CONTINUING EDUCATION PREFERENCES OF REGISTERED DIETITIANS IN OKLAHOMA

By

BRENDA SUSAN CRENSHAW

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CONTINUING EDUCATION PREFERENCES OF REGISTERED

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Thesis Approved:

Esther Winterfeldt
Thesis Adviser

Dee L Ekro

Margaret Ann Berry

Sue Knight

Norman N. Durham
Dean of the Graduate College

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CHAPTER I

INTRODUCTION

Knowledge is expanding at an ever increasing rate. Failure to expand one's own knowledge past the college degree is guaranteed obsolesence for any professional. Hunscher (1, p. 117) states, "Continuing competency depends on continuing education at any stage of education or experience." In addition, she emphasizes that "Continuing education is not simply keeping up with new findings. It involves acceptance of the principle of lifetime learning even to the end of the life cycle" (p. 118).

There are three fundamental components of continuing education (CE). These are: maintaining current competencies, attaining higher levels of competency and attaining competencies in new areas. Professionals in health care cannot be satisfied with minimum levels of competency. Higher levels of competency are needed to provide leadership and to improve performance. Hunscher (1) suggests that CE is one method for attaining new competencies:

> The original professional education (Plan IV and the qualifying experience) brings the individual only to the first stage of competency. Thereafter, experience and continuing education are requisites for excellence of performance and leadership (p. 116).

In 1964, Stabb (2) also emphasized the need for advanced study at frequent intervals throughout the adult life in order to attain a higher level of competency. The American Dietetic Association's (ADA)

Position Paper on Continuing Education (3) addresses the importance of CE. (Continuing education) is "an extension of the dietitian's field of knowledge which may prepare her for assuming greater professional responsibilities" (p. 289).

With the explosion of knowledge and changes in the health care field, dietitians must gain expertise in new areas. Hart (4, p. 615) states: "To move to new roles and functions dietitians well grounded in nutrition and other sciences will need to change fields." CE is essential for dietitians to develop competencies to fill these new roles and functions.

As discussed, CE is essential for the professional dietitian. In 1969, the Committee on Professional Registration of the ADA initiated the program requiring 75 clock hours of CE: these hours were to be earned within a five year period in order to maintain registration (3). The ADA made it the responsibility of the individual dietitian to develop an effective continuing education plan. This responsibility is emphasized in the ADA Position Paper on Continuing Education (3):

> The dietitian recognizes that continuing education is an essential element of professional competence. Each dietitian has the responsibility to evaluate her own educational needs and to initiate a plan for self-development. The individual accepts the responsibility for determining the value of an educational activity in terms of her own needs . . . The ADA shares the responsibility for continuing education of its members. Primarily, self-development is the members' commitment to the realization of her professional goals (p. 289).

CE programming must be provided in subject areas of professional need at times when dietitians are available. Otherwise, the objectives to retain and improve competencies are not achieved and the professional development of the dietitian is stifled.

Purposes and Objectives

Continuing education is a requirement and a necessity for maintaining professional status as a dietitian. The state and district dietetic organizations can assist the dietitian in attaining personal CE goals by providing programming in needed topic areas at a time when the dietitian can attend professional meetings. Therefore, this study was completed in order to assess the CE needs of registered dietitians in Oklahoma and to provide a basis for suggestions and recommendations for developing CE programming at the state and local levels in Oklahoma. The specific objectives included:

1. To identify a profile of registered dietitians in Oklahoma. The profile included demographic characteristics, educational background, employment and route to membership in the ADA.

2. To determine preferred continuing education topics.

3. To determine preferred delivery system for continuing education.

4. To determine if a relationship exists between preferred continuing education topics and age, area of practice of the dietitian, years of experience as a dietitian, highest degree earned, and route to registration.

5. To determine if a relationship exists between preferred delivery system and age, area of practice of the dietitian, years of experience as a dietitian, highest degree earned, and route to registration.

Hypotheses

The hypotheses postulated in this study were as follows.

H_1: There will be no significant relationship between preferred continuing education topic area and age of the respondent.

H_2: There will be no significant relstionahip between preferred continuing education topic area and area of practice of the dietitian.

H_3: There will be no significant relationship between preferred continuing education topic area and years of experience as a dietitian.

H_4: There will be no significant relationship between preferred continuing education topic area and highest degree earned.

H_5: There will be no significant relationship between preferred continuing education topic area and route to registration.

H_6: There will be no significant relationship between preferred delivery system and age of respondent.

H_7: There will be no significant relationship between preferred delivery system and area of practice of the dietitian.

H_8: There will be no significant relationship between preferred delivery system and number of years of experience as a dietitian.

H_9: There will be no significant relationship between preferred delivery system and highest degree earned by the respondent.

H_{10}: There will be no significant relationship between preferred delivery system and route to registration.

Limitations of the Study

1. The sample was limited to registered dietitians in Oklahoma.

2. The preferences expressed by the registered dietitians are applicable to Oklahoma as well as other states similar in size, population and geographic region.

Assumptions of the Study

1. Information about the preferences for continuing education topics and delivery systems of registered dietitians in Oklahoma could provide a basis for suggestions and recommendations for continuing education programs for dietitians in Oklahoma.

2. The questions were answered truthfully by the respondents.

Definitions

Continuing Education (CE): "Education of the individual beyond basic preparation for the profession of dietetics." It "is related to one of the four areas of dietetics professional expertise: administrative, education, nutrition care and research" (5, p. 2).

American Dietetic Association (ADA): "A professional organization responsible for establishing educational and supervised clinical experience requirements and standards of practice in dietetics" (6, p. 66).

Oklahoma Dietetic Association (ODA): A professional organization consisting of persons residing or working in Oklahoma who are members of the American Dietetic Association (7).

Registered Dietitian (R.D.): "A term applied to persons who possess educational qualifications, work experience, and license or certificate for employment in various fields of dietetics, such as research, consultation, administration, community, and clinical. Classifications are made according to a specialized area of employment as Clinical Dietitian, Consultant Dietitian, and Research Dietitian" (8, p. 7).

Licensed Dietitian: An ADA registered dietitian who is licensed by the state after meeting a specified set of criteria.

Clinical Dietitian: "A member of the health care team" who "affects the nutritional care of individuals and groups for health maintenance" (6, p. 63).

Administrative Dietitian: "A member of the management team" who "affects the nutritional care of groups through the management of food-service systems that provide optimal nutrition and quality food" (6, p. 64).

Community Dietitian: "A registered dietition with specialized community dietetic preparation" who "functions as a member of the community health team in assessing nutritional needs of individuals and groups" (9, p. 470).

Consultant Dietitian: "A registered dietitian with experience in administrative or clinical dietetic practice" who "affects the management of human effort and facilitating resources by advice or services in nutritional care" (6, p. 64).

Teaching Dietitian: "A registered dietitian with advanced preparation in dietetics or education" who "plans, conducts and evaluates educational programs in one or more dietetic subject matter areas" (6, p. 65).

Competency: "Minimum knowledge, skills, affective behavior, and/or judgment which a person is certified to possess on a set of criteria and level of expectations" (10, p. 134).

Preference: A giving of priority or advantage of one option over others (11).

Delivery System: Mode of providing continuing education including type of program, length of time, and time of day. Type of program can include: self-directed study, workshops, conferences, conventions and college courses for credit or non-credit.

CHAPTER II

REVIEW OF LITERATURE

Because the body of knowledge in the field of dietetics is continually growing, it is difficult for the dietitian to simply keep up. In order to expand one's knowledge an intense effort is required. The ADA acknowledges this need for continuing education with its requirement for 75 hours every five years. This literature review will discuss several aspects of education and the registered dietitian. Included are:

1. The development of education in dietetics.
2. The development of continuing education in dietetics.
3. The registered dietitian.
4. The Oklahoma Dietetic Association.
5. Continuing education studies.

The Development of Education in Dietetics

Since its inception as a professional organization in 1917, the ADA has had several plans of study for educating dietitians. In 1927, the "Outline for Standard Course for Student Dietitians" was approved (12). This outline required that a student entering an internship have a bachelor's degree in foods and nutrition from a recognized university. The areas of study included administrative practice, diet therapy and teaching.

In 1931 the Education Section of the ADA specified course requirements for membership. In 1947, after several additional revisions, Plan I Academic Standards was approved. Plan II, which required a total of 60 hours from four subject areas, was approved in 1955 (12). Plan III was adopted on November 1, 1958 (13). This plan replaced a list of required course titles with less specific subject areas of learning. A core of courses with a minimum of 22 hours was required by everyone. Each student chose an area of emphasis with a minimum of nine hours and a concentration area that had a minimum of 15 hours.

The most recent plan, Plan IV Minimum Academic Requirements for ADA Membership, was adopted in 1972 (14). Specific courses are not required in Plan IV; rather, basic competencies in specified knowledge areas must be attained. The areas of subject emphasis include: physical and biological sciences, behavioral sciences, and communication sciences. This change permitted flexibility for the various institutions in the development of curricula and courses for dietetics.

The development of the educational format for becoming a dietitian has been traced. The ADA has continued to develop its educational program through the work of several other committees and task forces. In 1969, the Goals of the Lifetime Education of the Dietitian were published in the February issue of the Journal of the American Dietetic Association by the Committee on Goals of Education for Dietetics, Dietetic Internship Council, the ADA (15).

> The Committee believes that this set of lifetime goals of the dietitian has some valuable contributions to the profession of dietetics:
>
> (a) It has identified the unique role of the dietitian as being nutritional care. Every profession must identify its own unique contribution. The goals perform this function for our profession.

(b) It denotes qualities that beginners in the profession should have attained to some degree and that should continue to grow with experience. It is recognized that some individuals may arrive at various degrees of progress toward the goals at different times in life.

(c) It constitutes a pattern for progressive future efforts in educational programs, and it provides a guide for individual self-improvement.

(d) It stresses an attitude of progressive development of the profession and its members with the changing environment, knowledge, and health care programs (p. 91).

In 1971, the ADA published a Position Paper on Education for the Profession of Dietetics (16). Emphasis was placed on the explosion of knowledge in our society and the constantly changing role of the dietitian and preventive nutrition. Speciality areas were defined and it was proposed that sub-speciality areas be refined. In order to qualify for advancement in the profession, it was proposed that both an advanced degree and experience under the guidance of a specialist be required.

The Study Commission on Dietetics (13) published its recommendations in 1972. The first recommendation was for a four year curriculum providing both didatic learning and introductory clinical experience. The concept of specialities in the practice of dietetics was promoted in the sixth recommendation of the committee. Proposed were the Council on Dietetic Practice, the Council on Dietetic Education, the Council on Dietetic Research, and the Council on Communication.

In 1978, the Report of the Task Force on Competencies, Council on Educational Preparation, in the ADA, was published (17). The charge for this task force was "to develop a conceptual framework for the profession of dietetics that would serve as essential preliminary work for competency based education" (p. 281).

Several recommendations were made by this task force (17): (1) a master plan should be designed to assure the development of quality practitioners, (2) a conceptual framework should be designed to serve as a basis for standards of education, practice and continuing education, (3) a research and development program should be supported to guarantee that the standards of education, practice and continuing education meet the needs of a dynamic society, and (4) all programs, both existing and proposed, should meet the standards of education for preparing students as dietitians.

As a result of these recommendations, the Conceptual Framework Committee was formed in 1979 to develop a statement of mission and philosophy for the profession, a definition of practice, and a statement of mission for the Association (18). A further development following the report of the Task Force on Competencies was the completion of role deliniation studies for Clinical Dietetics, Foodservice Systems Management, and Community Dietetics. These studies describe the roles and responsibilities of entry-level dietitians in each of these areas (19, 20, 21).

The most current recommendation for education has come from the Task Force on Education, formed in May, 1982, to examine the role of education within the Association and the profession (18). They presented four primary recommendations.

1. All entry level dietitians should be taught a common body of knowledge, skill and values in order to provide the foundation for quality practice at entry level and advanced levels. The thrust of this recommendation is to remove from standards and evaluation the concept of emphasis or specialization in entry level preparation. The common foundation of knowledge, skills, and values is considered to be minimum: therefore, programs preparing entry-level practitioners are encouraged to extent their own program goals beyond the minimum.

2. A system should be established to recognize dietetic specialities. In this context, dietetic specialties means practice at an advanced level requiring additional expertise (knowledge and skills) beyond that defined for entry level.

3. The American Dietetic Association should continue to accredit and approve entry-level programs to assure quality in dietetic education.

4. The functions of the education related to preparation for dietetic practice should be housed within one organization unit, combining the activities of the current Council on Education and Commission on Accreditation (p. 209).

Since its inception as a professional organization, the ADA has had a plan for the education of dietitians. Since 1969, the plan for education has included the requirement of continuing education for all dietitians.

The Development of Continuing Education in Dietetics

The American Dietetic Association (3, p. 289) defines continuing education as "that which follows the basic preparation for the profession of dietetics and recognizes that this is a lifelong process."

The objectives of continuing education are:

(a) To enhance the knowledge of the individual member, thereby improving competency.

(b) To enable the individual member to contribute to the advancement of the profession of dietetics (3, p. 289).

The reasons for making continuing education a part of one's professional life have been discussed in Chapter I.

The Revised Guidelines for Continuing Education for the Registered Dietitian expressed the philosophy of the ADA regarding CE (22). Each dietitian is responsible for a personal program of CE that is designed to:

1. Update knowledge of technological and professional development in the field.

2. Provide opportunities for interdisciplinary learning.

3. Extend the spectrum of professional capabilities and opportunities.

4. Facilitate personal contributions to the advancement of professional dietetics (p. 2).

As with education in general, the ADA has been involved with CE for many years. In 1955, Bessie Brooks West was employed by the ADA to be its Continuing Education Services Director. By 1959, both state and district dietetic associations were actively attempting to provide CE opportunities for its members (23).

The concept of education as a lifelong process occurred and reoccurred in the ADA Journal throughout the 1960's. Hunscher (1) and Stabb (2) both addressed this concept. Robinson (24) addressed life-time learning as well as self-directed learning. In 1964, Patterson (25) recommended a more clearly defined plan for CE. She also emphasized the need to adjust dietetic education to social changes. When, in 1969, the members of the ADA accepted CE as one requirement for maintaining registration in the Association, it became one of the first organizations to make CE a part of the standard of practice (23).

In its 1972 Report on the Profession of Dietetics, the committee discussed the emphasis of the ADA on CE by reporting the many educational activities it provided for CE credit (13). In 1972, Todhunter (26) emphasized the need for a wide variety of CE activities to meet the needs of all members of the ADA. She recommended seminars, workshops, summer sessions and conferences whenever possible. Alternatives included programmed instruction, tapes, videotapes, and teleconferences.

In 1977, Boissoneau (27) pointed out several objectives that needed to be met for CE programs. They included: quality, reasonable cost, personal fulfillment, diversity, comprehensiveness, and accessibility. If a program was low in quality, cost too much, or was not accessible, then it could not broaden the knowledge base of the dietitian. According to Boissoneau (27, p. 50), "the most important criterion in evaluating educational activities is whether it helped practitioners become more effective in their work."

In the previous section, the work of several committees and task forces was discussed. CE was an aspect of these studies in almost every case. When CE became a requirement for maintaining membership in the ADA, a set of criteria defining CE was established.

The general criteria for all CE in dietetics was stated in the Revised Guidelines for Continuing Education for Registered Dietitians (22):

> Content should apply to the field of nutrition and dietetics. It should extend the expertise in the professional practice of administration, education, nutrition care and research. It may update knowledge in the field or teach a new technique or skill related to the field (p. 2).

Another set of criteria has been established for the personal assessment of CE hours (22). This criteria emphasized the individual's responsibility for evaluation of CE activities. It recommended that the individual evaluate whether the experience had advanced knowledge or expanded expertise. Finally, a recommendation was made that each individual assess the number of CE hours obtained using the guidelines established by the Committee on Professional Registration.

For most activities prior approval of the activity is required. This includes lectures and addresses, workshops and conferences,

seminars, study groups, and exhibits. Subsequent approval can be granted for lectures and addresses, workshops and conferences, seminars, publications, grand rounds, academic courses, self-study materials, and exhibits. The appropriate procedures must be followed in all cases for approval of CE hours to be granted.

The Registered Dietitian

A registered dietition is:

> A specialist educated for a profession responsible for nutritional care of individuals and groups. This includes the application of the science and art of human nutrition in helping people select and obtain food for the primary purpose of nourishing their bodies in health or disease throughout the life cycle. This participation may be in single or combined functions; in foodservice systems management; in extending knowledge of food and nutrition principles; in teaching these principles for application according to particular situations; or in dietary counseling (6, p. 63).

On June 1, 1969, a voluntary program of professional registration was initiated by the American Dietetic Association (28). It was "designed to assure continuing competency of dietitians, guaranteed by evidence of self-improvement through continuing education" (28, p. 616). At that time a grandfather clause allowed ADA members to become registered on application and fee payment. Requirements for registration became:

1. Membership in the American Dietetic Association.
2. Successful completion of a written exam.
3. Annual payment of a registration fee.
4. Completion of 75 clock hours of continuing education every five years (28, p. 616).

