

Usage of Foodservice Systems Management Competencies by Korean Dietitians

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ABSTRACT

The purpose of this study was: 1) to investigate whether Korean dietitians are engaged in Foodservice Systems Management (FSM) competencies in their current jobs, and 2) to identify the relationship between types of dietetic practice areas and Korean dietitians' usage of FSM competencies. Fifteen FSM competencies were widely used, 17 were somewhat used, 13 were seldom used and the remaining two competencies were little or not used by the dietitians. The most used competency was related to menu planning (98%). Whereas, the least used competency was related to marketing skills (17%). As a whole, the categories of "technical and communication skills" (78%) and "production and distribution management" (77%) were more widely used than other FSM categories. Of 47 competencies, 34 competencies were found to be significantly associated with the type of practice area. Considering the findings, the type of dietetic practice area was a strong factor of Korean dietitians' usages of FSM competencies. Of 34 competencies associated with the type of dietetic practice area, 25 FSM competencies were more likely to be used by the dietitians from health care facilities. (*J Community Nutrition* 8(3): 119~126, 2006)

KEY WORDS: foodservice systems management (FSM) · competency · dietitian.

Introduction

A definition of foodservice system was designated as an organized, integrated, or coordinated whole composed of diverse, but interrelated and interdependent parts, (e.g., menu-planning, procurement, production, distribution, and service), for accomplishment of objectives (ADA 1983). The term "foodservice systems management (FSM)" had come to be synonymous with "foodservice administration" and has been used to describe the responsibilities of the administrative dietitians (Arkwright et al. 1974; Zolba 1982). The ADA role delineation study specified FSM as a process concerned with the accomplishment of foodservice system objectives by integrating resources within the total system and by working with and through individuals and groups (ADA 1983).

FSM competencies have been stressed for dietitians, as a result of social, economic, and environmental changes (Silverman et al. 2000; Yang 1991). Foodservice owners have sought scientific and effective management professionals to reduce costs and to increase revenue, while consumers have desired better quality foods and services (Eum, Ryu 2003; Silverman et al. 2000). In order to deal with these changes dietitians are accountable for management, and professional training is required to prepare for FSM competencies.

According to dietetic professionals, FSM was indicated as a part of the responsibilities of dietitians. Several researchers (Boudreaux, Shanklin 1991; Jeon 1994) asserted that dietitians were required to have FSM competencies as professionals in business and industry (B&I) foodservice areas. Demicco et al. and Lee (DeMicco et al. 1997; Lee 1990b) stressed that FSM competencies must be included in the school foodservice dietitians' responsibilities. It was emphasized that dietitians needed FSM competencies including communication, marketing, and cost control to be hired in the commercial foodservice industry and outsourcing dietetic services (Kwon, Yoon 2003; Lechowich, Soto 1995; Shanklin, Dowling 1995). A variety of FSM competencies for die-

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ticians were identified and emphasized by the dietetic practitioners. Specifically, competencies relating to financial management, facility management, information management, production management, computer skill, leadership, human resources management, communication skills, and marketing skills were emphasized for dietitians (Dahlke et al. 2000; DeMicco et al. 1997; Gregoire 1992; Lechowich, Soto 1995; Shanklin, Dowling 1995; Yang 1991). Whereas several professionals emphasized the importance of the managerial competencies for Korean dietitians, there is a lack of literature on Korean dietitians' usage of specific managerial competencies and FSM usage patterns in different dietetic practice areas. Therefore, the purpose of this study was to investigate whether Korean dietitians engaged in FSM competencies in their current jobs, and to identify the relationship between types of dietetic practice area and Korean dietitians' usage of FSM competencies.

Subjects and Methods

1. Samples

The research population was the dietitians who worked primarily in three areas including B&I, elementary school, middle & high school and health care foodservice in Korea. Of the 750 surveys mailed, 484 responses were returned (response rate: 66.0%). The method used for distribution and follow-up of the survey were described by Salant and Dillman (1994) for mail questionnaires. Data collection was carried out from September 1999 to January 2000.

