Knowledge and Beliefs That Promote or Hinder Collaboration among Registered Dietitian Nutritionists and Certified Exercise Professionals—Results of a Survey

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BACKGROUND AND GOALS

CHRONIC DISEASES ARE THE leading cause of death and disability in the United States and represent >86% of current health care spending.[1] In 2012, it was estimated that half of US adults had one or more chronic diseases,[1] many of which can be prevented or managed with lifestyle changes, such as physical activity (PA), weight management, and healthful dietary choices.[2] Increased awareness of the detrimental effects of chronic disease on health has led to consumer interest in the impact of PA and diet on weight management and overall health. In a 2015 survey of US adults, 91% reported having given "at least some/little thought" about the healthfulness of their diet, and 94% reported having given "at least some/little thought" about the amount of PA they get, and 84% said they were actively trying to maintain or lose weight.[3]

Given the increasing consumer interest in the healthfulness of their diet and their PA level, it is important that consumers know which allied health professionals are best qualified to provide guidance in these areas. Health professionals in the fields of food, nutrition, and PA are in a unique position to address the rising tide of chronic disease, inactivity, and obesity. Thus, the US Department of Agriculture, the Academy of Nutrition and Dietetics (the Academy), the American College of Sports Medicine (ACSM), and the International Food Information Council (IFIC) Foundation collaborated on an expert panel meeting and report outlining ways to train practitioners regarding the integrated roles of food and nutrition, PA, and behavior change in improving the nation's health.[4] The report also focused on the need for registered dietitian nutritionists (RDNs) and exercise professionals to understand the Scope of Practice (SOP) and language used within each profession and the role each plays in assisting clients.

Although RDNs and ACSM-certified exercise professionals (hereafter, ACSM certificants) have distinct roles in assisting clients, neither are typically trained to provide guidance on both healthful eating and PA. Thus, an awareness of each other's knowledge, skills, and SOP allows these health professionals to work collaboratively to improve consumers' knowledge of healthful eating and PA and assist in making behavioral changes.

Nearly 20 years ago, ACSM, the Academy, and the IFIC Foundation surveyed a national sample of Academy (n=306) and ACSM (n=317) members to determine each profession's attitudes about the other profession.[5] At that time, 65% of RDNs surveyed reported providing PA guidance to >70% of their clients, yet only 14% felt that they could provide all of the PA information their clients needed. Similarly, 70% of exercise professionals reported giving clients advice and guidance about healthful eating and 57% thought they knew enough to start clients on a nutrition program, yet only 24% felt they could provide all the nutrition advice their clients needed. More recent data suggest that 23% of entry-level RDNs provide fitness counseling to patients.[6] Thus, the RDN and exercise professional have been crossing into each other's areas of expertise for decades to help their clients.

This article has two objectives. First, it outlines the current education and training requirements and roles of RDNs and ACSM certificants, especially related to training in the other profession's area of expertise. Second, it reports findings from a 2015 survey, also conducted by ACSM, the Academy, and IFIC Foundation, of ACSM and Academy members, with the following aims:

1. describe how RDNs and ACSM certificants work together, and describe the benefits and challenges of these relationships for the professionals themselves and for their clients; and
2. describe RDNs' and ACSM certificants' preferred sources of information for themselves and their clients.

Note that for the purposes of this survey and paper, healthful eating is defined as "a dietary pattern to meet nutrient needs for an individual's health concerns," and PA "encompasses both unplanned and planned physical activity (exercise)." The term *PA resources* was not explicitly defined in the survey, but was intended to encompass all educational materials that a professional might provide to a client, including handouts, videos, or

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recommendations for websites or mobile applications.

Professional Training and SOP

RDNs have a clearly defined SOP statement[7] and may require a license to legally practice, depending on the state(s) in which they practice.[8] Further, RDNs must have a minimum of a bachelor's degree in which designated course work is completed through an accredited dietetics program, including courses in food and nutrition sciences; foodservice/management; community nutrition; lifespan nutrition; physiology and anatomy; microbiology; and basic, organic, and biochemistry. An RDN must complete 1,200 hours of supervised practice at an accredited program and pass a national exam administered by the Commission on Dietetic Registration (Figure). Course work in exercise physiology is generally not required, although a few dietetics programs include this in their requirements. Therefore, exercise physiology and PA are not areas of expertise for most RDNs. RDNs who choose to specialize in sports nutrition or who choose to become a Board Certified Specialist in Sports Dietetics (CSSD) must document 1,500 hours of specialty practice experience in the area, which may be fulfilled with documented experience or degrees or course work in exercise physiology, sports nutrition, and nutritional sciences (Figure).

