unpublished data 2001).

The purpose of this exploratory, qualitative study was to conduct structured interviews to assess the experiences of minority interns throughout their dietetics education and examine their perceptions of the dietetics profession. This information provides a basis for future research to enhance other students' experiences and increase diversity in the profession.

METHODS

Study Design and Population

Participants were recruited through a request on the Dietetic Educators of Practitioners (DEP) dietetic practice group listserv and personal contacts at the 1999 ADA Annual Meeting and Exhibition in Atlanta, Ga. Telephone interviews were conducted with participants whose schedules did not allow for onsite interviews at the meeting. An interview guide was developed and used during the structured interviews. Table 1 lists the questions that were addressed.

Eleven participants from 8 different internship programs participated in the study. Ten of the students were female, and 1 was male. Six of the women were African-American, 2 were Asian-American, 1 was Hispanic, 1 was Native-American, and 1 indicated she was biracial. The male student was African-American. Both the onsite and telephone interviews were 30 to 60 minutes in length.

Minority interns' experiences during their dietetics education and their recommendations for increasing diversity in dietetics: Findings from structured interviews

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ABSTRACT

Diversity among racial minorities and males has remained limited in the dietetics field. Structured interviews with eleven minority interns were conducted to assess their experiences throughout their dietetics education and to examine their perceptions of the dietetics profession. General themes were reported. Dietetics was not the first career choice for six interns. Work and volunteer experience were perceived as the most influential factors in their selection for a dietetic internship. Some perceived being the only minority in an internship program and the lack of minorities on internship selection committees as problems. Increasing minority dietitians' visibility at career days and early recruitment of students were suggested as ways to increase diversity within the profession. Resources such as the *Building Our Future Mentor Program Tool Kit* should be utilized to establish mentoring programs for students and to enhance diversity efforts in dietetics. *J Am Diet Assoc*. 2002;102:1674-1677.

The 1999 membership database of The American Dietetic Association (ADA) reported that of all registered dietitians, only 10.2% were members of racial minority groups and 2.6% were men (1). The ADA leadership understands that membership diversity is

important in meeting the dynamic needs of a demographically changing society and for further strengthening the dietetics profession (2-5). Further, diversity and multicultural competence and sensitivity within all health professions are critical for improving patient outcomes

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DATA ANALYSIS

The interviewer reviewed the data and reported general themes. Anonymity of the respondents and their internship programs was maintained. Because this was an exploratory study with a convenience sample of 11 interns from 8 internships, generalizations to all minority students in internships should be avoided.

RESULTS

Dietetics as a Career Choice

Dietetics was not the first career choice for 6 of the 11 participants. Some of the initial career choices for the students included nursing, physical therapy, Spanish, and graphic design. Table 2 summarizes factors influencing the interns' selection of dietetics as a career.

Dietetics Education

Location and economics were the most important factors students considered when making internship application decisions (Table 2). When asked what factors were most important in getting accepted into an internship, 6 of the students perceived that volunteer or work experiences were most influential. Other factors identified were having "connections" and knowing people; applying for internships at the same university where the student completed the didactic program; and having a good grade-point average. Two students identified aggressiveness and persistence when contacting program directors and during the interview process (Table 1).

The participants were asked about experiences that they perceived negatively influenced their progression through their dietetics education and internship. Four of the African-American students indicated that being a minority in their program and the lack of minority persons in positions that participated in the selection of interns were problematic. Other negatives identified included poor pay for dietetics practitioners, lack of respect for dietitians from the medical community, pressure to get into an internship, and having to obtain supervised experience in an area of dietetics practice that the student did not like during the internship (ie, food-service). Two of the students indicated that they had not experienced any negative factors throughout their progression in the major (Table 1).

When asked to specify their level of satisfaction with dietetics on a 10-point Likert scale (1=not at all satisfied to

Table 1
Students' responses to interview questions (N=11)