Membership in the ADA was later eliminated as a requirement.

Current Requirements for Registration

The current requirement, Plan IV Minimum Academic Requirements, was already present at the time of this study (29). Each college or university submits a program to meet the Plan IV requirements. Individuals then submit their coursework through a university with an approved Plan IV program.

There are several methods to obtain the required practical experience for registration (29). The accredited Coordinated Undergraduate Program integrates coursework and practical experience. The alternative methods for experience follow the educational experience. These include an accredited dietetic internship, an approved three year pre-planned work experience preceded by associate membership in the ADA or an advanced degree in nutrition or related area with six months full-time or equivalent qualifying experience. The dietetic traineeship was a previous method for practical experience but was phased out in 1980.

Two endorsements are also required for registration (29). Endorsers must have three years experience as registered dietitians and must be members of the ADA. They are familiar with the educational program or experience of the applicant and certify that the requirements for membership are met.

Area of Practice of Dietitians

Five areas of practice of dietitians will be discussed here. They include: the administrative dietitians, the clinical dietitian, the community dietitian, the teaching dietitian, and the consultant dietitian.

> The administrative dietitian, R.D., is a member of the management team and affects the nutritional care of groups through the management of foodservice systems that provide optimal nutrition and quality food (6, p. 63).

The responsibilities for this position include among others:

1. Coordinates and integrates clinical and administrative aspects of dietetics to provide quality nutritional care.

2. Develops short- and long-range departmental plans and programs consistent with departmental and organizational politics.

3. Plans, develops, controls and evaluates foodservice systems.

4. Manages and controls fiscal resources and recommends budget programs.

5. Establishes and maintains standards of food production and service, sanitation, safety and security (6, p. 64).

The ADA Position Paper on the Administrative Dietitian emphasizes that the administrative dietitian is best suited to direct a complex foodservice system. This type of dietitian has developed skills in meeting the nutritional needs of individuals and in managing human and material resources (30). The administrative dietitian's skills are technical, human and conceptual. The position paper further emphasizes that advanced education in management will be necessary as the dietitian moves into positions that require higher levers of conceptual management skills.

> The clinical dietitian, R.D., is a member of the health care team and affects the nutritional care of individuals and groups for health maintenance. The clinical dietitian assesses nutritional needs, develops and implements nutritional care plans, and evaluates and reports these appropriately. When functioning in an organization that provides foodservice, the clinical dietitian cooperates and coordinates activities with those of the department's management team (6, p. 64).

An extensive role deliniation study for the clinical dietitian was carried out in 1980, "to present in detail the sum total of

activities, responsibilities, and patterns of interaction associated with a given position" (31, p. 257).

The scope of responsibility of the clinical dietitian includes:

1. Responsibility for management and delivery of comprehensive nutritional care service.

2. Clinical dietitians are accountable for the systematic organization of programs and services to assure availability of clinical nutrition services for promotion of health, prevention of disease and provision of dietary treatment for all patients/clients.

3. Clinical dietitians are responsible for providing comprehensive nutrition services as an integral component of health care.

4. Nutrition education for patients/clients, physicians, medical students, nurses, allied health professionals, dietetic students, and dietary personnel.

5. The registered dietitian oversees the assessment, planning, and evaluation of individual patients/clients. The clinical dietitian is also responsible for planning, implementing, and evaluating the overall system of nutritional care of services within an agency or institution (31, p. 258).

The community dietitian, R.D., is a dietitian with specialized community dietetic preparation, who functions as a member of the community health team in assessing nutritional needs of individuals and groups. The community dietitian plans, organizes, coordinates and evaluates the nutritional component of health care services for the organization (9, p. 470).

Nutrition education is one of the tasks of the community dietitian. Nutrition education:

> . . . is the process by which beliefs, attitudes, environmental influences and understanding about food lead to practices that are scientifically sound, practical and consistent with individual needs and available food resources (32, p. 429).

The ADA holds the position that nutrition education should be available to all people throughout the life cycle. In addition, efforts should focus on nutritional health, not crisis intervention (32).

> The teaching dietitian, R.D., has advanced preparation in dietetics or education, and plans, conducts and evaluates educational programs in one or more dietetic subject matter areas (6, p. 65).

The teaching dietitian

1. Develops curriculum, including courses to meet the needs of the student.
2. Plans, conducts and evaluates the educational experiences for dietetic, medical, dental, nursing, and other allied health students and clients.
3. Guides and evaluates student performance.
4. Plans and conducts orientation and in-service educational programs for the organization's personnel.
5. Prepares, evaluates and utilizes current educational methodology and instructional media to enhance learning experiences of students (6, p. 65).

> The consultant dietitian, R.D., has experience in administrative or clinical practice, and affects the management of human effort and facilitating resources by advice or services in nutritional care (6, p. 64).

Their responsibilities involve a combination of those already described, differing according to the area of practice.

The Oklahoma Dietetic Association

The Oklahoma Dietetic Association (ODA) is a professional organization consisting of persons residing or working in Oklahoma who are members of the ADA (7). The objectives of this association are:

1. To improve the nutrition of human beings.
2. To advance the science of dietetics and nutrition.
3. To promote education in these allied areas (7, p. 1).

Membership

The membership of the ODA is divided into eight classes: Active, Life, Retired, Inactive, Associates, Junior, Technician, and Honorary (7). These classes of membership correspond to the same classes of membership that were effective in the ADA until June 1, 1984.

Currently there are 594 members in the ODA. This includes 454 regular members and 140 non-registered members.

The Organizational Chart

The organization of the ODA is structured as displayed in Figure 1.

Clinical Dietetics Survey

A two-part survey of ODA members was begun in 1983 (33). The purpose of Part I of the study, Clinical Dietetics and Research Committee Part I Survey, "was to facilitate ODA's approach to employ long range, futuristic planning to further develop and enrich dietetic practice in Oklahoma" (33, p. 1).

Part I of the survey was mailed to all members receiving the Sooner Dietitian for the purpose of developing a data base for planning future CE activities. One-hundred six of the surveys (26%) were returned. The results of the survey indicated that the largest percentage of the respondents were 25-30 years old, female, and held a bachelor's degree with no plans for post-graduate studies. Their route to registration was via the dietetic internship. In addition, most had practiced 0-5 years, currently worked in a hospital or clinical setting, and were primarily responsible for clinical or nutritional care. The dietitians were actively involved in the ADA,

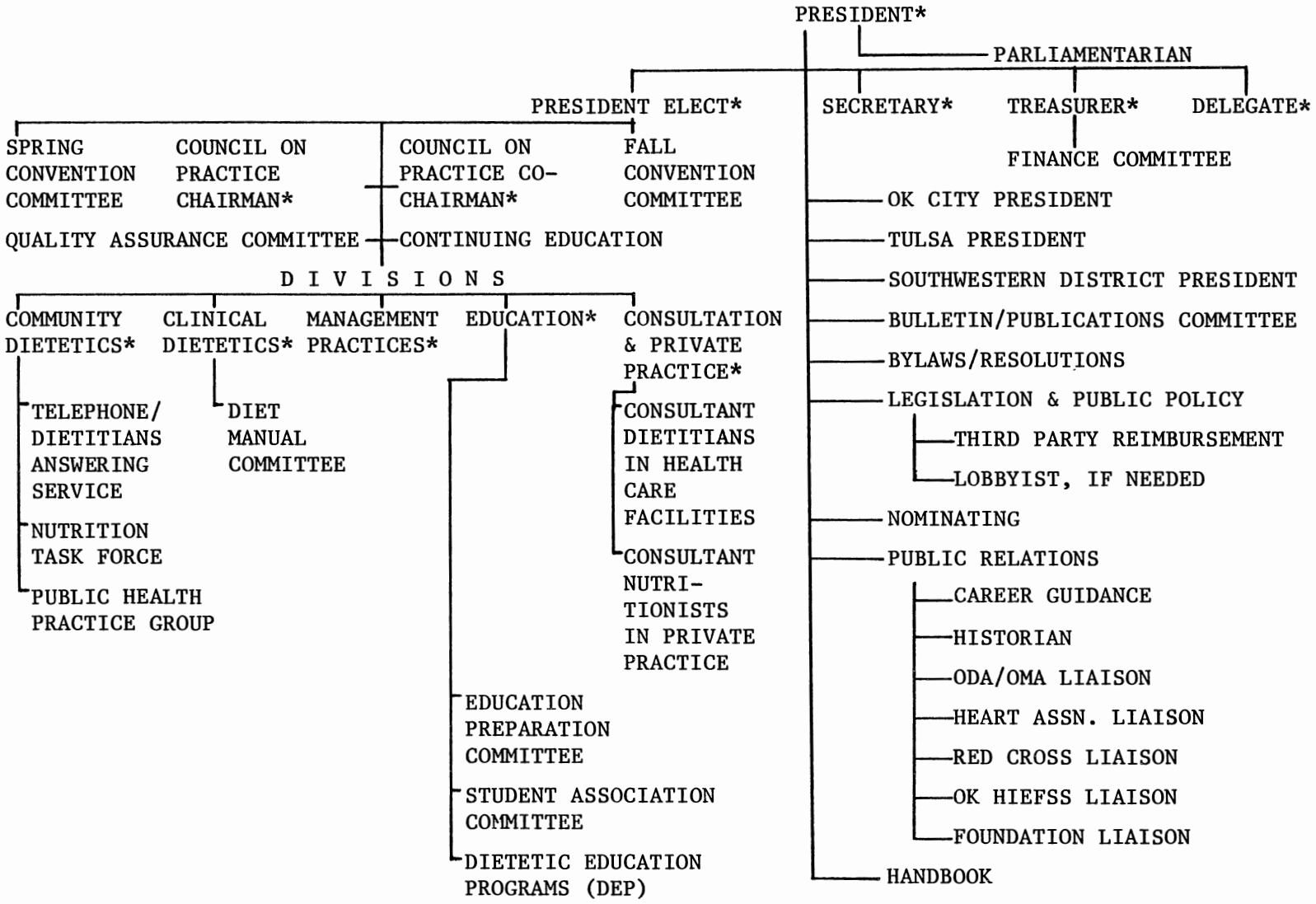

Figure 1. The Oklahoma Dietetic Association

the ODA or local associations. Most did attend state meetings but not national meetings. Lastly, most of the dietitians had over 75 hours of CE accumulated for their current five years interval. Part II of the survey is being developed and will be directed toward a clearer view of the clinical dietitian in Oklahoma.

In 1982, Faye (34) conducted a functional analysis and continuing education needs assessment of consultant dietitians in health care facilities in Oklahoma. The three highest areas of need for CE indicated in this study were adapting to the health care facility, quality assurance, and organization and management.

Education, the registered dietitian, and the state dietetic association have now been discussed. The following sections will deal with actual studies that have been conducted in the area of CE.

Continuing Education Studies

Many studies have been done to identify CE needs of dietitians, to evaluate CE methods, and to evaluate the dietitian's commitment to CE. Needs assessments, alternatives to needs assessments and CE in other health care professions will be discussed here.

Needs Assessments

Several needs assessments have been conducted to identify the perceived CE needs of dietitians. One such study was conducted in Ohio with 897 dietitians in the sample (35). The findings of this study indicated that the need for professional knowledge was perceived to be greater than the needs for behavioral, communicative, and socio-cultural sciences. CE experiences in managerial and nutritional skills

were thought to be most directly related to professional practice. Technical and human ability were rated at higher need levels than skills in conceptual ability. Lastly, nutritional knowledge rather than application was considered a higher need.

Fisher (36) compared the CE needs of consultant dietitians in Ohio with the results of Faye's study of consultant dietitians in Oklahoma. The Ohio dietitians ranked adapting to the facility as a very important need. The two areas, quality assurance and nutritional care and organization and management, were also ranked as important areas for CE. These three areas were the same areas that consultant dietitians in Oklahoma considered important.

A study in four upper midwestern states was conducted by Eisele (37) at the North Dakota State University. The purpose of the study was to assess CE needs, to identify topics perceived as important for CE, and to determine present and future CE activities. The greatest need for CE was perceived to be in nutritional care sciences. The dietitians expressed a willingness to attend CE programs on their own time if the topic was relevant to their needs. The preferred CE activities included state and district meetings and workshops, college or university workshops, conferences, and seminars.

The assessment of CE preferences in Illinois was also conducted (38). Illinois Dietetic Association members were surveyed in March, 1981, to maximize the effectiveness of and attendance at CE programs. Ninety percent of the respondents were registered dietitians, of which 99 percent were women and 68 percent were married. Most (75%) of the registered dietitians obtained ADA membership via the internship route. The highest degree earned by 70 percent of the respondents was the

bachelor's degree while 28 percent earned a master's degree and one percent earned a doctoral degree. Most of the dietitians were employed full-time for less than five years at their current positions. The areas of practice of the respondents included: clinical dietitians (42%); foodservice administrators (19%); consultants (11%); and educators (8%).

The format and preferred topics were examined. The respondents most preferred lecture presentation (74%) or small group workshops (58%). The program length most often selected was a full day (63%) or half day (38%). The preferred time was Monday through Friday between 9 A.M. and 3 P.M. The optics chosen most frequently were nutrition-related and included obesity therapy, diabetes therapy, nutritional assessment, psychological-emotional aspects of abnormal food behavior, nutrition and aging, vitamin/mineral research, nutrition physiology, and food safety, additives and carcinogens. Topics not related to nutritional care that were of interest included teaching methods and devices and effective interviewing and counseling. There were significant correlations between CE topics and present position, age, number of years on the job, year of highest degree, and route to membership. The most significant relationship for preferred topic was present position (38).

Failure to attend meetings was related to location of the dietitian. For those outside the Chicago Metropolitan area, the most common problem was inconvenient location of the meeting. For those within the metropolitan area, lack of interest was the critical factor. As was indicated in other studies, most respondents were financially responsible for their own CE (38).

Alternative to Needs Assessment

An alternative approach to needs assessments for CE is being developed to bring the practitioner and educator together for the development of CE programs (39). The five-phase project has yet to be completed, but it has future implications. It will provide CE programs that meet documented needs as well as provide opportunities for dietitians to move from "actual" levels of practice to "appropriate" levels of professional practice.

Beginning with the August, 1982, issue of the ADA Journal (40) a self-study article has been provided for one hour CE credit. The article includes a self-assessment quiz which must be mailed to the ADA for the respondent to receive credit.

A meeting of the Continuing Education Club of the West Suburban Dietetic Association (41) is held monthly to ensure that the Cassette-A-Month subscription plan of the ADA is beneficial not only to individuals but also to groups. The format of these meetings has included the ADA cassette of the month, abstracts of related articles presented by the various members, and finally, a discussion by all members in attendance. These meetings provide two hours of CE credit.

In a second study, the Greater Seattle Dietetic Association experimented with a method for providing active participation in CE experiences (42). The format of the study group was divided into three sections: (1) problem modules based on case histories, (2) lectures from a physician and dietitian, and (3) small discussion groups. The classes were geared toward expanding the roles of dietitians. Evaluation of this method showed an increase of 14 percent in rating the

importance of competencies needed for the dietitian to function in an expanded role in health care.

In 1977 at the University of Chicago Hospital and Clinics, an attempt was made to provide a practicum for dietetic educators that would provide an update for their clinical experience (43). These educators were teaching courses that drew on clinical knowledge but none had had any recent clinical experience. The experience took the form of an intense one week pilot practicum. Although no formal analysis of the experience could be conducted, the subjective impression of the participants was that they were able to return to the classroom as more effective educators.

New modes of communication also have provided new avenues for CE. Examples include both telelectures and talk-back television. These methods provide CE opportunities to the dietitian who has difficulty attending seminars or taking coursework at the university. During 1973-1974, a monthly telephone-radio conference was conducted throughout the state by the University of Wisconsin (44). Each session contained a 30-40 minute presentation followed by a 10-15 minute question and answer period. This method provided CE hours for 51-61 ADA members. Comments from the participants indicated that the teleconferences provided an opportunity for dietitians in remote areas to hear qualified speakers.

In 1981, the University of Connecticut School of Allied Health Professionals (45) provided a talk-back television course at its six state-wide branches. In this course the lecture was pre-taped but the instructor was available for a question-and-answer period following the lecture. This was accomplished via television. This television

course was offered at a lower cost than when offered by the traditional lecture method. Eighty percent of the respondents rated this method as excellent or good and most said they would enroll in another talk-back television course. The major benefit of the course was reduced travel time and cost. Technical difficulties with the equipment presented the only major difficulty.

Another study was conducted to examine the effectiveness of the telelecture method (46, 47). Telelectures were aired for Missouri dietitians between October 12 and December 8, 1970. A two day workshop was conducted at both Kansas City and St. Louis at later dates. A comparison of the two methods of CE indicated that the telelecture was as effective as the workshop in providing CE for dietitians. Again, the benefit of professional interaction for dietitians in remote areas was mentioned.