The RDN credential indicates relatively consistent training, which provides a clear and consistent SOP that helps guide client interaction and when to refer to other health professionals. The SOP for an RDN indicates that they can "provide nutrition, physical activity, exercise counseling and health education as components of preventative, therapeutic, and restorative health care."[7] However, provision of an exercise prescription for a client is not within the SOP of an RDN. Even RDNs with advanced training in sports nutrition and exercise physiology, including those who hold the CSSD credential,[20] are not qualified to provide exercise prescriptions unless they have degrees in exercise physiology or hold a fitness/exercise credential.

Compared with the uniform training of RDNs, there is wide variation in the requirements for exercise professional certifications offered by the ACSM and other exercise- and sport-related professional organizations. For example, not all ACSM certificates require a college degree or apprenticeship-type experience (see Figure), and only Louisiana requires licensure for the clinical exercise physiologist.[21] Although healthful eating may be required as part of the action plan to meet the goals of many clients of ACSM certificants, requirements for nutrition education and training vary among the ACSM certificates. For example, ACSM Certified Personal Trainers require a high school diploma and cardiopulmonary resuscitation certification, while other certificates, such as the Registered Clinical Exercise Physiologist, require an exercise physiology degree (Figure), indicating that at least one nutrition course has been completed. Referral to an RDN for healthful eating guidance is preferred when clients require more than general healthful eating information, such as that based on the 2015-2020 Dietary Guidelines for Americans.[2] Due to the variation in the certificates, there is no defined SOP that covers all ACSM certificants; ACSM instead provides separate eligibility requirements and job task analyses for each certification (see Figure). Therefore, the limits that exist for ACSM certificants when discussing healthful eating are inconsistent across certifications.

Licensure laws and SOP documents published by professional organizations, like the Academy and ACSM, are meant to ensure that RDNs and exercise professionals have met a set of knowledge and skill standards and abide by codes of conduct.[7] Litigation against RDNs or exercise professionals who are practicing out of their SOP does occur and can result in multimillion dollar settlements.[22-24]

CONDUCTING THE SURVEY

Survey Development

A 2015 online survey was developed based on a previous survey[5] and relevant new questions developed by content experts (the authors). The original survey[5] used phone-based methodology; thus, substantial revisions were made to transition to an online survey and to add new topic areas. The survey was approved by the American Academy of Family Physicians Institutional Review Board.

Survey Population and Data Collection

In June 2015, the survey was sent to 25,947 ACSM certificants and 54,258 Academy members, with a reminder sent 10 days after the initial invitation. Respondents read and agreed to a consent statement on the first page of the survey; entering the next page of the survey implied consent. As an incentive, respondents were offered the opportunity to enter a drawing for one of four $100 Amazon.com gift cards. Overall, 6,779 responses were received; 4,965 Academy collector (9.1% response rate) and 1,814 ACSM collector (7.0% response rate). The respondents used in the main analysis were those who reported the RDN credential (n=3,715) or one or more ACSM certificates (n=1,759). Respondents removed from the main analysis were students (n=1,157) or those reporting credentials in both categories (n=148).

Statistical Analyses

Respondents were further grouped based on ACSM certificates that do (n=5) and do not (n=7) require a degree (Figure). Those ACSM certificates requiring an undergraduate degree were considered more similar to the RDN credential. Thus, statistical comparisons were made between two sets of groups: RDN vs all ACSM certificant respondents (hereafter, ACSM-all), and RDNs vs respondents with ACSM certificates requiring a degree (hereafter, ACSM-degree requiring).

After answering demographic questions and questions regarding SOP familiarity and attitude, respondents were asked to self-identify where they spent the majority of their time: 1) educating new practitioners (educators), 2) counseling patients (counselors), or 3) neither. Only counselors were asked about their practices in providing advice or referrals to clients.

The χ^2 test of independence was used to assess associations for categorical