Questions	Sample responses
What persons and factors influenced your selection of dietetics as an academic major?	I was doing physical therapy and took a nutrition course. I thought that it was interesting, so I changed my major. I really like science and wanted something related to health, but not medical school.
What influenced you to select the program (internship) in which you are enrolled?	My professor encouraged me to apply for an internship that was not very popular. This way it would be less competitive. This internship selected me. They were accepting a lot of students at the time. I met the requirements.
What do you consider the most positive qualities about the dietetics profession?	There are a variety of things to do. You can branch off into many different directions. If you get tired of clinical, you can do management. Helping people to seek nutrition information and be healthy.
What are some experiences that may have negatively influenced your progression in the major?	Some students already have networks. "We" don't have that convenience. There has never been a black dietitian in my facility. The pay. The profession is not well respected. There needs to be more balance between doctors and dietitians.
What were the most influential factors in your being selected for an internship?	I was not selected in the first round, but I applied again. I was aggressive in calling the director to find out how I could improve my application.
Overall, how satisfied are you with the selection of dietetics as a major? ^a	10, I am extremely satisfied. I plan on making a difference. I have recommended the major to friends. 6, If I can make more money it would be better. People in health professions don't treat us as equals. 5, The road to my internship was so long and trying. If I knew then what I know now, I maybe would have selected another field. I would tell people to really think about this before they apply.
What do you think can be done to increase the number of minorities in the profession?	Educate people so that they will stop thinking that we are cooks. Make internships free. In other fields, they don't have to pay for internships.

^aItems related to satisfaction with dietetics on a 10-point Likert scale (1=not at all satisfied to 10=extremely satisfied).

10=extremely satisfied), the mean response for 8 of the respondents was 8.13. Most of the respondents were happy and excited about the profession and realized the importance of dietetics. All except 1 of the students indicated that they would recommend the major to a friend (Table 1).

Ideas to Increase the Number of Minority Persons in the Profession

Students were asked why they thought there were not more minorities in dietetics and to describe ways to increase the number of underrepresented groups in the profession. Lack of knowledge about the profession was noted by 7 of the respondents. Four stated that a negative image (lack of appeal) surrounding the profession was preventing minority persons from pursuing careers in dietetics.

Students indicated that people did not understand the type of work that dietitians perform. Students believe the public perceives dietetics as a cooking profession for women. One student stated that getting a degree in dietetics involved too much hard work.

Promoting the profession and recruiting were identified as critical for increasing the number of students from underrepresented groups pursuing careers in dietetics. Strategies identified included minority dietitians' participation in career days, recruitment of students as early as high school, and promoting dietetics at colleges and universities with high minority enrollment. Financial incentives, making internships free for minorities, and providing scholarships for men and persons from minority groups were suggested (Table 1).

Table 2
Factors influencing career and internship selection

Career/internship selection	Factors
Dietetics as a career	Completion of a nutrition course Influential person (ie, family member in dietetics, nutrition professor, minority dietitian) Family member's diet-related health problem Personal health problems Interest in food Interest in other allied health professions
Internship selection	Location (ie, "close to home") Economics (ie, availability of scholarships and stipends Cost of Living) Competitiveness of internship programs

DISCUSSION

In determining methods to enhance diversity in dietetics, it is important to increase the number of minority students interested in dietetics and those successful in completing the requirements to become credentialed practitioners. Students in this study had a strong interest in working in a health profession and liked the variety of job opportunities available in dietetics. These results support previous research findings for dietetics students (15).

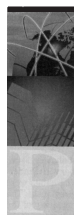
In another study, the majority (84%) of newly credentialed registered dietitians and dietetic technicians, registered, had considered other fields before selecting dietetics as a major (16). The fact that dietetics was not a first career choice for more than half the students in our study suggests that students may pursue degrees in didactic programs when their attempts to get into competitive, limited-access programs, such as nursing and physical therapy, are unsuccessful.

The competition for getting a dietetic internship is intense and the standards are high. An organization's established standards might make it difficult to achieve its goals for attaining diversity (17). Although grade-point average is a strong objective measure of success, factors beyond students' grades and test scores may need to be considered when making admissions decisions (18). Some organizations, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), are providing strong mentoring relationships and internship

experiences for students who may not have competitive grades and may not otherwise obtain an internship (16). More than half of the participants in our study perceived that their work or volunteer experience was 1 of the primary factors influencing their selection for a supervised practice program. Didactic Program directors agree that work experience is an important factor for students in securing internship positions (19).

Four of the 6 African-American students in this study acknowledged that the lack of diversity within their programs was sometimes uncomfortable. A lack of respect, low pay, and a lack of networking opportunities among minority persons in the field also were cited as factors that could have negatively influenced students during the progression through their dietetics education program. As suggested in a study of minority dietetics professionals, better compensation and increased opportunities for professional advancement also might encourage more men and minority persons to pursue careers in dietetics (20).

Despite the negative factors, the majority of participants were very satisfied with their career choice. When asked why so little diversity existed in dietetics, most students indicated people's lack of knowledge about the profession. Others noted the negative image of the dietetics profession.