An experiment was conducted by the ADA using satellite communication (48, 49, 50). When the satellite workshop was evaluated, 84 percent agreed that frequent satellite programs should be conducted and that they would attend them if offered again. The workshops were broadcast to Bethesda, Seattle, and Denver, and consisted of a workshop in finance management and one in patient nutritional assessment. In spite of some technical difficulties the satellite workshop was seen as a possible effective tool for CE.

The Division of Continuing Education in Nutrition and Dietetics at the University of British Columbia (51) provides traditional programs for CE as well as innovative programs. Two of these conducted were the Mobile Instructional Resource Centre Program (MIRC) and the Kellogg Project. The MIRC was developed to provide CE to rural areas.

A bus was converted to a mobile audio-visual CE facility. In one year MIRC visited 29 communities and served 833 health practitioners from 11 professions. A positive assessment was made by the nine dietitians who participated in this method of CE.

Another program, The Kellogg Project, was developed to prepare health professionals to become specialists in CE (51). Once trained, these professionals trained other health professionals in community organizations and institutions to develop CE programs. This CE project has now been funded by the Provincial Ministry of Education and there will be an increase in the number and types of programs available.

A study of metropolitan Chicago dietitians was conducted to examine learning activities and opinions concerning continuing professional learning (52). Results indicated that significantly more hours were spent in activities not eligible for CE credit: that mandatory CE was, therefore, not the major concern of the dietitians. The best predictor of participation in continuing professional learning was an advanced degree.

The CE experience and plans were studied by the ADA among hospital dietitians in mid-career (53). The dietitians usually attended CE seminars and workshops that related to their present dietetic practice areas. However, administrative dietitians attended sessions outside their practice areas more often than did clinical dietitians. The data reflect a strong commitment by the dietitians to CE as an attempt to maintain competence in their individual specialties. One limitation to attending CE programs was lack of support by employers; over 50 percent of employers provided less than $200 annually for CE, and another 15 percent providing less than $50 annually.

Continuing Education--Other Health Professions

The interests and concerns expressed regarding CE involve not just the ADA but other health professions as well. The American Medical Association (AMA) and the American Board of Medical Specialties (ABMS) are both involved in CE for physicians (54, 55). Currently, 12 states have mandatory continuing medical education (CME) and 24 states have legislated CME for re-registration of license to practice medicine (54). The AMA has provided several opportunities for CME. It lists in its journal semi-annually CME opportunities available throughout the country. CME video cassettes are available for individual or group instruction. MINET, a computerized medical information system, developed by GTE Telenet in conjunction with the AMA provides an information retrieval system that supplies the physician with abstracts and bibliographies from more than 300 jounrals and periodicals pertinent to clinical practice. This system also provides CME programs for individualized learning based on simulated patient encounters.

The American Board of Medical Specialties (ABMS) is responsible for providing guidance and leadership to American medicine for quality and standards of practice (55). Its guidelines for recertification encourage CME activities by the physicians. The American Boards of Otolaryngology, Pathology, Family Practice, and Surgery all require CME for recertification. Even though recertification of physicians is voluntary for the Board of Obstetrics and Gynecology, this board has been particularly active in providing CME for its physicians. The American Board of Pediatrics/Academy of Pediatrics has planned a

comprehensive program of CME and evaluation for recertification including a new journal, the Journal of Continuing Education in Pediatrics.

Mandatory CE has been and continues to be an issue in the nursing profession (56). In 1978, only California and Kansas required CE for nurses. Eight other states have enacted laws for required CE in the 1980's. Several other states required CE in specified circumstances or had legislation pending. Most states required no more than 30 contact hours in two years for license renewal and several states allow credit for self-study. One of the basic questions among the states that have not yet accepted CE for nurses is whether or not CE leads to improved competency. Some alternatives include examination or visual simulation programs.

In 1978, a study was undertaken by Puetz (57) to ascertain whether or not mandatory CE is necessary for nurses to update their education. This study was compared with the results of a similar study completed in 1975. The results indicated an increase in CE attendance from 1975 to 1978. In both studies those nurses attending CE programs were younger, better educated, and worked full-time. They functioned in hospitals, schools of nursing, public health agencies, in acute care situations and had relatively high positions. Those who failed to attend CE programs were older, less well-educated, and employed in single nurse situations. They tended to work in a less acute or more long-term care area and in a relatively low-level position. The author concluded that those who most needed CE programs were least likely to take advantage of them even though they were

widely available. The results of this study were used to support the legislation for mandatory CE in Indiana.

The Medical Library Association (MLA) is another professional organization requiring CE for recertification (58). In 1978, the MLA began to require either 35 hours of CE activity or passing the current certification exam in order to be recertified. Acceptable activities include attendance at approved courses and workshops or several individual activities. The individual activities include such activities as teaching or developing an MLA CE course, developing a computer assisted instructional package, or publishing review articles, book reviews, or editorials in recognized journals or series.

The use of professional journals for CE was evaluated in a study by DeMuth and Weinswig (59). An accredited CE course for pharmacists was published in U. S. Pharmacist. A complete course consisted of ten lessons published during a one year period. Each lesson was followed with a 20 question multiplce-choice test which was mailed to the Extension Services in Pharmacy. A minimum score of 70 percent was required to receive credit for the lesson. The pharmacists in this study considered the course valuable and useful in communicating with other health professionals and consumers of their services. The response was positive for pharmacists regardless of the individual's practice setting, managerial position, or years of experience in pharmacy. The most positive response related to the convenience of this method of CE. The authors concluded that journal articles provide an economical way for professionals to earn their CE credit.

CE needs of physical therapists and occupational therapists were evaluated for knowledge and treatment of arthritis by Wickersham,

Fike, Rousseau, Boyer, Meredith, and Clay (60). Results demonstrated that both physical therapists and occupational therapists were interested in CE for arthritis and that preferred method was self-study. As a result, the Southwest Arthritis Center began to write and evaluate an arthritis self-study guide for practicing therapists.

CE could be difficult to obtain in states with a large rural population. In North Dakota, 77 percent of the hospitals are in cities with fewer than 15,000 population. A project was developed to meet the need for CE among laboratory workers (61). The program, LEND, Laboratory Education for North Dakota, included self-instructional packages, the Educational Telephone Network and University and regional workshops. Evaluation of this program demonstrated that LEND met the CE needs of laboratory professionals and had a significant impact on improving laboratory service in North Dakota.

Self-study for CE among medical records practitioners was evaluated for use on a nationwide basis (62). A self-instructional series, "Meeting Departmental Needs Through Budgeting" was used in this study. The material was considered to be both relevant and accessible by the participants in the study. The greatest reason for enrolling in the course was need for CE credit. This method was considered to be useful for practitioners employed in a variety of settings, for a variety of roles, and was not dependent on years of experience. Further studies on self-instructional units for medical records were undertaken at Ohio State University.

Five allied health professions were studied by Broski and Upp (63) to determine what these groups wanted from CE programs. Both content and delivery were examined. Dietitians, medical technologists, occupational therapists, and radiologic technologists were surveyed in the study. The categories chosen for CE in order of frequency included clinical skills, educational theory and techniques, management skills, communication skills, health care systems, and medical ethics. Preferred program characteristics were: one day in length, Saturday sessions, within 50 miles, and fees of less than $20 to be shared by the employer and professional. They preferred a focus on clinical skills specific to a single discipline. However, the potential exists for CE programs involving multiple professions due to a common interest in categories other than discipline-specific clinical skills. Reasons for not attending CE programs were similar to those reasons given among dietitians: distance, cost, no sanction from employer, and lack of interest.

Continuing Education--Cost Of

A study of allied health professions by Smorynski and Parochka (64) indicated that work conflict or lack of CE credit were probably greater factors inhibiting attendance at CE programs than was cost. Medical technologists, social workers, speech therapists, and dental hygienists were asked to rate ten factors influencing attendance at CE programs. Time, location, work conflict and CE credit were all rated as more important than the cost of the program.

The registered dietitian has been described above, including the education required to become an R.D. and the continuing education to

remain one. Many methods to provide needed CE have been developed and have been described. This study was an attempt to provide the necessary information to provide effective CE programming in Oklahoma.

CHAPTER III

PROCEDURES

The purpose of this study was to provide the bases for suggestions and recommendations for developing continuing education programming at the state and local levels in Oklahoma. This chapter describes the research design, the population, and instrumentation procedure, the data collection, and analysis used in this study.

Research Design

The design used in this study was survey research. This design was chosen because it is intended for analyses of data and not just as a fact-gathering method describing the status quo. Survey research is used for explanatory and analytical information to draw inferences from the sample to the whole population regarding the interrelations of variables. Also, it is used to obtain opinions and attitudes of respondents (65).

Definition of the Population

The population in this study was R.D.s in Oklahoma. The sample consisted of 478 registered dietitians. The names and addresses of the registered dietitians were obtained from the current membership list of the ODA.

Instrumentation

A questionnaire for the assessment of CE preferences of R.D.s in Oklahoma was developed by the researcher from the review of literature and a questionnaire adapted from the study by Cross (38). The questionnaire was constructed in four sections: Section I, Demographic Data; Section II, Preferred Program Content; Section III, Preferred Delivery System; and Section IV, Employment Data. Section I was designed to obtain demographic data such as age, sex professional association memberships and educational background. The professional associations included membership in national, state and district dietetic associations. Also included was the route to membership in the ADA.

Section II consisted of 73 topics listed in four subject categories. The subject categories were Nutritional Care Sciences (31 topics); Behavioral, Communicative, and Socio-Cultural Sciences (15 topics); Managerial Sciences (23 topics); and Other (4 topics). There was also an opportunity for respondents to add additional topics of interest. The responses were made on a three point Likert scale for rating preferences. These preferences were: little, some, and strong preference for a CE topic. The following points were assigned to the possible responses on the Likert scale: little preference = 1 point; some preference = 2 points; and strong preference = 3 points.

Section III consisted of two questions for indicating preferred format and length of program. The specific day of the week and the time of day preferred were also ascertained. The remaining questions related to: who paid for CE and why the respondent had or had not attended CE meetings in the past five years.

Section IV was designed to obtain employment data. The information requested included the area of practice, the number of years in that position, and employment status.

Pretesting

The questionnaire was mailed to five R.D.s employed in representative positions of dietetics: administration; clinical dietetics; education; the Indian Health Service; and the federally funded Women, Infants, and Children (WIC) Program. Each dietitian was requested to complete the questionnaire and return it with their comments about any questions that needed to be clarified. The necessary revisions of the questionnaire were made, after which the questionnaire was duplicated and prepared for mailing.

Data Collection

The questionnaire was mailed on Friday, June 7, 1984 to 489 dietitians in Oklahoma. A self-addressed stamped envelope was enclosed in an attempt to increase the response rate. A follow-up post card was mailed on June 21, 1984 to the 406 ODA members who had failed to respond at that time. Two hundred sixty-five questionnaires were returned (54%). Of those, 17 were not used. Eleven of the 17 unused questionnaires were inadvertently mailed to people who were not currently registered dietitians. Six of the questionnaires returned were incomplete. Two hundred forty-eight questionnaires were used in the analyses (52% of the 478 actual R.D.s).

Data Analysis

The data from the questionnaire were coded and keypunched onto computer cards for statistical analysis using the Statistical Analysis Guide (ASA).

Frequencies and percentages were determined for demographic data, program content, program delivery, and employment data.

Statistical analysis of variance (ANOVA) was the method for determining relationships between the preferred program topic area and selected independent variables. Kramer's adaptation of Duncan's New Multiple Range Test was a part of the ANOVA. Chi-square analysis was used to determine the relationships between preferred delivery system and the same selected variables used for program topic area.

Suggestions and recommendations for CE programming and delivery system for R.D.s in Oklahoma were based on the results of this study.

CHAPTER IV

RESULTS AND CONCLUSIONS

The purpose of this study was to assess the continuing education needs of dietitians in Oklahoma in order to provide a basis for suggestions and recommendations for developing CE programming for registered dietitians at the state and local levels. The specific objectives included: to identify a profile of registered dietitians in Oklahoma, to determine preferred CE topics and delivery system for CE, to determine if a relationship exists between preferred CE topics and selected demographic variables, and to determine if a relationship exists between delivery system and selected demographic variables. The data were obtained by mailed questionnaire to all R.D.s in Oklahoma. Fifty-four percent of the questionnaires were returned and 52 percent (N=248) were used in the data analysis.

Characteristics of the Respondents

Two hundred forty-five (99%) of the respondents were female and only three (1%) were male. There were no dietitians less than 21 years of age. Forty-six (19%) ranged from 21-29 years, 81 (33%) were 30-39 years, 49 (20%) from 40-49 years, 43 (17%) from 50-59 years, and 29 (12%) were 60 or more years of age (Table I).

One hundred percent of the respondents were R.D.s as specified by the study design. Two hundred forty-seven (100%) were members of

TABLE I

CHARACTERISTICS OF REGISTERED DIETITIANS IN OKLAHOMA

Demographic Variables	Frequency	Percent
Sex		
Female	245	99
Male	3	1
	248	100
Age		
Under 21 years	-	-
21-29 years	46	19
30-39 years	81	33
40-49 years	49	20
50-59 years	43	17
60+ years	29	12
	248	101*
Membership in the ADA		
Yes	247	100
No	1	0
	248	100
Membership in a district dietetic association		
Oklahoma City	76	54
Tulsa	55	39
Southwestern District	10	7
	141	100
Highest degree earned		
Bachelor's	144	58
Master's	99	40
Doctoral	4	2
	247	100

*Due to the rounding off of numbers, totals will not always equal 100.

the ADA, with only one respondent not holding membership in the national organization (Table I). Oklahoma has three district dietetics associations and these are located in Oklahoma City, Tulsa, and the southwestern part of the state. One hundred forty-one respondents belonged to district organizations: 76 (54%) were members of Oklahoma City, 55 (39%) were members of Tulsa, and 10 (7%) were members of the Southwestern District (Table I).

Members utilized several routes to membership in the ADA. One hundred thirty-six (55%) gained membership via dietetic internship. The master's degree was the route to membership for 40 (16%) of the respondents. Thirty-two (13%) gained membership via the Coordinated Undergraduate Program (CUP). The remaining 39 (16%) gained membership via traineeship, three year pre-planned work experience, or other means (Figure 2). A bachelor's degree was the highest degree earned by 144 (58%) of the respondents, a master's degree was attained by 99 (40%) of the respondents, and a doctoral degree was completed by only four (2%) of the respondents (Table I).

More than one-half of the respondents, (N=127, 52%) were employed full time while one-fourth (N=61, 25%) were employed part-time in dietetics. Twenty-seven (11%) of the dietitians were unemployed. Less than 10% (N=22, 9%) were employed in a field other than dietetics; seven (3%) were retired and two (1%) were on leave of absence (Table II).

The length of employment was given in terms of full years. Seventy-four (30%) of the dietitians were employed from 1-5 years, 66 (27%) from 6-10 years, 60 (24%) from 11-20 years, 43 (17%) over 20 years, and four (2%) less than one year (Table II).

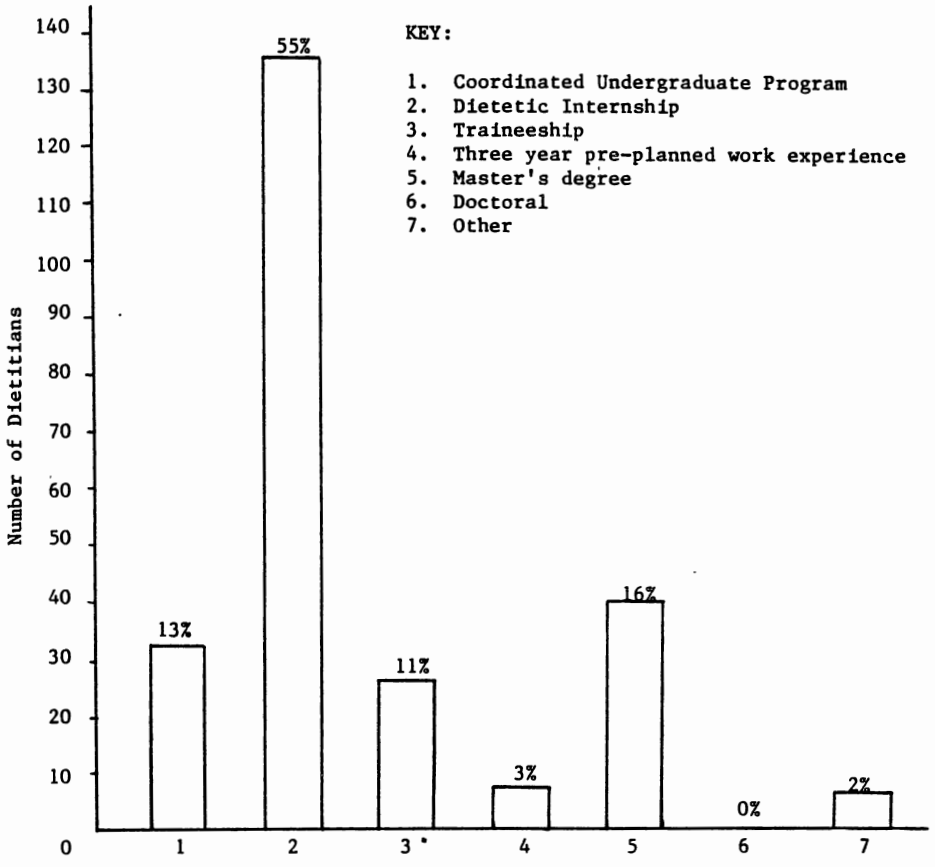

Figure 2. Route to Membership of Registered Dietitians in Oklahoma

TABLE II

EMPLOYMENT PROFILE OF REGISTERED DIETITIANS IN OKLAHOMA

Employment Variable	Frequency	Percent
Employment status		
Full time--Dietetics	127	52
Part time--Dietetics	61	25
Leave of absence--Dietetics	2	1
Unemployed	27	11
Field other than dietetics	22	9
Retired	7	3
	246	101*
Length of employment as a dietitian		
Less than one year	4	2
1-5 years	74	30
6-10 years	66	27
11-20 years	60	24
Over 20 years	43	17
	247	100

*Due to the rounding off of numbers, totals will not always equal 100.