2. Measures

Originally, 54 FSM competencies were developed by reviewing the literature relating to FSM competencies of dietitians in a variety of dietetic practice areas (ADA 1983; Kane MT et al. 1990; Snyder JR et al, 1985; Yates et al. 1987). Competencies having a 70% or greater consensus after review by the expert panel were retained as necessary competencies for dietitians. As a result, 47 FSM competencies within 8 categories were identified by 10 expert panels and used in the dietitian survey. The survey respondents were asked to indicate whether or not they engaged in each of the competencies in their current jobs. Each of these FSM competencies is discussed in accordance with the identified eight categories divided by characteristics. In order to discuss the results of survey, the descriptors of

usage rate by the dietitians was determined using the following heuristic decisions made by the researcher. "Widely" means that the competency was used by equal or more than 75% respondents, "somewhat" means that the competency was used by equal or more than 50% to less than 75%, "seldom" means that the competency was used by equal or more than 25% to less than 50%, "little or not" means that the competency was used by less than 25% respondents. Usage of FSM competencies were compared with three types of dietetic practice areas: 1) business and industry (B&I), 2) health care and 3) school.

3. Data analysis

Descriptive statistics were used, such as frequency distributions and percentages. The relationship between usage of FSM competencies and the type of dietetic practice area was tested using chi-square (χ^2) test for independence with significant level at $p < 0.05$. All tests were done using the computerized statistical package, SPSS Win (12.0).

Results and Discussion

1. Demographic information of respondents

Respondents' demographic information is shown in Table 1. Types of dietetic practice areas were school, B&I, and health care. Over half had bachelor's or higher degree. 34.7% of respondents reported they had equal or more than three years but less than six years experience in their dietetic

Table 1. Demographic information of Korean dietitians participating in a foodservice systems management survey (n = 484)

| Demographic characteristic | no (%) ^a |
|--|---------------------|
| Type of dietetics practice area | |
| School | 207 (42.8) |
| Business and industry | 195 (40.1) |
| Health care | 82 (17.0) |
| Education level | |
| Bachelor's degree | 250 (51.7) |
| 2-year junior college | 188 (38.8) |
| Master's degree or higher | 46 (9.5) |
| Years of work experience in dietetic practice area | |
| <1 | 31 (6.4) |
| ≥1 - <3 | 107 (22.1) |
| ≥3 - <6 | 168 (34.7) |
| ≥6 - <9 | 90 (18.6) |
| ≥9 | 88 (18.2) |

^aPercentages do not add up to 100% because of rounding

Table 2. Relationship between type of dietetic practice area and FSM competencies arranged by usage frequency and percentage