APPLICATIONS

Many opportunities are available for dietetics educators and professionals to contribute to the recruitment and retention of underrepresented groups in dietetics.

- Utilize resources, such as the *Building Our Future Mentor Program* tool kit, to establish mentoring programs for minority students as early as kindergarten. This provides visibility for dietitians and promotes the profession (7,8).
- Be supportive and provide honest information to students in didactic programs about the requirements and intense competition for internships so students can make informed decisions about their op-

tions. Encourage students to volunteer and get work experience in the field.

- Evaluate students' talents and ability and look at their overall potential for success in the profession when making internship selections.
- Develop alternative methods for practical experience pathways for obtaining registration (21). The professional standards for becoming credentialed should not be compromised; however, more alternatives for students with less competitive grades should be considered by the dietetics education community to allow these students a chance for supervised practice experience.
- Provide opportunities for more minority practitioners to participate on internship selection committees. This shows students the profession's commitment to diversity (22).

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Concurrent validity of the BOD POD and dual energy x-ray absorptiometry techniques for assessing body composition in young women

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ABSTRACT

The purpose of this study was to determine the concurrent validity of the BOD POD (BP) (Life Measurement Instruments) and Dual Energy X-Ray Absorptiometry (DXA) Elite 4500A (Hologic, Inc.) techniques for assessing the body fat percentage of young women. The participants were forty-three white college-aged women (19.4 +/- 1.4 years) with a BMI of 23.4 +/- 2.3. Both body composition analyses were completed on the same day and were taken within 10 minutes of each other. Body fat percentage was estimated to be 24.3 (SE = 1.1) and 23.8 (SE = 0.8) using the BP and DXA techniques, respectively. Exact matches, in terms of body fat percentage, were obtained for 10 of the 43 participants (23.3%). In conclusion, our data supports the concurrent validity of the BP and DXA techniques for assessing body fat in young women. *J Am Diet Assoc*. 2002;102:1677-1679.

Evidence from several studies suggests that increases in body fat are associated with a higher risk of obesity, diabetes, hypertension, and dyslipidemia (1,2). Thus, developing accurate, effective, and practical methods of assessing total body fat that can accommodate a variety of persons is important to

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identify and reduce the prevalence of obesity and other major health concerns in the United States.

In vivo methods that assess body composition continue to be developed for use in human research, as well as in practical settings in which a variety of persons can be served (3). Historically, hydrostatic weighing was considered a highly reputable technique for assessing body composition. However, because of limitations like variations in the proportion of water in the fat-free mass from population to population, hydrostatic weighing may not be appropriate for special population sub groups (3,4). In recent years, new technologies have been

developed that offer researchers and practitioners alternative methods for assessing body composition (5,6).

Two particularly promising techniques are air displacement plethysmography (the BOD POD) and dual-energy x-ray absorptiometry (DXA). The literature suggests that because of practicality, the underwater hydrostatic method of assessing body composition is increasingly being replaced by the BOD POD technique, where the participant is immersed not in water, but rather in a closed air-filled system consisting of 1 chamber that holds the participant and a second chamber that serves as a reference volume. With the participant in 1 chamber, the door is closed and sealed, the pressure increased slightly, and a diaphragm separating the 2 chambers oscillates to slightly alter the volumes. Another method for measuring body composition that is widely used in clinical research is DXA (6). However, because of expense, and in some cases state radiation regulatory law, DXA may not be practical or available to the public for body composition assessment.

The aim of this article is to present the concurrent validity of the BOD POD (Life Measurement Instruments, Concord, Calif) and DXA (Hologic QDR 4500/A, Waltham, Mass) techniques for assessing percent body fat in young, collegiate females of varying shapes and sizes.

METHODS

Forty-three white college females (age=19.4+1.4 years) with an average body mass index (BMI) of 23.4+2.3 kg/m² participated in this study. Participants consisted of the Oregon State University women's volleyball team (n=10), gymnastics team (n=14), and a group of normally active freshmen (n=19).

Participants were asked to not eat or exercise for 3 to 4 hours before testing, and all tests were performed on the same day. For scanning, participants laid supine on the DXA table and were carefully positioned. In an effort to reduce movement, a Velcro® strap was used to secure the feet. Each DXA scan took approximately 3 minutes. Within 10 minutes of the whole body scan, body composition was assessed using the BOD POD. For this test, participants wore a tight-fitting swimsuit (minimal clothing is essential for accuracy), a bathing cap, and removed all jewelry. All participants were relaxed and sat comfortably in the cabin of the BOD POD for the duration of the 5-minute test. During the test, par-