The respondents indicated their area of practice by selecing one of 10 options. Seventy-six (30%) were in clinical dietetics, 61 (25%) worked in consultation, 30 (12%) worked in foodservice administration, 25 (10%) were in public health nutrition, 16 (16%) were in dietetic education, and eight (3%) were in business or industry. There were a total of 5 (2%) dietitians in each of the following areas of practice: community nutrition, research and school foodservice. Sixteen (6%) of the dietitians marked other areas of practice (Figure 3).

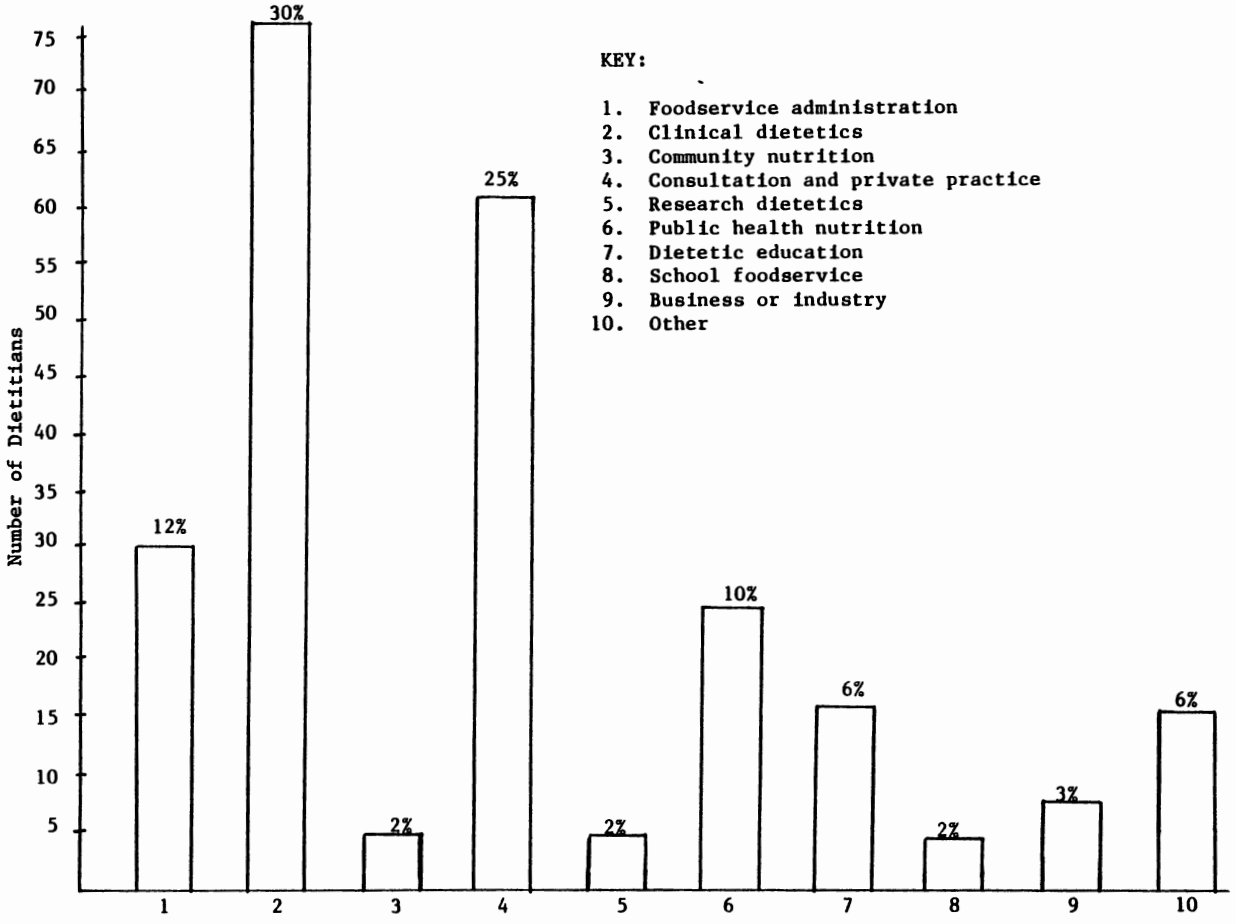

Figure 3. Area of Practice of Registered Dietitians in Oklahoma

Preferences of Registered Dietitians for CE Topics

In Section II of the questionnaire, respondents were to indicate preferences for CE topics by marking little, some, or strong preference for each topic. The four areas included were: nutritional care sciences (31 topics); behavioral, communicative, and socio-cultural sciences (15 topics); managerial sciences (23 topics); and other topics (4 topics). A complete table of the respondents selections was included in Appendix C. Table III presents a summary of the results describing the most and least preferred topics.

The greatest area of interest was expressed in the nutritional care sciences. There were 31 topics divided into normal nutrition (12 topics) and clinical nutrition (19 topics). Of the 31 topics, nine were selected by 40 percent or more of the respondents (Table III).

The highest degree earned and route to registration did not affect choices for normal nutrition topics. The variables that did significantly affect the choice for normal nutrition were: age ($p=.02$), years of experience ($p=.04$), and area of practice ($p=.05$) (Table IV). Duncan's Multiple Range Test for mean separation was used to determine the specific relationships. Because the group sizes varied greatly, from 3-79, Kramer's formula for adaptation of unequal group sizes was used for the computations (66).

The Duncan Multiple Range Test (Table V) demonstrated that respondents 21-29 years of age ($N=44$, $\bar{X}=26.52$) had a stronger preference for normal nutrition topics than did respondents 50-59 ($N=38$, $\bar{X}=24.45$), 40-49 ($N=45$, $\bar{X}=23.91$) and 60 or more years ($N=25$, $\bar{X}=23.89$). Respondents

TABLE III

SUMMARY OF PREFERENCES FOR CONTINUING EDUCATION TOPICS BY OKLAHOMA R.D.s (N=247)

Topics	Frequency	Percent
Nutrition Care Sciences--Strong Preference		
Obesity therapies	141	57
Computer in nutritional care	123	50
Diabetes therapy	116	47
Nutritional implications in aging	113	40
DRG's and the dietitian	106	44
Nutrition in heart disease	109	44
Nutrition and cancer	107	43
Drug-nutrient interaction	98	40
Psycho-emotional aspects of abnormal food behaviors	97	40
Nutritional Care Sciences--Little Preference		
Inborn errors of metabolism	109	44
Renal and transplant management	106	43
Developments in burn therapy	98	40
Behavioral, Communicative and Socio-Cultural Sciences--Strong Preference		
Effective interviewing and counseling	116	47
Teaching methods and devices	107	44
Behavioral, Communicative and Socio-Cultural Sciences--Little Preference		
Government sponsored nutrition programs:		
Food stamps	132	54
School lunch	125	51
WIC	122	50
Writing proposals for funded projects	149	50
Writing for publication	117	48
Socio-economic and cultural aspects of food habits	102	42
Managerial Sciences--Strong Preference		
Computer in food systems management	101	42
Auditing a dietetic service	91	37
Planning, budgeting and cost control processes	88	36

TABLE III (Continued)

Topics	Frequency	Percent
Managerial Sciences--Little Preference		
Equal opportunity and affirmative action	150	62
Administration management theory and organizational structure	133	56
Non-traditional food preparation and delivery systems	129	53
Facility design and space allocation	124	51
Food service system analysis	121	50
Employment recruitment, selection and orientation	117	48
Job descriptions and performance standards	108	44
Labor management relations	96	40
Other Topics--Strong Preference		
Licensure	91	38
Other Topics--Little Preference		
ADA Manpower Studies	137	57
Developing a private practice	101	42

TABLE IV

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR NORMAL NUTRITION TOPICS BY DEMOGRAPHIC VARIABLES

Source	df	Mean Square	F	p
Age	4	57.40	2.95	0.02
Error	228	19.40		
Total	232			
Years of experience	4	48.78	2.50	0.04
Error	227	19.52		
Total	231			
Area of Practice	9	37.23	1.91	0.05
Error	222	19.45		
Total	231			

Note: Data shown for significant findings only ($p \leq 0.05$).

TABLE V

DUNCAN'S MULTIPLE RANGE TEST FOR NORMAL NUTRITION TOPICS AND DEMOGRAPHIC VARIABLES*

Variable	N	Mean	Grouping
Age			
21-29 years	44	26.52	A
30-39 years	79	25.62	AB
50-59 years	38	24.45	B
40-49 years	45	23.91	
60 or more years	25	23.89	B
Years of Experience			
1-5 years	73	26.12	A
6-10 years	62	25.48	AB
less than 1 year	3	25.00	AB
11-20 years	56	24.16	B
more than 20 years	38	23.84	B
Area of Practice			
Community nutrition	5	29.80	A
Research dietetics	5	28.00	AB
School foodservice	3	27.33	AB
Public health nutrition	24	26.21	ABC
Clinical dietetics	74	25.35	ABC
Dietetic education	16	24.94	ABC
Foodservice administration	29	24.55	BC
Consultation and private practice	56	24.46	BC
Business or industry	6	24.00	ABC
Other	14	22.50	

Note: Means with the same letter are not significant different. Data shown for significant findings only ($p \leq 0.05$).

*Kramer's (66) adaptation for unequal groups was used for this test.

between ages 30-39 (N=79, $\bar{X}$=25.62) showed a stronger preference for normal nutrition topics than did respondents 40-49 (N=45, $\bar{X}$=23.91).

Area of practice also influenced preference for normal nutrition topics. The community dietitian (N=5, $\bar{X}$=29.80) had a greater preference for normal nutrition topics than did the foodservice administrator (N=29, $\bar{X}$=24.55), the consultant dietitian (N=56, $\bar{X}$=24.46), and the group of other area of practice (N=14, $\bar{X}$=22.50). The dietitian in business or industry (N=6, $\bar{X}$=24.00) did not differ significantly from the community dietitian. The research dietitians (N=5, $\bar{X}$=28.00), school foodservice dietitians (N=3, $\bar{X}$=27.33), and public health nutritionist (N=24, $\bar{X}$=26.21) all had significantly higher preferences for normal nutrition than did the dietitians in the other area of practice.

None of the variables was significantly related to the choice for clinical nutrition topics. This could be due to the fact that 88 percent of the respondents indicated general interest in the topic as a reason for attending a CE program (Table IV).

The clinical nutrition topics that were least preferred, such as inborn errors of metabolism, renal and transplant management and developments in burn therapy, are all specialty areas. Only a small percentage of dietitians would need expertise or CE in these areas.

The topics relating to normal nutrition were neither most preferred nor least preferred. There was, however, a stronger preference among dietitians from 21-29 years of age for normal nutrition topics than among those 40 or more years of age. In addition, dietitians with one to five years of experience had a stronger preference for normal nutrition than did those with 11 or more years of experience. These dietitians may still feel the need to expand their knowledge.

Foodservice administrators and most consultants function primarily in the area of management and do not have a great need for CE in normal nutrition. In contrast, community dietitians function in nutrition education as well as community nutrition programs where the emphasis is on normal nutrition; therefore, these types of dietitians needed a broader knowledge base.

Only two of the topics in the behavioral, communicative and socio-cultural sciences area were selected by 40 percent or more of the respondents. They included: (1) effective interviewing and counseling (N=116, 47%)and (2) teaching methods and devices (N=107, 44%). The topics least preferred included: Government sponsored nutrition programs--(1) food stamps (N=132, 54%), (2) school foodservice (N=25, 51%), (3) WIC (N=122, 50%), (4) writing proposals for funded projects (N=149, 50%), (5) writing for publication (N=117, 48%), and (6) socio-economic and cultural aspects of food habits (N=102, 42%). There were no significant relationships between the demographic variables and preference for behavioral, communicative, and socio-cultural science. This topic area is not as directly related to the dietitians' area of practice as is clinical nutrition topics or management topics. With limited time and money, perhaps dietitians prefer to attend CE activities that are more directly related to their area of practice.

The computer in food systems management was the only topic in the managerial sciences area which was selected by 40 percent or more of the respondents (N=101, 42%). Two others were selected by at least 34 percent of the respondents: auditing a dietetic service (N=91, 37%), and planning, budgeting, and cost control processes (N=88, 36%). The topics least preferred in this section included: (1) equal opportunity

and affirmative action (N=150, 62%), (2) administration management theory and organizational structure (N=133, 56%), (3) non-traditional food preparation and delivery systems (N=129, 53%), (4) facility design and space allocation (N=124, 51%), (5) foodservice system analysis (N=121, 50%), (6) employment recruitment, selection, and orientation (N=117, 48%), (7) job descriptions and performance standards (N=108, 44%), and (8) labor management relations (N=96, 40%). Many of the topics in this area are more a function of the personnel department of an institution than of the management dietitians. This may be reflected in the low preference for this topic area.

Preference for managerial sciences topics were affected by area of employment (p=.001) and years of experience (p=.05) (Table VI). Kramer's adaptation of Duncan's Multiple Range Test (Table VII) showed that school foodservice dietitians (N=4, $\bar{X}$=57.75) had a stronger preference for managerial sciences topics than did community dietitians (N=5, $\bar{X}$=40.00), clinical dietitians (N=70, $\bar{X}$=39.91), dietetic educators (N=15, $\bar{X}$=39.40), other dietitians (N=14, $\bar{X}$=39.21), dietitians in business and industry (N=7, $\bar{X}$=36.43), or public health nutritionists (N=24, $\bar{X}$=36.33). School foodservice dietitians did not vary significantly with foodservice administrators (N=26, $\bar{X}$=52.69), research dietitians (N=5, $\bar{X}$=45.00) or consultant dietitians (N=53, $\bar{X}$=44.47) in preference for managerial sciences.

Foodservice administrators (N=26, $\bar{X}$=52.69) had a higher preference for managerial sciences than did consultant dietitians (N=5, $\bar{X}$=44.47), community dietitians (N=5, $\bar{X}$=40.00), clinical dietitians (N=70, $\bar{X}$=39.91), dietetic educators (N=15, $\bar{X}$=39.40), dietitians in business or industry (N=7, $\bar{X}$=36.43), and public health nutritionists (N=24, $\bar{X}$=36.33). The

foodservice administrators did not vary significantly with research dietitians (N=26, $\bar{X}$=52.69) in preference for managerial sciences.

TABLE VI

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR MANAGERIAL SCIENCES TOPICS BY DEMOGRAPHIC VARIABLES

Source	df	Mean Square	F	p
Area of Practice	9	647.64	4.53	0.001
Error	213	142.98		
Total	222			
Years of experience	4	379.77	2.38	0.05
Error	218	159.41		
Total	222			

Note: Data shown for significant findings only ($p \leq 0.05$).

The consultant dietitians had a stronger preference for managerial sciences than did public health nutritionists (N=24, $\bar{X}$=36.33). In addition to area of practice, the preference for managerial sciences topics was affected by years of experience. Kramer's adaptation of Duncan's Multiple Range Test revealed that dietitians with more than 20 years of experience (N=37, $\bar{X}$=47.89) had a stronger preference for managerial science topics than did dietitians with 6-10 years experience (N=63, $\bar{X}$=42.08), 11-20 years experience (N=50, $\bar{X}$=41.80), and 1-5 years (N=69, $\bar{X}$=40.20). Dietitians with less than one year (N=4, $\bar{X}$=39.00) were not significantly different from dietitians with more than

TABLE VII

DUNCAN'S MULTIPLE RANGE TEST FOR MANAGERIAL SCIENCES TOPICS AND DEMOGRAPHIC VARIABLES*

Variable	N	Mean	Grouping
Area of Practice			
School foodservice	4	57.75	A
Foodservice administration	26	52.69	AB
Research dietetics	5	45.00	AB
Consultation and private practice	53	44.47	A C
Community nutrition	5	40.00	C
Clinical dietetics	70	39.91	C
Dietetic education	15	39.40	C
Other	14	39.21	C
Business or industry	7	36.43	C
Public health nutrition	24	36.33	
Years of Experience			
More than 20 years	37	47.89	A
6-10 years	63	42.08	B
11-20 years	50	41.80	B
1-5 years	69	40.20	B
less than 1 year	4	39.00	AB

Note: Means with the same letter are not significantly different. Data shown for significant findings only ($p \leq 0.05$).