| Foodservice systems management competencies | | Type of dietetic practice area | | | χ^2 |
|---|--|--------------------------------|-------------------------|---------------------|----------|
| | | B&I (n = 195) | Health care (n = 82) | School (n = 207) | |
| | | n (%) | n (%) | n (%) | |
| Organizational management | | | | | |
| C1 | Develop and maintain organizational and departmental goals, policies and procedures | 69 (35) | 56(68) | 94(45) | 25.24* |
| C2 | Develop organizational chart | 98 (50) | 62(76) | 93(45) | 33.67* |
| C3 | Develop work methods, job descriptions and standards of performance for employees | 98 (50) | 62(76) | 115(56) | 15.36* |
| C4 | Collect and apply current information on foodservice systems management | 157 (81) | 69(84) | 164(79) | 0.91 |
| Human resources management | | | | | |
| C5 | Determine employee needs and assign employees to areas of responsibility to effectively meet the objectives of foodservice | 101 (52) | 60(73) | 112(54) | 11.50* |
| C6 | Evaluate employee performance and direct changes in employee utilization according to established standards | 89 (46) | 53(65) | 91 (44) | 10.87* |
| C7 | Identify employee market and select employees to meet staffing and scheduling needs | 51 (26) | 40(49) | 46(22) | 21.16* |
| C8 | Document and maintain employee records for recommendation of employees' raises, promotions and transfer | 56 (29) | 46(56) | 40(19) | 38.37* |
| C9 | Identify labor laws and organizational personnel policies | 67 (34) | 44(54) | 76(37) | 9.63* |
| Financial management | | | | | |
| C10 | Develop financial objectives for area of responsibility congruent with organizational and departmental goals, policies, and economic constraints | 125 (64) | 59(72) | 144(68) | 2.16 |
| C11 | Prepare budget for area of responsibility and allocate financial resources in accordance with approved budget | 165 (85) | 61(74) | 187(90) | 12.07* |
| C12 | Maintain and apply the basic knowledge and skills of accounting and bookkeeping | 92 (47) | 46(56) | 104(50) | 1.85 |
| C13 | Identify and analyze factors that affect food, labor, and operating costs | 179 (92) | 63(77) | 157(76) | 19.79* |
| C14 | Identify sources of revenue and develop revenue-generating programs | 75 (39) | 48(59) | 27(13) | 65.36* |
| C15 | Maintain appropriate cost control by effective and efficient management resources | 137 (70) | 62(76) | 108(52) | 20.47* |
| C16 | Direct pricing of menu item in accordance with pricing strategies | 124 (64) | 47(57) | 145(70) | 4.62 |
| C17 | Assess financial status for area of responsibility and prepare revenue and financial analyses reports | 109 (56) | 53(65) | 68(33) | 32.98* |
| Production and distribution management | | | | | |
| C18 | Establish objectives for procurement, production and distribution in compliance with various regulations | 102 (52) | 53(65) | 137(66) | 8.84* |
| Production and distribution management | | | | | |
| C19 | Analyze meal forecast demand using professional judgment and/or mathematical methods | 147 (75) | 60(73) | 125(60) | 11.44* |
| C20 | Possess and apply knowledge about purchasing procedures which ensure control of quality and quantity of food | 162 (83) | 71(87) | 188(91) | 5.33* |
| C21 | Utilize basic knowledge of food safety and sanitation in the storage, preservation, and preparation of food | 177 (91) | 77(94) | 191(92) | 0.82 |
| C22 | Plan menu which conforms to budget and/or cost requirements, equipment, time, and employee availability | 194(100) | 80(98) | 202(98) | 2.61 |
| C23 | Develop and implement the use of standardized recipes to provide quality and financial control | 122 (63) | 57(82) | 168(81) | 19.34* |
| C24 | Develop and monitor control mechanism for production procedures through coordination of personnel and equipment | 145 (74) | 67(82) | 168(81) | 3.35 |
| C25 | Evaluate food products based on established criteria for customer acceptance, cost, quality, and quantity | 163 (84) | 71(87) | 185(89) | 2.89 |
| C26 | Manage quality improvement program for area of responsibilities | 90 (46) | 54(66) | 88(43) | 13.24* |

Table 2. Continued

| Foodservice systems management competencies | | Type of dietetic practice area | | | χ^2 |
|---|--|--------------------------------|-------------------------|---------------------|----------|
| | | B&I (n = 195) | Health care (n = 82) | School (n = 207) | |
| | | n (%) | n (%) | n (%) | |
| Facility management | | | | | |
| C27 | Develop policies and procedures for the maintenance and equipment (i.e. develop justifications and specification fire equipment) | 55(28) | 61(74) | 109(53) | 55.03* |
| C28 | Direct the use of facility and equipment based on criteria for safety, sanitation and security | 163(84) | 76(93) | 192(93) | 9.98* |
| C29 | Assess and analyze layout and design of facility for efficiency and effectiveness | 100(51) | 57(70) | 125(60) | 8.56* |
| C30 | Plan and propose changes in layout and design of facility based on assessment | 62(32) | 47(57) | 66(32) | 19.15* |
| C31 | Possess and apply knowledge of energy management techniques | 38(20) | 32(39) | 77(37) | 18.39* |
| C32 | Possess and apply knowledge of effective waste management with consideration of anti-pollution | 169(87) | 74(90) | 176(85) | 1.38 |
| Marketing management | | | | | |
| C33 | Possess and apply knowledge of marketing principles and strategies | 35(18) | 26(32) | 19(9) | 22.08* |
| C34 | Develop and implement marketing strategies to stimulate food sales (develop new product, services and/or promotional materials) | 143(73) | 66(81) | 121(59) | 17.14* |
| C35 | Conduct consumer survey to obtain feedback information that could be incorporated into menus | 182(93) | 78(95) | 190(92) | 1.06 |
| Marketing management | | | | | |
| C36 | Incorporate merchandising techniques that increase selection of high-profit menu items | 51(26) | 33(40) | 26(13) | 21.81* |
| Leadership and supervision | | | | | |
| C37 | Apply principles of management theory to effectively supervise employees | 93(48) | 62(76) | 119(58) | 18.43* |
| C38 | Develop leadership and supervisory skills for the achievement of objectives for the foodservice systems management | 122(63) | 61(74) | 141(68) | 3.87 |
| C39 | Identify problems and make necessary changes to optimize department objectives | 122(63) | 67(82) | 131(63) | 10.74* |
| C40 | Possess and apply motivational techniques to increase employee productivity and job satisfaction | 106(54) | 65(79) | 123(61) | 15.29* |
| C41 | Plan and perform orientation and in-service training programs for employees | 48(25) | 56(68) | 96(46) | 49.23* |
| Technical and communication skills | | | | | |
| C42 | Possess and demonstrate effective oral and/or written communication skills | 122(63) | 63(77) | 156(75) | 9.83* |
| C43 | Establish communication channels with individuals | 149(76) | 64(78) | 158(76) | 0.11 |
| Technical and communication skills | | | | | |
| C44 | Develop inter-department communication for effective foodservice systems management | 144(74) | 72(88) | 167(81) | 7.33* |
| C45 | Possess knowledge and skill about stress management | 169(87) | 64(78) | 156(75) | 8.47* |
| C46 | Possess and apply computer knowledge to foodservice systems management | 112(57) | 56(68) | 170(82) | 29.17* |
| C47 | Use computer as a professional tool (e.g. word processing internet) | 174(89) | 71(87) | 198(96) | 8.45* |