*Kramer's (66) adaptation for unequal groups was used for this test.

20 years experience. This is more a function of the fact that only four dietitians responded in the group, less than one year, than a true statistical relationship.

The area of practice effected the selection for managerial sciences. The school foodservice dietitians had the strongest preference for managerial sciences. The preferences of school foodservice dietitians were not significantly related to those of foodservice administrators, research dietitians, or consultant dietitians. All of these positions except for research dietitians are primarily management. The food-service administrators held significantly stronger preference for managerial sciences than did consultant dietitians, community dietitians, clinical dietitians, dietetic educators, others, dietitians in business and industry, and public health nutritionists. Dietitians whose positions required management skills selected management topics more frequently than did the other dietitians.

The dietitians with the most experience had the strongest preference for managerial sciences. Dietitians with 20 or more years of experience varied significantly with those with 6-10 years, 11-20 years, and 1-5 years. This would be expected. Dietitians usually begin their careers as clinical dietitians and do not usually become management dietitians until they have gained some experience as dietitians. One would therefore expect a higher score for managerial topics among the dietitians with the most experience.

Licensure was the most strongly preferred topic in the other topics section (N=91, 38%) indicating a strong preference. ADA Manpower Studies (N=137, 57%) and developing a private practice (N=101, 42%) were the least preferred topics in this section.

Area of practice was the only variable significantly related to the other topics category (Table VIII). Kramer's adaptation for Duncan's Multiple Range Test demonstrated that research dietitians (N=5, $\bar{X}$=9.20) had a stronger preference for other topics than did the group of other practice area (N=15, $\bar{X}$=6.87) and foodservice administrators (N=30, $\bar{X}$=6.70) (Table IX). Community dietitians (N=59, $\bar{X}$=7.00) also had a higher preference than did the group of other practice area (N=15, $\bar{X}$=6.87). Also, public health nutritionists (N=23, $\bar{X}$=8.09) had a higher preference for the other topics than did foodervice administrators (N=30, $\bar{X}$=6.70).

Other topics included four unrelated subject areas. Research dietitians held the highest mean scores for the topic, the computer in research analysis because the computer is such an integral part of research. The only topic of strong interest to dietitians as a whole was licensure (N=91, 38%). Licensure has just been passed in the state of Oklahoma and could be of interest to most dietitians regardless of position area of practice.

Delivery System

The respondents were offered several options for selecting their most preferred length of time for a workshop or seminar. The most preferred, by a large percentage, was a one day meeting (N=155, 76%) followed by a meeting less than one day (N=19, 9%) (Table X). The preference was so strong that no significant relationships existed between any of the variables. Sixty-five percent of the respondents (N=174) preferred a workshop or seminar that was one day or less. Fifteen (7%) dietitians preferred a meeting for 2-3 days, while

TABLE VIII

ANALYSIS OF VARIANCE (ANOVA) RESULTS FOR OTHER TOPICS BY AREA OF PRACTICE*

Source	df	Mean Square	F	p
Area of practice	9	8.58	1.93	0.05
Error	229	4.43		
Total	238			

*Data shown for significant findings only ($p \leq .05$).

TABLE IX

DUNCAN'S MULTIPLE RANGE TEST FOR OTHER TOPICS AND AREA OF PRACTICE*

Variable	N	Mean	Grouping
Type of position			
Research dietetics	5	9.20	A
Community nutrition	5	8.60	AB
School foodservice	4	8.50	AB
Public health nutrition	23	8.09	ABC
Dietetic education	15	7.81	ABC
Clinical dietetics	75	7.65	ABC
Consultation and private practice	59	7.00	ABC
Other	15	6.87	C
Business or industry	7	6.86	ABC
Foodservice administration	30	6.70	B

Note: Means with the same letter are not significantly different.
Data shown for significant findings only ($p \leq 0.05$).

*Kramer's (66) adaptation for unequal groups was used for this test.

13 (6%) preferred a weekend workshop. Only 203 of the 247 of the responses could be used for this question because several respondents marked more than one answer. Nineteen of those respondents marked a weekend in addition to one or more other responses.

TABLE X

PREFERENCES OF REGISTERED DIETITIANS IN OKLAHOMA FOR LENGTH OF TIME OF WORKSHOPS AND SEMINARS

Time Period	Frequency	Percent
Less than one day	19	9
One day	155	76
2-3 consecutive days	15	7
4-5 consecutive days	0	0
6-7 consecutive days	1	0.4
More than one week	0	0
A weekend	13	6
	203	98.4*

*Due to the rounding off of numbers, totals will not always equal 100.

Several possible explanations exist for the preference of a meeting one day or less. It may be easier for a dietitian to leave work for one day than several days. There is less expense involved in a one day meeting with no lodging required. R.D.s may have too many family responsibilities to be away from home more than one day. The preference for the two-three day meeting may reflect those dietitians who take advantage of the state ODA meetings as an opportunity to obtain CE experiences.

Thirteen of the respondents indicated a preference for weekend meetings and an additional 19 (those who marked more than one response) marked the weekend as one of their choices. Even so, it is questionable whether or not a weekend meeting would be well attended. Table XI indicated that the dietitians do not favor a weekend meeting.

TABLE XI

PREFERRED TIME PERIOD BY OKLAHOMA R.D.s FOR ATTENDING A CONTINUING EDUCATION PROGRAM

Day	Morning		Afternoon		Evening	
	f	%	*f*	%	*f*	%
Monday	85	34	86	35	36	15
Tuesday	114	46	120	48	41	17
Wednesday	123	49	129	52	41	17
Thursday	133	54	143	58	46	19
Friday	142	57	138	56	40	16
Saturday	91	37	76	31	24	10
Sunday	23	9	25	10	11	4

Note: Respondents were to select all time periods that they preferred.

The respondents were given a table to indicate the days and time periods they were most likely to attend a CE program. The time periods included morning, afternoon and evening. Table XI indicates the periods

that were selected. The preference was strongest for mornings and afternoons in the middle or latter parts of the week. The evenings and weekends were not a preferred time period.

Chi-square determinations were made between preferred time period and selected demographic variables (Table XII). Complete tables of the significant relationships can be found in Appendix D.

There was a strong association between Monday evenings and those dietitians with doctoral degrees (χ^2=12.26, df=2, p=.0022) as well as between Monday evening and those dietitians working in school food-service (χ^2=18.79, df=9, p=.0270). Three of four (N=3) dietitians with doctoral degrees and three of five (N=3) of the school foodservice dietitians selected Monday evening.

There was a strong tendency against attending a CE meeting on Tuesday afternoon by the dietitians with doctoral degrees (χ^2=6.21, df=2, p=.045). None of the dietitians with doctoral degrees (N=4) wanted Tuesday afternoon meetings.

There was also a strong preference of the dietitians with doctoral degrees against Thursday morning meetings (χ^2=6.59, df=2, p=.0371). None of the dietitians wanted Thursday morning for CE meetings. A strong association between dietitians with doctoral degrees and Friday evening meetings (χ^2=11.44, df=2, p=.0033) was indicated. Seventy-five percent of these dietitians favored a Friday evening meeting.

There was a strong preference in all age categories against a Friday evening CE program (χ^2=10.34, df=4, p=.0351). Seventy percent or more of all dietitians in each of the age categories did not favor a Friday evening meeting.

TABLE XII

CHI-SQUARE DETERMINATIONS BETWEEN PREFERRED TIME PERIOD AND SELECTED DEMOGRAPHIC VARIABLES

Preferred Time Period	Factor Showing Correlation	Statistics			Total Respondents Chosing	
		χ^2	df	p	Frequency	Percent
Monday evening*	Highest degree	12.26	2	.0022	36	14.57
Monday evening*	Area of practice	18.79	9	.0270	36	14.57
Tuesday afternoon*	Highest degree	6.21	2	.045	120	48.58
Thursday morning*	Highest degree	6.59	2	.0371	133	58.85
Thursday afternoon	Age	10.52	4	.0326	143	57.66
Friday evening	Age	10.34	4	.0351	40	16.13
Friday evening*	Highest degree	11.44	2	.0033	40	16.19

Note: Data shown for significant findings only ($p \leq .05$).

*Over 20 percent of the cells have expected counts less than 5. Table is so sparse that Chi-square may not be valid.

Table XI definitely indicated a preference for the groups as a whole toward meetings mid-week or latter part of the week. There were two significant relationships between age and preferred time. The dietitians 60 or more years of age were strongly in favor of Thursday afternoon meetings. They did not, however, favor Friday evening meetings. There is no obvious explanation for these particular relationships. They did, however, follow the general trend for meetings in the afternoon and against weekend or evening meetings.

Generalizations beyond the sample cannot be made for the remaining Chi-square determinations. In each of the remaining Chi-square tables there were more than 20 percent of the cells with less than five. The dietitians in this sample with doctoral degrees favored evening meetings on Monday and Friday but opposed them on Tuesday and Thursday morning. This is different from the general trend. Possibly they hold positions that allow little lattitude during work hours in mid-week.

Nine types of CE opportunities were listed in the questionnaire and the 248 respondents were asked to select all the opportunities they would choose for obtaining CE hours. A majority of the Oklahoma R.D.s selected state meetings (N=214) and small group workshops/seminars (N=210). In contrast, 169 dietitians selected district association meetings, 142 selected teleconferences and 126 selected self-learning programs done at home. Less than 50 percent of the respondents selected J. Am. Dietet. A. CE articles, national meetings, courses for credit and courses for non-credit (Figure 4).

Chi-square determinations were made between selected demographic variables and preferred program format (Table XIII). Complete tables of the significant relationships can be found in Appendix E. One of

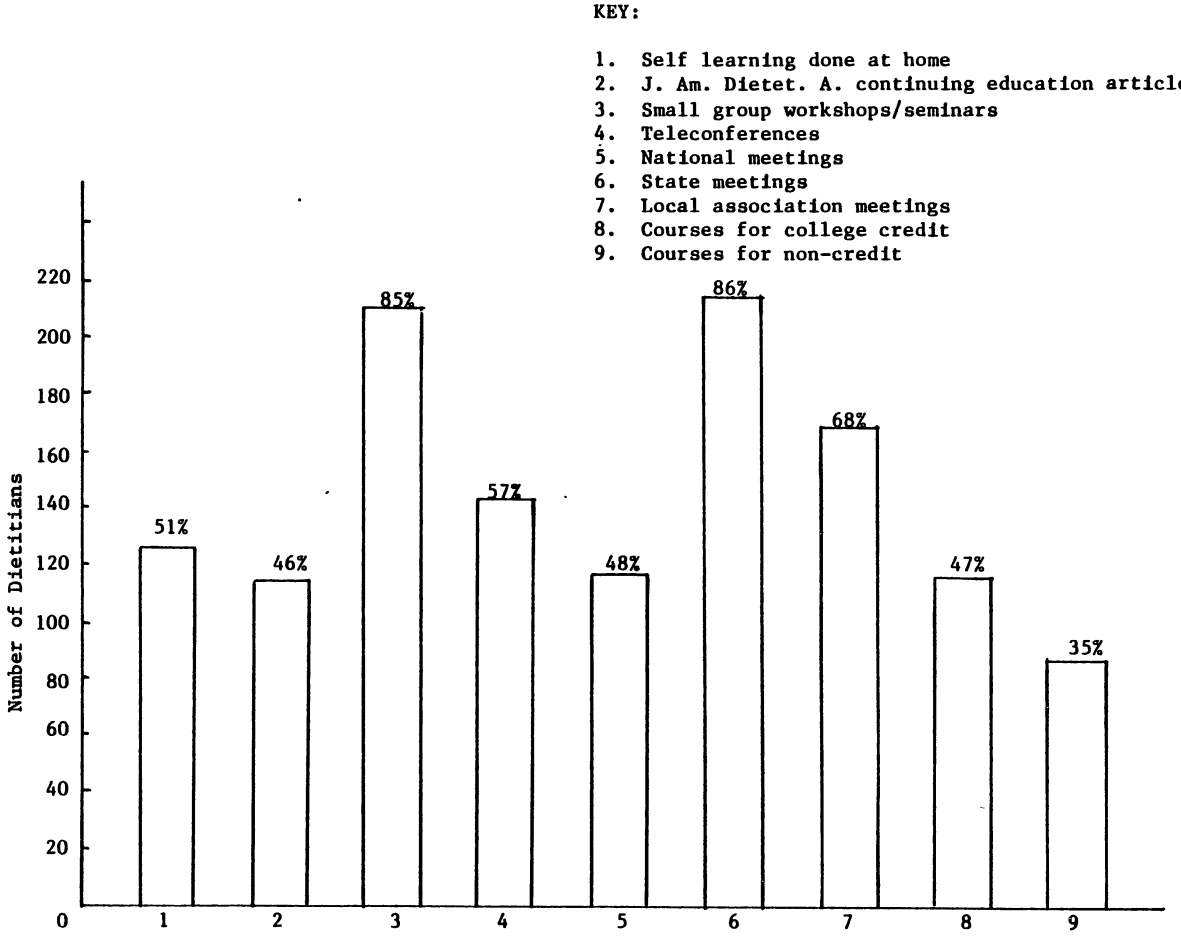

Figure 4. Preferences of Registered Dietitians for Program Format for Continuing Education

TABLE XIII

CHI-SQUARE DETERMINATIONS BETWEEN PREFERRED PROGRAM DELIVERY AND SELECTED DEMOGRAPHIC VARIABLES

Program Delivery	Factor Showing Correlation	Statistics			Total Respondents	
		χ^2	df	p	Frequency	Percent
Courses for college credit	Age	16.80	4	.0019	116	46.77
Courses for college credit	Years of experience	11.00	4	.0265	116	46.96
Non-credit courses	Age	12.02	4	.0172	87	35.08
Non-credit courses*	Route to registration	12.69	5	.0265	85	34.82
Non-credit courses*	Area of practice	18.80	9	.0269	87	35.22
District association meetings*	Route to registration	12.36	5	.0302	169	68.42
Teleconferences*	Area of practice	23.41	9	.0053	142	57.49

Note: Data shown for significant findings only ($p \leq .05$).

*Over 20 percent of the cells have expected counts less than 5. Table is so sparse that Chi-square may not be a valid test.

the possible reasons for the popularity of the state meetings for CE is the opportunity for a maximum number of CE hours with a minimal financial burden. The spring ODA meeting is held in central Oklahoma allowing easy access from most parts of the state. In addition, the registration fee is minimal. A third reason for their popularity may be the Oklahoma Restaurant Association exhibits. The small group workshops and seminars provide an opportunity for involvement and interaction. The sharing of experiences and knowledge can be accomplished better by this method than most of the others.

Courses for college credit and age (χ^2=16.80, df=4, p=.0019) were inversely related. Courses for college credit and years of experience were also significant associated (χ^2=11.00, df=4, p=.0265) (Table XIII). The greatest propensity for attending classes for credit was among the younger dietitians with the exception of those dietitians with less than one year of experience. Perhaps these dietitians are working on master's degrees. The dietitians with less than one year of experience and the dietitians with more than 20 years of experience did not want courses for college credit. Those with less than one year have just completed their education and work experience and may not feel the need for CE credits. Those with 20 or more years may prefer less formal educational opportunities. Generalizations for the remaining Chi-square determinations relating to preferred format cannot be made as more than 20 percent of the cells contained less than five responses.

Non-credit courses were significantly associated with area of practice (χ^2=18.80, df=9, p=.0265), route to registration (χ^2=212.69, df=5, p=.0265), and age (χ^2=12.021, df=4, p=.0172). All of the community dietitians (N=5) indicated they would choose non-credit

courses to meet CE needs. Fifty percent of the dietetic educators also indicated they would choose this method. Both of these types of dietitians use a method of instruction less formal than credit courses for instructing their clients. They may, therefore, find this an effective method for their own CE.

In contrast, those dietitians who earned their registration through the Coordinated Undergraduate Program (CUP) (84%), or the three year pre-planned work experience (81%) indicated an unwillingness to use non-credit courses to meet CE needs. The CUP dietitians and those attaining registration through traineeships were not required to earn a master's degree. These dietitians may prefer to use courses for credit in order to earn one. In addition, many CUP dietitians and dietitians from the traineeships had a limited amount of management courses or experience and may need additional credits in this area. Fifty-five percent (N=22) of those who earned their R.D. through the master's degree favored non-credit courses for CE. These dietitians may not want a higher degree, and, therefore, favored this method.