*Indicates significant difference between type of dietetic practice area and usage of competency at $\alpha = 0.05$

careers.

2. Usage of FSM competencies by dietitians

Dietitians' usage of 47 FSM competencies by the type of dietetic practice area is illustrated in Table 2. The dietitians' usage of 35 competencies was influenced by the type of dietetic practice area. Twenty-five competencies out of 35 were more likely to be used by dietitians from health care than those from school or B&I.

Three of the competencies (C1, 2, 3) within organizational management were found to be significant association with type of dietetic practice area. C4 was widely used by dietitians within all three types of foodservice. All of four competencies related to organizational management were more likely to be used by health care respondents than respondents from B&I and school. One possible reason was because of administrative systems. Kast, Rosenzweig

(1985) defined the administrative systems as a guide of activities and relationships of people in the organization, through planned and formalized policies, procedures, and controls. In health care organizations, food and nutrition services departments have important roles in achieving organizational goals, such as pertaining to patients' satisfaction and quality outcomes, cost containment and revenue-generation (Lafferty, Dowling 1997). To achieve these organizational goals food and nutrition services departments would be required to cooperate with the medical team and other departments, and to conform with organizational policies. Therefore, the dietitians within health care would be expected to use organizational management competencies frequently. According to Park (1984), B&I or school administrators had little appreciation of the importance of foodservice systems. This fact led the dietitians in B&I or schools to have little responsibility in organizational management.

In terms of human resources management (HRM), all of the five FSM competencies were found to be significantly associated with each type of dietetic practice area. The results showed that competencies related to HRM were also more likely to be used by the dietitians within health care than in B&I and school foodservice. One possible reason is that food and nutrition service for patients is related to clinical outcomes. Dietitians in health care should ensure that the special or therapeutic diets produced meet the nutritional needs of each patient (Palacio et al. 1994). Therefore, dietitians in health care would be expected to use HRM competencies in order to coordinate activities and staff that ensure producing optimum nutritional care. It is indicated that the dietitians did not have a well-recognized authority of HRM in the organization. In the study about dietitians' practices in B&I, Jeon (1984) indicated that many Korean dietitians had difficulties in HRM because of having no authorities of recruitment, performance appraisal and employee training.

Within the financial management category, budget preparation, cost analysis, revenue generation, cost control, and financial assessment competencies (C11, 13, 14, 15, 17) were found to be significantly associated with the type of dietetic practice area. A more important thing is that the dietitians within all of the practice areas widely used C11. In a cost control system in foodservice, cost analysis is very important to develop a strategic financial plan (Gould et al.