Non-credit courses were not a strongly favored method for CE. The dietitians most willing to use non-credit courses were between 30 and 59 years of age. It is possible that the dietitians who expressed a willingness to use this method have completed their master's degree and are not concerned with additional credits. Those past 59 may be anticipating retirement, and, therefore, may not be concerned with maintaining registration past their current five year cycle.

Teleconferences were significantly associated with type of position (χ^2=23.41, df=9, p=.0053). Consultant dietitians (62%) indicated an unwillingness to use teleconferences for CE hours.

Foodservice administrators (67%), clinical dietitians (74%), and other dietitians (69%) indicated a willingness to use teleconferences for CE needs.

A large percentage of clinical and foodservice administrators work in hospitals and have easy access to MedSource, Inc., a company providing approved CE for dietitians and other hospital professionals. Consultants did not favor this method perhaps because they do not have this access to teleconferences.

Dietitians from the CUP strongly favored obtaining CE needs through district association meetings (χ^2=12.36, df=5, p=.0302). Dietitians from all other routes to registration favored district association meetings except for the group of other route which favored their use by only 33 percent. It is assumed that many of the CUP dietitians are employed in areas where these associations are available; or that they are viewed as a valuable way to meet CE needs and would use them if they were available.

One hundred sixty-nine dietitians indicated a desire to obtain CE hours from district association meetings. Only 141 of the respondents belonged to such organizations. This may indicate a desire for district organizations where they do not presently exist.

Only about one-half (48%) of the Oklahoma R.D.s selected national meetings for CE credit. These meetings are held for five days which is longer than any of the scheduled dates respondents indicated they were willing to attend. In addition, they are out of state and, therefore, would involve expenses for travel, lodging, and food expenses. In spite of this result, a number of ODA members are active

in the national association, with three members being elected national ADA president between 1979 and 1984.

Attendance at CE Programs

Eleven reasons for attending CE programs were listed in the questionnaire. Respondents were asked to select all that applied to them. The five responses selected most often were: (1) general interest in the topic (N=218, 88%); (2) improvement of skills for my present position (N=186, 75%); (3) program was offered at a convenient location (N=187, 75%); (4) CE hours were granted (N=180, 73%); and (5) program was offered at a convenient time (N=164, 66%) (Figure 5).

Eleven reasons for not attending CE programs were also listed in the questionnaire. Again, respondents were asked to select all that applied to them. The five reasons respondents selected most often were: (1) program was offered at an inconvenient location (N=181, 73%); (2) program was offered at an inconvenient time (N=174, 70%); (3) no interest in the topic (N=172, 69%); (4) cost was too high (N=132, 53%); and (5) family responsibilities interfered (N=119, 48%) (Figure 6).

The reasons chosen for attending CE programs indicated that general interest was the major factor influencing attendance, however, time and location were the major determinants whether Oklahoma R.D.s did or did not attend CE activities and need to be considered when planning CE programs. In addition, approval by the ADA for CE hours of any program planned was paramount. Major reasons for not attending CE programs included financial factors and family responsibilities.

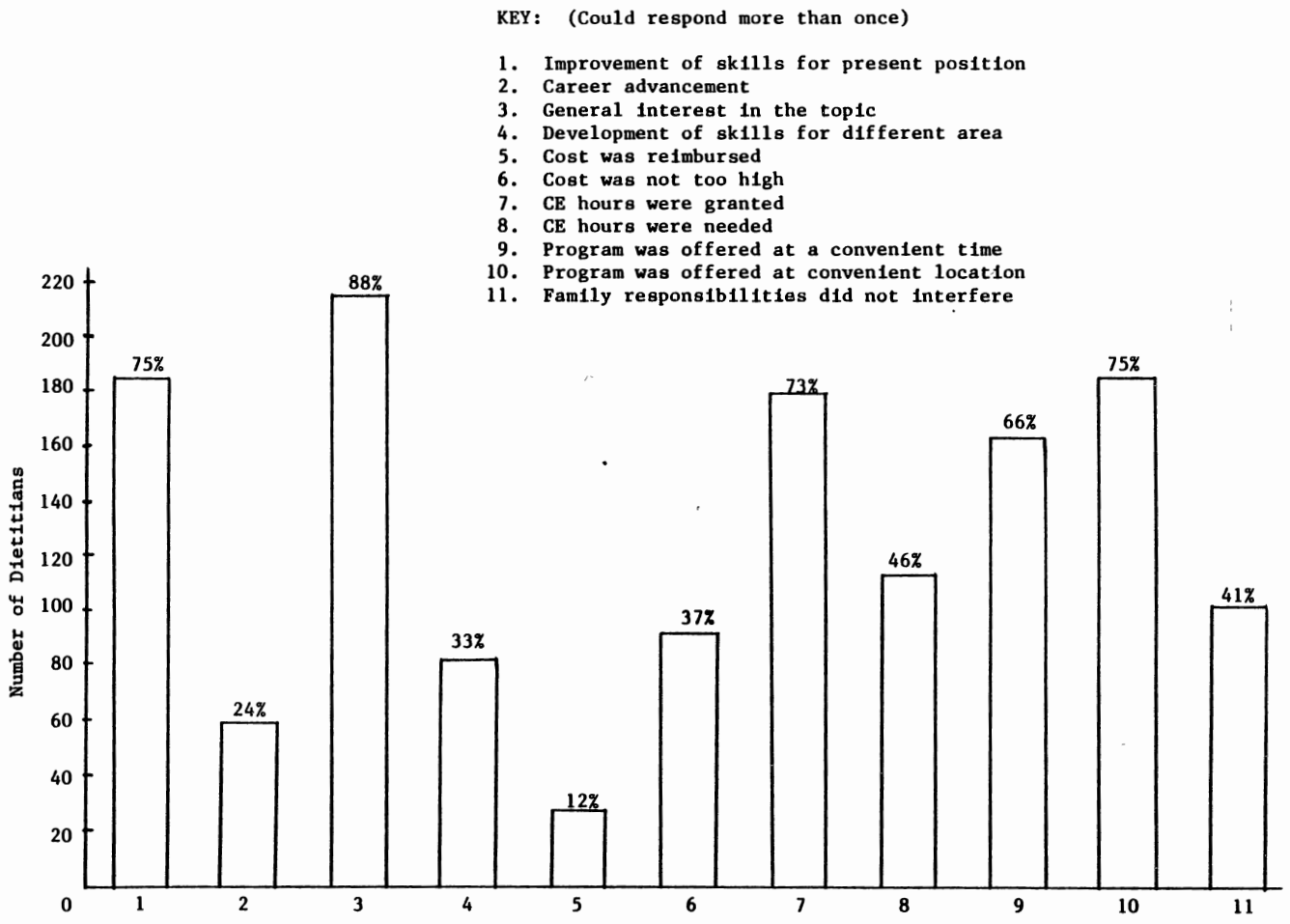

Figure 5. Reasons for Attending Continuing Education Programs

KEY: (Could respond more than once)

1. No additional skills were needed for present position
2. No further career advancement was desired
3. No interest in the topic
4. No interest in pursuing a different area
5. Cost was not reimbursed
6. Cost was too high
7. CE hours were not granted
8. CE hours were not needed
9. Program was offered at an inconvenient time
10. Program was offered at an inconvenient location
11. Family responsibilities interfered

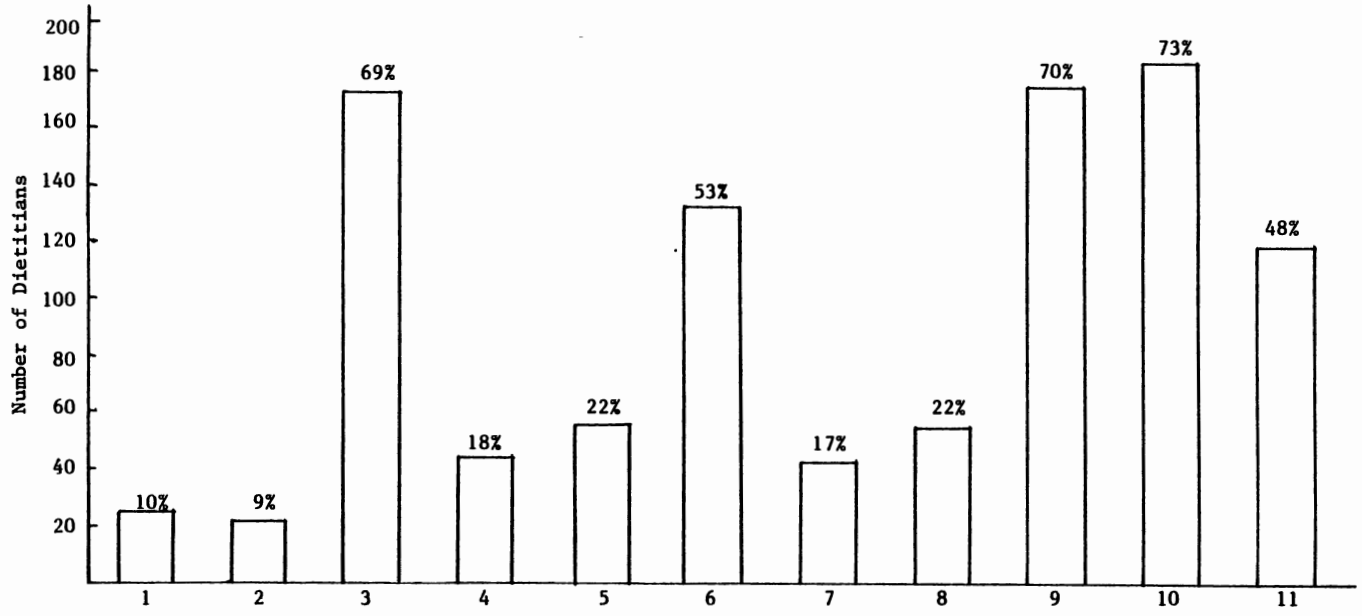

Figure 6. Reasons for Not Attending Continuing Education Programs

Payment for CE

The respondents were asked to indicate who was responsible for expenses incurred in obtaining CE. They were directed to check all that applied. About four-fifths (179 of the 248 Oklahoma R.D.s) indicated that they paid for their own CE, while only one-fourth (N=62) indicated that their employer paid for their CE. Seventy-one indicated that the responsibility was shared by their employer and self, 10 attended CE when no fee was assessed, and two indicated other means of payment (Table XIV).

TABLE XIV

PARTY RESPONSIBLE FOR PAYMENT OF CONTINUING EDUCATION

Party	Frequency	Percent
Self	197	79
Employer	62	25
Shared by self and employer	71	29
No fee usually charged	10	4
Other	2	0.8

Note: Respondents were asked to select all that applied.

The majority of the responsibility for payment to obtain CE credits was shouldered by the individual dietitian. Three respondents indicated that, although their employer had assisted in the past for CE expenses, they were to be totally responsible for payment in the future.

Problems with Obtaining 75 CE Hours

A majority of the 248 respondents (86%) did not have problems earning the required 75 hours of CE. In contrast, 35 (14%) indicated that they did have difficulties in earning CE credits within five years (Table XV). Dietitians living near a college or university could attend courses for credit and earn 16 clock hours CE credit per credit hour. The responses to the question on non-attendance indicated that inconvenient location and time of CE programs may be a problem for some of the respondents. Some of the dietitians in Oklahoma practice in parts of the state that are not near metropolitan areas or near large educational health care insitutions. They may have fewer opportunities to attend CE meetings than do other dietitians in the state. One possible solution to this would be to attend allied health CE activities that have application for dietitians and then to apply for subsequent CE approval.

TABLE XV

PROBLEMS IN OBTAINING CONTINUING EDUCATION HOURS

Problems	Frequency	Percent
Problems or difficulties exist	35	14
No problems exist	210	86
	245	100

Hypotheses Testing

In this study the four CE topic areas evaluated were normal nutrition; clinical nutrition; behavioral, communicative, and socio-cultural sciences; and other topics.

H_1: There will be no significant relationship between preferred CE topic area and age of respondent.

The only significant relationship existed between age and normal nutrition topics, therefore, the researcher failed to reject H_1.

H_2: There will be no significant relationship between preferred CE topic area and area of practice of the dietitian.

Area of practice significantly affected choice for CE topics in normal nutrition, managerial sciences and other topics. Based on relationships involving three of four variables, H_2 was rejected.

H_3: There will be no significant relationship between preferred CE topic area and years of experience as a dietitian.

Years of experience was significantly related to choices for CE topics in managerial sciences and other topics. Based on significant relationships between two of four variables, the researcher rejected H_3.

H_4: There will be no significant relationship between preferred CE topic area and highest degree earned.

No significant relationships existed between any of the variables. Therefore, the researcher failed to reject H_4.

H_5: There will be no significant relationship between preferred CE topics and route to registration.

There were no significant relationships between any of the variables. Therefore, the researcher failed to reject H_5.

Delivery system in this study was defined as program format, time of day, and length of program. This included a total of 37 variables. None of the variables for length of time were significantly related to the independent variables.

H_6: There will be no significant relationship between preferred delivery system and age of respondent.

Age was significantly related to three variables in the preferred time period and two variables of program format. Two of the three aspects of delivery system were significantly affected by age; therefore, the researcher rejected H_6.

H_7: There will be no significant relationship between preferred delivery system and area of practice of the dietitian.

There were two significant relationships between area of practice and program delivery. They included program format and preferred time; therefore, the researcher rejected H_7.

H_8: There will be no significant relationship between preferred delivery system and number of years of experience as a dietitian.

The only delivery system variable affected was the program format; therefore, the researcher failed to reject H_8.

H_9: There will be no significant relationship between preferred delivery system and highest degree earned.

Two of the three delivery system variables, time period and program format, were significantly related to highest degree earned; therefore, the researcher rejected H_9.

H_{10}: There will be no significant relationship between preferred delivery system and route to registration.

The only delivery system variable that was affected was program format; therefore, the researcher failed to reject H_{10}.

Comparison of CE Studies

The results of this study of Oklahoma dietitians were similar to those results of an Illinois study by Cross et al. (35). The dietitians in both studies were primarily women who gained membership as R.D.s via the internship program, had earned only a bachelor's degree, and worked full time. The two primary areas of practice for the dietitians were clinical dietetics and foodservice administration. Small group workshops were favored by both groups. The preferred length of meetings was one day or less for both groups.

Several of the preferred topics for nutritional care were common to both groups including obesity therapies, diabetes therapy, psycho-emotional aspects of abnormal food behavior, and nutritional implications in aging. The preferred behavioral, communicative, and socio-cultural topic in both groups was effective interviewing and counseling.

The significant relationships exhibited between preferences for CE topics and demographic variables in Oklahoma included age, years of experience, and area of practice. In the Cross study (35) they included present position, age, years of experience, year of highest degree, and route to membership. In both studies the dietitians that were younger, had less experience and preferred nutritional care sciences more than managerial sciences topics. In addition, in both studies older dietitians with more experience preferred managerial sciences topics most often.

Lack of interest and inconvenient location were primary reasons for non-attendance at CE programs in both Oklahoma and Illinois. In both states, the dietitian was the primary party responsible for paying for CE programs.

This study provided very similar results to the study reported in the 1983 Sooner Dietitian (32), Clinical Dietetics and Research Committee Part I Survey. In both studies, the majority of respondents had attained registration vis internship. The highest degree earned was a bachelor's degree and in both studies most of the dietitians had practices from 0-5 years. Clinical care was the largest area of practice reported in both studies. Preference for attendance at state ODA meetings was strong, while neither study indicated a strong preference for attendance at national meetings. Oklahoma R.D.s did not indicate difficulty in obtaining necessary CE hours in either study.

Faye (33) and Fisher (36) analyzed CE needs for consultant dietitians in Oklahoma and Ohio. The strongest need for CE indicated by the respondents in both states was adapting to the health care facility. This CE topic was not addressed in the present study. Quality assurance was indicated to be an area of need in all three studies. CE in the area of organization and management was indicated as an area of need in the Faye and Fisher studies which involved only consultant dietitians but little preference for the topic was demonstrated in this study of all R.D.s in Oklahoma.

In both the Vanderveen (35) study of Ohio dietitians and this study the need for professional knowledge was perceived to be a greater need than the need for behavioral, communicative and socio-cultural sciences.

Dietitians in four midwestern states studied by Eisele (37) evaluated nutritional care sciences as the area of greatest need as did Oklahoma dietitians in this study. In both studies state and district meetings and workshops and seminars were preferred CE activities.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The purpose of this study was to assess the continuing education needs of dietitians in Oklahoma in order to provide a basis for suggestions and recommendations for developing CE programming for registered dietitians at the state and district levels in Oklahoma. To be effective, CE must be provided in areas of need. This study was an attempt to determine those areas of need as well as the best system of providing CE for Oklahoma dietitians. The objectives included: (1) to identify the profile of R.D.s in Oklahoma including age, area of practice, years of experience, highest degree earned, and route to registration; (2) to determine preferred CE topics; (3) to determine preferred delivery system for CE; (4) to determine if a relationship exists between the preferred CE topics and the above listed demographic variables; and (5) to determine if a relationship exists between the preferred delivery system and the above listed demographic variables.

The literature emphasized the importance of education in the dietetic profession including continuing education. Several states (Ohio, Illinois, and four midwestern states) have already evaluated CE needs of dietetic practitioners.

A questionnaire was mailed to all registered dietitians in Oklahoma. Fifty-four percent of the questionnaires were returned, of which 52 percent were used in the data analysis. Data were

analyzed using frequency and percentages, ANOVA, Kramer's adaptation of Duncan's Multiple Range Test, and Chi-square determinations.

Summary

Ninety-nine percent of the 248 respondents were female. Fifty-two percent were less than 40 years of age. All but one belonged to the ADA and 57 percent belonged to district dietetic associations. Fifty-eight percent of the respondents earned bachelor's degrees, 40 percent have master's degrees, while two percent have attained doctoral degrees. More than one-half (55%) were registered via the dietetic internship; likewise, 52 percent were employed full-time in dietetics. Two percent of the dietitians were employed less than one year, 30 percent from 1-5 years, 27 percent from 6-10 years, 24 percent from 11-20 years, and 17 percent over 20 years.

The four most common areas of practice of the dietitians included clinical dietetics (30%), consultation and private practice (25%), foodservice administration (12%), and public health nutrition (10%).

The strongest preference for CE topics of the respondents was for nutritional care science (Table V). Younger respondents had a stronger preference for normal nutrition topics than did older respondents. Dietitians whose positions emphasize normal nutrition (community dietitians, school lunch dietitians, and public health nutritionists) expressed a stronger preference for normal nutrition topics.

A strong general interest in the most-favored clinical nutrition topics may explain why there were no significant relationships between choices for clinical nutrition topics and the demographic variables.

The least-favored clinical topics were those that related to specialty areas such as burn therapy and renal therapy.

There were no significant relationships between the demographic variables and preference for behavioral, communicative, and socio-cultural sciences. The strongest preference among the group as a whole was for effective interviewing and counseling. The least preferred were the topics involving government sponsored nutrition programs.

The three most preferred CE topics for the managerial sciences were: computers in food systems management, dietetic service auditing, and planning, budgeting and cost control processes. The three least-preferred topics were: equal opportunity and affirmative action, administrative management theory and organizational structure, and non-traditional food preparation and delivery systems.

Area of practice and years of experience influenced preference for managerial sciences topics. Dietitians with management responsibilities scored highest in this group. This group included school foodservice dietitians, foodservice administrators, and consultant dietitians. The greater number of years of experience, the greater was the preference for managerial sciences topics. Dietitians with experience usually have more managerial responsibility than do those just beginning their professional careers.

Licensure was the most strongly favored topic in the other category by the sample as a whole. Research dietitians strongly preferred computer in research analysis, which was included in this category.

Eight-five percent of the respondents favored CE meetings of one day or less. Morning or afternoon was the most preferred time of day,

with Wednesday, Thursday, or Friday as selected days. Evenings, weekends, and Mondays were the least preferred time periods.

There was a strong association between the highest degree earned and preference for evenings. Evening meetings were strongly preferred and daytime meetings opposed by those dietitians with doctoral degrees. It should be noted, however, that only four respondents in the study had doctoral degrees.

There was also a significant association between age and preferred time of day. The tendency was for older dietitians to favor daytime meetings.

State ODA meetings, small group workshops/seminars, district association meetings, teleconferences, and self-learning done at home were all selected as preferred program formats by at least 50 percent of the respondents. Courses for college credit was a program format significantly related to age and experience. Younger dietitians with 1-20 years of experience preferred courses for credit. Dietitians with less than one year or more than 20 years of experience did not want courses for credit.

Courses for non-credit were significantly related to area of practice, route to registration and age. Community dietitians and dietetic educators favored this method. Those who earned their registration via CUP or traineeships preferred not to use non-credit courses. Those who had received master's degrees favored this method. The youngest and oldest respondents also favored this method.

Teleconferences were not favored by consultant dietitians. They were, however, highly favored by those dietitians in the hospital setting where teleconference programs are often available. District

association meetings were favored by most of the dietitians, with the strongest preference from CUP dietitians.

Five of 11 reasons for attending CE programs listed in the questionnaire were strongly favored by the respondents. These were: general interest in the topic, improvement of skills for present position, convenient location, CE hours granted, and convenient time. The five reasons most frequently selected for not attending CE programs included: inconvenient location, inconvenient time, lack of interest, high cost, and family responsibilities.

Most of the respondents were responsible for payment of their own CE expenses. Only 35 of the dietitians (14%) who responded indicated that they had problems meeting CE requirements.

Testing the Hypotheses

Ten hypotheses were tested in this study. Five compared selected demographic variables with preferred CE topic and five with preferred delivery system. Analysis of Variance and Kramer's adaptation of Duncan's Multiple Range Test were used to evaluate the hypotheses related to preferred CE topics. Two of the five hypotheses were rejected; there were significant relationships between CE topics and area of practice and between CE topics and years of experience.

Chi-square was used to evaluate the hypotheses related to preferred delivery system. Three of the five hypotheses were rejected; there were significant relationships between preferred delivery system and age, area of practice, highest degree earned and route to registration.

Recommendations

Questionnaire

A few revisions of this questionnaire would make it more effective if used in the future.

1. The CE topics should be updated to include topics of current interest such as osteoporosis, sports nutrition and laboratory values in nutritional assessment.

2. Some of the questions had too many categories and were difficult to analyze. These included: route to registration, area of practice, length of time for the workshop, and years of experience.

3. The question to determine the party responsible for payment of CE was unclear to some of the respondents and needs to be reworded.

Recommendations Based on the Results of the Study

Meeting CE needs did not seem to be a problem for respondents in this study. Further research should, however, seek to target specific groups having difficulties meeting CE needs. Two of the groups which should be evaluated include dietitians involved in food science and dietitians in small towns located away from metropolitan areas. Another area of future research should be an evaluation of the application of CE activities. Are the dietitians applying in their practice what they learn from CE activities?

More than one-half of the dietitians in Oklahoma responded to this questionnaire. The preferences expressed by the respondents who

participated in this study should be considered when planning CE programs at the state and district levels.

Nutritional care topics were the most preferred. The CE needs of the managerial dietitians should not be overlooked, however. Programs involving the use of computers in the profession should also be considered.

Meetings should be held one day or less on any weekday except Monday. An exception to this recommendation is the spring ODA meeting; this meeting is three days long and was highly favored by the respondents.

Small group workshops/seminars were favored by 85 percent of the dietitians. More opportunities of this type should be considered. The use of MedSource, Inc., for teleconferences to hospitals should be continued. In addition, any other opportunity for teleconferences should be considered. District association meetings were favored by 68 percent of the respondents although only 57 percent belonged to district associations. The feasibility of forming district associations in areas where they do not presently exist needs to be explored.

Pre-approval of CE hours by the ADA should be obtained for all CE meetings. This is necessary to ensure that CE credit is obtained for all dietitians participating in these events.

In general, dietitians in Oklahoma are not having difficulty meeting CE needs because they attend two ODA meetings (fall and spring) each year and take advantage of other CE opportunities offered throughout the state. Only 14 percent are having some difficulty with this responsibility. Efforts should continue to be made to provide CE programs of interest to dietitians at convenient times and locations and at a relatively low cost.

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APPENDIX A

RESEARCH INSTRUMENT

June 9, 1984

Dear Oklahoma Dietitian:

To better serve your needs for ADA Continuing Education hours, a study has been planned to obtain information about preferred continuing education content and format by dietitians in Oklahoma. Your response to the questionnaire is vital in order to make suggestions and recommendations for Continuing Education programming in Oklahoma.

Each questionnaire and all responses will be treated confidentially, and anonymity of each individual is assured. The sequence number on the questionnaire is for purposes of following up on non-respondents only. Your name will not be entered on the questionnaire and results will be reported only by total responses.

PLEASE ANSWER ALL OF THE ITEMS IN THE QUESTIONNAIRE. Incomplete questionnaires will have to be discarded. The questionnaire should only take about 10 minutes to complete.

When you are finished, simply fold the questionnaire in half, staple or tape and drop in the mail. The questionnaire has a return address and postal permit printed on the back for your convenience. No postage stamp is necessary.

Please return the questionnaire by June 21, 1984. Your participation in this study is greatly appreciated.

Sincerely,

Bernice Kopel

Bernice Kopel, Ed.D., R.D.
Associate Professor
Department of Food, Nutrition and Institution Administration
Oklahoma State University

Brenda Crenshaw

Brenda Crenshaw
M.S. Student
Department of Food, Nutrition and Institution Administration
Oklahoma State University

Sequence # _____

CONTINUING EDUCATION PREFERENCES OF
REGISTERED DIETITIANS IN OKLAHOMA

INSTRUCTIONS: PLEASE CHECK THE APPROPRIATE BLANK(S), CIRCLE THE NUMBER CORRESPONDING TO THE APPROPRIATE RESPONSE FOR EACH QUESTION, OR FILL IN THE APPROPRIATE INFORMATION.

SECTION I

DEMOGRAPHIC DATA

1. What is your sex?

_____ Female _____ Male

2. What is your age?

_____ Under 21 _____ 40 - 49

_____ 21 - 29 _____ 50 - 59

_____ 30 - 39 _____ 60 and over

3. Are you a member of the American Dietetic Association?

_____ Yes _____ No

4. Are you a registered dietitian?

_____ Yes _____ No

5. Do you belong to a local dietetic association?

_____ Yes _____ No

If yes, to which local dietetic association do you belong?

_____ Oklahoma City

_____ Tulsa

_____ Southwestern District

6. By which route did you become a member of the American Dietetic Association and a registered dietitian?

_____ Coordinated Undergraduate Program

_____ Dietetic Internship

_____ Traineeship (Pre-planned supervised experience)

_____ Associate membership with 3 year pre-planned supervised experience

_____ Master's degree with supervised work experience

_____ Doctorate

_____ Other (Please specify)_____

7. List the degrees you have earned, the emphasis of the degree (i.e. nutrition, public health, business), the institution where earned and the date granted. PLEASE LIST THE MOST RECENT FIRST.

Degree	Emphasis or major of the degree	Name & location of college/university	Date degree granted

SECTION II

PROGRAM CONTENT

A list of possible topics for continuing education programs follows. Indicate your degree of preference by CIRCLING THE APPROPRIATE RESPONSE. Please respond to each category. There is no right or wrong answer.

Continuing Education Topics

Nutritional Care Sciences	PREFERENCE Little	Some	Strong
DRG's and the dietitian.	1	2	3
Current vitamin and mineral research	1	2	3
Nutritional biochemistry	1	2	3
Nutritional physiology	1	2	3
Food safety, additives, carcinogens.	1	2	3
Nutrition in heart disease	1	2	3
Drug-nutrient interaction.	1	2	3
Psycho-emotional aspects of abnormal food behaviors (i.e. anorexia nervosa)	1	2	3
Nutrition and cancer	1	2	3
Nutrition and immunology	1	2	3
Nutritional implications in alcohol and drug abuse	1	2	3
Nutritional status assessment.	1	2	3
Renal and transplant management.	1	2	3
Gastrointestional disease therapies.	1	2	3
Inborn errors of metabolism.	1	2	3
Parenteral nutrition	1	2	3
Developments in burn therapy	1	2	3
Hypoglycemia	1	2	3
Diabetes therapy	1	2	3
Obesity therapies.	1	2	3

Nutritional Care Sciences	PREFERENCE Little	Some	Strong
Nutritional implications in aging. .	1	2	3
Nutrition for developmentally and. . mentally impaired	1	2	3
Nutrition in physical rehabilitation	1	2	3
Food allergies and intolerances. . .	1	2	3
Fiber.	1	2	3
Nutritional deficiency diseases. . .	1	2	3
Nutrition labeling	1	2	3
Non-traditional dietaries (vegetarian)	1	2	3
Pediatric nutrition.	1	2	3
Nutrition in pregnancy and lactation	1	2	3
The computer in nutritional care . .	1	2	3
Behavioral, communicative and socio-cultural sciences			
Effective interviewing and counseling	1	2	3
Teaching methods and devices	1	2	3
Assertiveness training	1	2	3
Adult education concepts and . . . . principles	1	2	3
Legislative processes: local, state and federal	1	2	3
Use of mass media in education . . .	1	2	3
Writing for publication: scientific technical, popular press	1	2	3
Socioeconomic and cultural aspects . of food habits	1	2	3
Writing proposals for funded projects	1	2	3
The impact of radio and TV . . . . . advertising on food habits	1	2	3

Behavioral, communicative and socio-cultural sciences	PREFERENCE Little	Some	Strong
Government sponsored nutrition programs for the elderly	1	2	3
Government sponsored nutrition programs: WIC	1	2	3
Government sponsored nutrition programs: Food stamps	1	2	3
Government sponsored nutrition programs: School lunch	1	2	3
Medical recording skills (SOAP)	1	2	3
Managerial Sciences			
Productivity	1	2	3
Labor-management relations	1	2	3
Employee training, career mobility	1	2	3
Laws affecting utilization of personnel	1	2	3
Managerial effectiveness and efficiency	1	2	3
Manpower utilization and cost analysis	1	2	3
Work methods analysis	1	2	3
Organizational managment relationships	1	2	3
Determining manpower and staffing requirements	1	2	3
Planning, budgeting and cost control processes	1	2	3
Leadership styles, leadership effectiveness	1	2	3
The computer in food systems management	1	2	3

Managerial Sciences	PREFERENCE Little	Some	Strong
Facility design and space allocation	1	2	3
Performance evaluation methodologies	1	2	3
Food service system analysis.	1	2	3
Food marketing and purchasing trends	1	2	3
Health and safety laws, inspection. and enforcement	1	2	3
Job descriptions and performance standards	1	2	3
Employee recruitment, selection and orientation	1	2	3
Non-traditional food preparation. and delivery systems (i.e. cook-freeze systems)	1	2	3
Equal opportunity and affirmative action	1	2	3
Administration management theory. and organizational structure	1	2	3
Auditing a dietetic service (Quality Assurance)	1	2	3
Other Topics			
Licensure	1	2	3
Developing a private practice	1	2	3
ADA Manpower Studies.	1	2	3
The computer in research analysis	1	2	3

Please list any additional topics for a continuing education program of interest to you.

_____

_____

SECTION III

PROGRAM DELIVERY

1. Listed below are various formats for continuing education programs. PLEASE (✓)CHECK ALL THE OPPORTUNITIES WHICH YOU WOULD CHOOSE FOR OBTAINING CONTINUING EDUCATION HOURS.

_____ Self-learning programs done at home such as tapes

_____ JADA continuing education articles

_____ Small group workshops/seminars

_____ Teleconferences

_____ National meetings

_____ State meetings

_____ Local association meetings (if available)

_____ Courses for college credit

_____ Courses for non-credit

2. Listed below are varying lengths of time for workshops and seminars. PLEASE (✓) CHECK THE LENGTH OF TIME YOU MOST PREFER. CHECK ONLY ONE.

_____ Less than one day

_____ One day

_____ 2 - 3 consecutive days

_____ 4 - 5 consecutive days

_____ 6 - 7 consecutive days

_____ More than one week

_____ A weekend

3. What day(s) and times of day would you most likely attend a continuing education program? PLACE AN "X" IN ALL THE BOXES CORRESPONDING TO YOUR PREFERENCES.

	Morning	Afternoon	Evening
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

4. Are you having problems meeting the requirement for obtaining 75 hours continuing education in five years?

_____ Yes

_____ No

5. Who pays for your continuing education? (✓) CHECK ALL THAT APPLY.

_____ Self

_____ Employer

_____ Shared by self and employer

_____ No fee usually charged

_____ Other (Please specify)_____

_____

6. Below is a list of reasons for attending continuing education programs. Which of these reasons best describes why you have participated in state or local continuing education programs that have been held since January 1, 1979. (✓) CHECK ALL THAT APPLY.

_____ Improvement of skills for my present position

_____ Career advancement

_____ General interest in the topic

_____ Development of skills for a different area of dietetics

_____ Cost was reimbursed

_____ Cost was not too high

_____ Continuing education hours were granted

_____ Continuing education hours were needed

_____ Program was offered at a convenient time

_____ Program was offered at a convenient location

_____ Family responsibilities did not interfere

7. Below is a list of reasons which may prevent some people from participating in continuing education programs. Which of these reasons best describes why you have not participated in all state and local continuing education programs that have been held since January 1, 1979. (✓) CHECK ALL THAT APPLY.