1994). Therefore, dietitians' utilization of this competency would be beneficial for the cost control system in terms of managing available resources. C14 was little or not used by dietitians in school (13%). This result is not surprising because school foodservice is a non-profit operation and dietitians in school manage their operations with a limited budget, rather than practicing any revenue-generating program. However, if budgetary deficit of school foodservice exists, it may be necessary for dietitians to practice revenue-generation programs to secure a sufficient budget in order to offer quality foodservice to students (Lee 1990b). The results suggested that financial management competencies related to revenue generation, cost control, and analysis of financial statements (C14, 15, 17) appeared to be more likely used by dietitians in health care. These results suggested that Korean health care foodservice systems expand their goals and objectives, such as practicing revenue-generating programs, rather than only handling limited budgets. Consequently, the dietitians in health care must utilize cost control and financial report preparation techniques in order to evaluate financial management activities and decide what actions to take.

Of the nine competencies within production and distribution management, five competencies (C18, 19, 20, 23, 26) were found to be statistically significant. Three competencies related to production objectives, purchasing procedures, and standardized recipes (C18, 20, 23) were more likely to be used by dietitians in school foodservice. One reason could be related to a goal of school foodservice, namely improving the nutrition of school children through quality foodservice with a limited budget (Lee 1990a). To achieve this goal, school foodservice would be required to have appropriate production and distribution objectives. Food purchasing would also have a major influence on the nutritional value and cost of food. For example, Sneed et al. (1993) emphasized importance of food procurement decisions in child nutrition programs. On the other hand, meal forecasting competency (C19) was more likely to be used by dietitians in B&I. One reason could be because employees, especially office workers, have many choices of eating out place around the workplace. It would make it more difficult for the dietitian in B&I to forecast daily the number of customers to visit the cafeteria. Hence, strong forecasting competency should be required for Korean dietitians in B&I.

The dietitians were asked to state whether or not they used six competencies within the facility management categories. Five competencies (C27, 28, 29, 30, 31) were found to have a significant association with the type of dietetic practice area. The remaining one competency (C32) was not statistically significant, but found that this competency was widely used by the dietitians, regardless of type of practice area. Competencies within the facility management category were not widely used by the dietitians in all three dietetic practice areas, even though the findings indicate that the health care dietitians were more engaged in facility management than those in other dietetic practice areas. These findings suggested that Korean dietitians were not expected to be experts in the area of facility and equipment. However, according to Sullivan, Atlas (1998), facility management is related to cost and sanitation aspects that must be managed. It is thus important for the dietitians to possess sufficient facility management competencies to convey departmental needs.

The relationship between usage of marketing management competencies and respondents' types of dietetic practice areas was analyzed. Of four competencies, three competencies related to marketing principles and strategies, and merchandising (C33, 34, 36) were more likely to be used by health care respondents. One possible reason was that health care had become a vigorous, competitive business (Lafferty, Dowling 1997). Biesemeier (1995) stated that health care marketing has focused on the promotion of positive images and differentiation of the services from those of other institutions with concerns about cost control and quality. To deal with such expectations and concerns of health care organizations, utilization of marketing competencies must be essential for the dietitians to generate possible outcomes such as increased revenue and reduction in the cost of operation.

Four competencies within the leadership and supervision category found to be significantly associated with the type of practice area and were also more likely to be used by dietitians in health care. According to Hoover (1983), leadership is essential for managerial effectiveness such as efficient utilization of personal resources and maintenance of a cost-effective operation. Jackson (1997) stated that dietetic professionals in health care need leadership skills to set a pattern in providing high quality food and nutrition service. Korean dietitians in health care, therefore,

could be expected to use a variety of leadership and supervision competencies for effective management of a foodservice operation and for good quality foodservice.

In terms of technical and communication skills, five competencies related to communication skills, inter-department communication, stress management, computer application, and computer use as a professional tool (C42, 44, 45, 46, 47) were found to be significant. The stress management competency (C45) was more likely to be used by dietitians in B&I. This result suggested that dietitians in B&I would have more knowledge and skills for dealing with stress in their job. Dietitians must manage both their own stress and the employees' stress in work areas. Stress may cause many complex problems, such as physical, mental, and/or behavioral symptoms which could result in an inefficient foodservice operation (Gilmore 1999). Accordingly, it is important that Korean dietitians have a stress management competency to operate foodservice productively.