_____ No additional skills were needed for my present position

_____ No further career advancement was desired

_____ No interest in the topic

_____ No interest in pursuing a different area of dietetics

_____ Cost was not reimbursed

_____ Cost was too high

_____ Continuing education hours were not granted

_____ Continuing education hours were not needed

_____ Program was offered at an inconvenient time

_____ Program was offered at an inconvenient location

_____ Family responsibilities interfered

SECTION IV

1. What is your present employment status? PLEASE (✓) CHECK THE APPROPRIATE RESPONSE.

_____ Employed full-time in dietetics

_____ Employed part-time in dietetics

_____ On leave of absence from a position in dietetics

_____ Unemployed

_____ Retired

_____ Employed in a field other than dietetics

2. How long have you been employed in dietetics or related areas PLEASE RESPOND IN TERMS OF FULL-TIME EQUIVALENTS. FOR EXAMPLE, A DIETITIAN WORKING FOR TWO YEARS FOR 20 HOURS A WEEK WOULD HAVE ONE YEAR FULL-TIME EXPERIENCE.)

_____ Less than 1 year

_____ 1 - 5 years

_____ 6 - 10 years

_____ 11 - 20 years

_____ over 20 years

3. What is your primary role in your current position? If retired or unemployed, what was your primary role in your immediate past position. (✓) CHECK ONLY ONE.

_____ Food service administration

_____ Clinical dietitian

_____ Community dietitian

_____ Consultant dietitian

_____ Research Dietitian

_____ Public health nutritionist

_____ Dietetic educator

_____ School lunch dietitian

_____ Dietitian in industry or business

_____ Other (Specify)_____

_____

THANK YOU FOR RESPONDING TO THIS QUESTIONNAIRE. IF YOU WOULD FOLD AND STAPLE THIS QUESTIONNAIRE, YOU WILL SEE IT REQUIRES NO POSTAGE OR ENVELOPE. SHOULD YOU WANT A SUMMARY OF THE RESULTS OF THIS STUDY, PLEASE WRITE YOUR NAME AND ADDRESS IN THE SPACE BELOW. YOUR NAME WILL NOT BE ASSOCIATED WITH THE QUESTIONNAIRE.

_____

_____

_____

ZIP

APPENDIX B

CORRESPONDENCE

Oklahoma State University

Department of Food, Nutrition and Institution Administration

STILLWATER, OKLAHOMA 74078
(405) 624-5039

March 7, 1984

Nanna Cross, R.D.
Department of Nutrition and Medical Dietetics
College of Associated Health Professions
University of Illinois
Chicago, Illinois 60680

Dear Professor Cross:

I am writing in reference to our telephone conversation on Friday, March 2, 1984. I want to thank you for your assistance in reaching my goal to complete the Masters Degree in Nutrition.

Using your questionnaire will enable me to provide the Oklahoma Dietetic Association information necessary for continuing education programming at a much earlier date than would otherwise be possible.

Should you be interested, I will be more than happy to provide you with a copy of the results of my study. Thanks again for your assistance.

Sincerely,

Brenda Crenshaw

Brenda Crenshaw
Graduate Student

May 12, 1984

Dear

I am researching the continuing education preferences of R.D.'s in Oklahoma. In order to do this I am sending a questionnaire to all registered dietitians in the ODA.

As you probably realize, a person fails to see the problems in their own questionnaire. I would appreciate it if you would evaluate my questionnaire for clarity, content and any material that could be added or deleted. Please comment specifically on topics you think could be deleted from Section II. Also, in your opinion, is the questionnaire too long?

Please evaluate this questionnaire at your earliest convenience. This could make it possible to mail it to the dietitians before the vacation season. This should improve the return rate for the study.

I appreciate your assistance at this essential stage of my research.

Sincerely,

(Mrs) Brenda Crenshaw
Graduate Student
Oklahoma State University

APPENDIX C

PREFERENCES OF REGISTERED DIETITIANS FOR CONTINUING EDUCATION TOPICS

TABLE XVI

PREFERENCES OF REGISTERED DIETITIANS FOR CONTINUING EDUCATION TOPICS

Topic	N	Little		Some		Strong	
		f	%	f	%	f	%
Nutritional Care Sciences							
DRG's and the dietitian	242	44	18	92	38	106	44
Current vitamin and mineral research	243	39	16	110	45	94	39
Nutritional biochemistry	244	79	32	96	39	69	28
Nutritional physiology	242	41	17	107	44	94	39
Food safety, additives, carcinogens	242	42	17	118	49	82	34
Nutrition in heart disease	247	21	9	117	47	109	44
Drug-nutrient interaction	246	28	11	120	49	98	40
Psycho-emotional aspects of abnormal food behaviors	243	37	15	109	45	97	40
Nutrition and cancer	246	20	8	119	48	107	43
Nutrition and immunology	245	54	22	124	51	67	27
Nutritional implications in alcohol and drug abuse	243	56	23	123	51	64	26
Nutritional status assessment	247	44	18	110	45	93	38
Renal and transplant management	245	106	43	100	41	39	16
Gastrointestinal disease therapies	246	45	18	126	51	75	30
Inborn errors of metabolism	245	109	44	101	41	35	14
Parenteral nutrition	243	93	38	100	41	50	21
Developments in burn therapy	245	98	40	109	44	38	16
Hypoglycemia	245	63	26	114	47	68	28
Diabetes therapy	247	34	14	97	39	116	47
Obesity therapies	247	30	12	76	31	141	57
Nutritional implications and aging	245	31	13	101	41	113	46
Nutrition for developmentally and mentally impaired	247	93	38	114	46	40	16

TABLE XVI (Continued)

Topic	N	Little f	Little %	Some f	Some %	Strong f	Strong %
Nutrition in physical rehabilitation	244	89	36	123	50	32	13
Food allergies and intolerances	247	47	19	132	53	68	28
Fiber	247	47	19	114	46	86	35
Nutritional deficiency diseases	244	62	25	140	57	42	17
Nutritional labeling	245	88	36	114	47	43	18
Non-traditional dietaries	244	96	39	108	44	40	16
Pediatric nutrition	245	78	32	96	39	71	29
Nutrition in pregnancy and lactation	245	89	36	87	36	69	28
Computer in nutritional care	247	37	15	87	35	123	50
Behavioral, Communicative and Socio-Cultural Sciences							
Effective interviewing and counseling	247	36	15	95	38	116	47
Teaching methods and devices	245	36	15	102	42	107	44
Assertiveness training	244	77	32	97	40	70	29
Adult education concepts and principles	246	69	28	106	43	71	29
Legislative processes: local, state, & federal	245	88	36	121	49	36	15
Use of mass media in education	246	82	33	106	43	58	24
Writing for publications: scientific, technical and popular press	246	117	48	75	30	54	22
Socio-economic and cultural aspects of food habits	244	102	42	106	43	36	15
Writing proposals for funded projects	248	149	50	55	22	44	18
The impact of radio and TV advertising on food habits	245	89	36	97	40	59	24

TABLE XVI (Continued)

Topic	N	Little f	Little %	Some f	Some %	Strong f	Strong %
Government sponsored nutritional programs: elderly	245	90	37	103	42	52	21
Government sponsored nutritional programs: WIC	243	122	50	84	35	37	15
Government sponsored nutritional programs: Food stamps	244	132	54	84	34	28	11
Government sponsored nutritional programs: School lunch	244	125	51	79	32	40	16
Medical recording skills (SOAP)	244	91	37	97	40	56	23
Managerial Sciences							
Productivity	244	79	32	96	39	69	27
Labor-management relations	243	96	40	91	37	56	23
Employee training, career mobility	241	81	34	103	43	57	24
Laws affecting utilization of personnel	243	92	38	89	37	62	26
Managerial effectiveness of personnel	243	67	88	97	40	79	33
Manpower utilization and cost analysis	243	88	36	82	34	73	30
Work methods analysis	241	94	39	91	38	56	23
Organizational management relationships	240	91	38	100	42	49	20
Determining manpower staffing and requirements	243	87	36	79	33	77	32
Planning, budgeting and cost control processes	244	64	26	92	38	88	36
Leadership styles, leadership effectiveness	242	66	27	98	40	78	32
Computer in food systems management	243	71	29	71	29	101	42
Facility design and space allocation	245	124	51	78	32	43	18

TABLE XVI (Continued)

Topic	N	Little f	Little %	Some f	Some %	Strong f	Strong %
Performance evaluation methodologies	243	92	38	97	40	54	22
Food service system analysis	242	121	50	83	45	38	16
Food marketing and purchasing trends	242	91	38	110	34	41	17
Health and safety laws, inspection and enforcement	243	86	35	99	41	58	24
Job descriptions and performance standards	246	108	44	87	35	51	21
Employment recruitment, selection and orientation	244	117	48	85	35	42	17
Non-traditional food preparation and delivery systems	243	129	53	93	38	21	9
Equal opportunity and affirmative action	241	150	62	68	28	23	10
Administration management theory and organizational structure	239	133	56	75	31	31	13
Auditing a dietetic service (Quality Assurance)	244	78	32	75	31	91	37
Other Topics							
Licensure	242	57	24	94	39	91	38
Developing a private practice	243	101	42	72	30	70	29
ADA Manpower Studies	242	137	57	88	36	17	7
Computer in research analysis	241	90	37	85	35	66	27

Suggestions for Other Topics Written in on the Questionnaire by Respondents

Sports nutrition/Fitness related (3 respondents)

Vitamin and mineral supplements (2 respondents)

Laboratory values (2 respondents)

Sucrose polyester

Nutrition and pulmonary function

Keeping up with Title XIX

Malpractice and legal responsibilities

Diet and brain neurotransmitters

Marketing and dietary department product lines

Practical research methods to show cost/benefit of nutrition services (Clinical)

Legislation and child day care centers

Implementing practical nutrition education programs in the community

Osteoporosis, Premenstral Syndrome (Nutrition related diseases of women)

Branched chain amino acids in nutritional support

Enteral nutrition feeding tubes and pumps

Nutrition and growth

Behavior modification

Graphic arts in nutrition education resources

Public health nutrition surveys--Methodology

Indepth study of the life cycle--Habits vs. Needs

Dietitians role as a member of the Medical Staff's Pharmacy and Therapeutic Committee

Sugar substitutes

The dietitian in county extension

APPENDIX D

CHI-SQUARE DETERMINATIONS BETWEEN PREFERRED TIME PERIOD AND SELECTED DEMOGRAPHIC VARIABLES

Chi-Square Determinations

Key for Appendix D

Age = Age of the respondent

Primary = Area of practice

HD = Highest degree

PREF 3 = Monday evening CE meeting

PREF 5 = Tuesday afternoon CE meeting

PREF 10 = Thursday morning CE meeting

PREF 11 = Thursday afternoon CE meeting

PREF 15 = Friday evening CE meeting

TABLE OF HD BY PREF3

HD FREQUENCY	PREF3 0	PREF3 1	TOTAL
.	1	0	.
1	126	18	144
2	84	15	99
3	1	3	4
TOTAL	211	36	247

CHI-SQUARE 12.255 DF= 2 PROB=0.0022

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF PRIMARY BY PREF3

PRIMARY FREQUENCY	PREF3 0	PREF3 1	TOTAL
.	1	0	.
0	13	3	16
1	24	6	30
2	70	6	76
3	5	0	5
4	52	9	61
5	4	1	5
6	18	7	25
7	15	1	16
8	2	3	5
9	8	0	8
TOTAL	211	36	247

CHI-SQUARE 18.791 DF= 9 PROB=0.0270

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF HD BY PREF5

HD	PREF5		
FREQUENCY	0	1	TOTAL
.	1	0	.
1	67	77	144
2	56	43	99
3	4	0	4
TOTAL	127	120	247

CHI-SQUARE 6.208 DF= 2 PROB=0.0449

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF HD BY PREF10

HD	PREF10		
FREQUENCY	0	1	TOTAL
.	1	0	.
1	60	84	144
2	50	49	99
3	4	0	4
TOTAL	114	133	247

CHI-SQUARE 6.588 DF= 2 PROB=0.0371

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF AGE BY PREF11

AGE	PREF11		
FREQUENCY	0	1	TOTAL
2	21	25	46
3	37	44	81
4	17	32	49
5	24	19	43
6	6	23	29
TOTAL	105	143	248

CHI-SQUARE 10.516 DF= 4 PROB=0.0326

TABLE OF AGE BY PREF15

AGE	PREF15		
FREQUENCY	0	1	TOTAL
2	38	8	46
3	70	11	81
4	42	7	49
5	30	13	43
6	28	1	29
TOTAL	208	40	248

CHI-SQUARE 10.336 DF= 4 PROB=0.0351

TABLE OF HD BY PREF15

HD	PREF15		
FREQUENCY	0	1	TOTAL
.	1	0	.
1	125	19	144
2	81	18	99
3	1	3	4
TOTAL	207	40	247

CHI-SQUARE 11.435 DF= 2 PROB=0.0033

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

APPENDIX E

CHI-SQUARE DETERMINATIONS BETWEEN PREFERRED PROGRAM FORMAT AND SELECTED DEMOGRAHPIC VARIABLES

Chi-Square Determinations

Key for Appendix E

Route = Route to registration

Age = Age of respondent

FTEDIET = Experience in terms of full years

Primary = Area of practice

PD4 = Teleconferences

PD7 = District association meetings

PD8 = Courses for college credit

PD9 = Courses for non-credit

TABLE OF AGE BY PD8

AGE FREQUENCY	PD8 0	1	TOTAL
2	18	28	46
3	41	40	81
4	22	27	49
5	27	16	43
6	24	5	29
TOTAL	132	116	248

CHI-SQUARE 16.997 DF= 4 PROB=0.0019

TABLE OF FTEDIET BY PD8

FTEDIET FREQUENCY	PD8 0	1	TOTAL
.	1	0	.
1	3	1	4
2	33	41	74
3	30	36	66
4	34	26	60
5	31	12	43
TOTAL	131	116	247

CHI-SQUARE 11.002 DF= 4 PROB=0.0265

TABLE OF AGE BY PD9

AGE / FREQUENCY	PD9 0	PD9 1	TOTAL
2	37	9	46
3	54	27	81
4	24	25	49
5	25	18	43
6	21	8	29
TOTAL	161	87	248

CHI-SQUARE 12.021 DF= 4 PROB=0.0172

TABLE OF ROUTE BY PD9

ROUTE / FREQUENCY	PD9 0	PD9 1	TOTAL
.	0	1	.
1	27	5	32
2	81	55	136
3	21	5	26
4	5	2	7
5	22	18	40
7	5	1	6
TOTAL	161	86	247

CHI-SQUARE 12.691 DF= 5 PROB=0.0265

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF PRIMARY BY PD9

PRIMARY FREQUENCY	PD9 0	PD9 1	TOTAL
.	1	0	.
0	12	4	16
1	22	8	30
2	56	20	76
3	0	5	5
4	33	28	61
5	3	2	5
6	17	8	25
7	8	8	16
8	4	1	5
9	5	3	8
TOTAL	160	87	247

CHI-SQUARE 18.803 DF= 9 PROB=0.0269

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF ROUTE BY PD7

ROUTE / FREQUENCY	0	1	TOTAL
.	1	0	.
1	3	29	32
2	46	90	136
3	7	19	26
4	3	4	7
5	15	25	40
7	4	2	6
TOTAL	78	169	247

CHI-SQUARE 12.360 DF= 5 PROB=0.0302

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

TABLE OF PRIMARY BY PD4

PRIMARY FREQUENCY	PD4 0	PD4 1	TOTAL
.	1	0	.
0	5	11	16
1	10	20	30
2	20	56	76
3	3	2	5
4	38	23	61
5	3	2	5
6	10	15	25
7	8	8	16
8	3	2	5
9	5	3	8
TOTAL	105	142	247

CHI-SQUARE 23.407 DF= 9 PROB=0.0053

WARNING: OVER 20% OF THE CELLS HAVE EXPECTED COUNTS LESS THAN 5.
TABLE IS SO SPARSE THAT CHI-SQUARE MAY NOT BE A VALID TEST.

VITA 2

Brenda Susan Crenshaw

Candidate for the Degree of

Master of Science

Thesis: CONTINUING EDUCATION PREFERENCES OF REGISTERED DIETITIANS IN OKLAHOMA

Major Field: Food, Nutrition and Institution Administration

Biographical:

Personal Data: Born in Barberton, Ohio, June 11, 1952, the daughter of Harley and Martha Van Horn.

Education: Graduated from Norton High School, Norton, Ohio, in 1970; received a Bachelor of Arts degree from Bethany Nazarene College in 1974; completed requirements for Master of Science degree in Food, Nutrition and Institution Administration at Oklahoma State University in December, 1984.

Professional Experience: Records Clerk at Norton Police Department, 1975-1979; Diet Technician at Deaconess Hospital, 1980 to present; Graduate Teaching Assistant, Food Nutrition and Institution Administration, Oklahoma State University, 1981-1982.

Professional Organizations: Alpha Nu.