To summarize the results of usage of 47 FSM competencies, the total mean usage rates of each of the eight categories was computed and arranged by rank order (Table 3). The usage rate means of the category of "technical and communication skills" and "production and distribution management" were 78% and 77%, respectively. In other words, competencies within these categories were widely used by dietitians. Whereas, in the human resource management category, they were seldom used. All eight categories of FSM were identified as essential FSM categories for dietetic/foodservice professionals in the previous studies (Kane et al. 1990; Palacio et al. 1985; Snyder et al. 1985). Therefore, it is observed that Korean dietitians should utilize FSM competencies within all eight categories for

Table 3. Korean dietitians' compiled usage rate mean for eight categories of foodservice systems management competency arranged by rank order

| Category of foodservice systems management competency | Compiled usage rate mean (%) | Rank |
|---|------------------------------|------|
| Technical and communication skills | 78 | 1 |
| Production and distribution management | 77 | 2 |
| Financial management | 62 | 3 |
| Leadership and supervision | 58 | 4 |
| Facility management | 58 | 4 |
| Organizational management | 58 | 4 |
| Marketing management | 50 | 7 |
| Human resources management | 40 | 8 |

professional practices.

Summary and Conclusions

The relationship between type of dietetic practice area and Korean dietitians' usage of FSM competencies were discussed. Of 47 competencies, 34 competencies were found to be significantly associated with the type of practice area. Considering the findings, the type of dietetic practice area was a strong factor of Korean dietitians' usage of FSM competencies. Twenty-five FSM competencies were more likely to be used by the dietitians from health care. These results could be results of the change in the Korean health care industry. Yang (1996) stated that changes in financing from health care insurance systems resulted in challenges to reduce costs and to find new sources of revenue, and health care service evaluation has been conducted since 1995. In health care organizations, food and nutrition services have an important role in achieving organizational goals pertaining to customer satisfaction, quality outcomes, and cost containment (Lafferty, Dowling 1997). In order to achieve those goals, use of FSM competencies would be critical for health care dietitians. This rationale could explain why the usage rates of FSM competencies were higher in health care than other dietetic practice areas.

Considering FSM competencies used by equal or more than 75% respondents, dietitians widely used C22, 18, 13, respectively, out of 47 FSM competencies. These findings indicate that FSM competencies were not frequently used by dietitians in any dietetic practice area. Even though there might be different practice areas, it does not mean that Korean dietitians in various practice areas do not need those FSM competencies. In other words, it is assumed that Korean dietitians should have and utilize all the basic 47 FSM competencies to operate the foodservice systems efficiently.

The findings of this study will be useful for the dietitians to identify deficits in their FSM competencies and to guide the selection of appropriate experience and/or continuing education. The information from the research produced baseline data to develop effective FSM education programs for future dietitians. However, this study did not examine the performance level of FSM competencies by dietitians, nor the factor influencing the level of utilization for the FSM competencies. Another consideration is recommended to determine the outcomes of using the FSM competencies such

as cost saving, improving food and service quality, or increasing customer satisfaction.

References

- American Dietetic Association (1983): Role Delineation and Verification for Entry-level Positions in Foodservice Systems Management. Chicago, IL: American Dietetic Association
- Arkwright MS, Collins ME, Sharp JL, Yakel RM (1974): Titles, definitions, and responsibilities for the profession of dietetics-1974. *J Am Diet Assoc* 64: 661-665
- Biesemeier C (1995): Clinical markets' acute and long-term care. In Helm KK. *The Competitive Edge: Advanced marketing for dietetics professionals*. Chicago, IL: The American Dietetic Association
- Boudreaux LJ, Shanklin CW (1991): Factors influencing success of dietitians employed in business and industry. *J Am Diet Assoc* 91: 1227-1232
- Dahlke R, Wolf KN, Wilson SL, Brodnik M (2000): Focus groups as predictors of dietitians' roles on interdisciplinary team. *J Am Diet Assoc* 100(4): 455-457
- DeMicco FJ, Williams JA, Oh H, Maurice WD, McElwain P, Boss D (1997): In search of school food service leaders: the next millennium. *School Food Service. Research Review* 21 (1): 2-4
- Eum Y, Lyu E (2003): Human resource management on dietitians in contract-managed foodservice companies. *J Korean Diet Assoc* 9 (3): 248-258
- Gilmore S (1999): *Foodservice Management Study Course*, 3rd ed. Ames, IA: Iowa State University Press
- Gould RA, Dabis L, Wittenbach S (1994): Cost controls for food service operations. *School Food Service Research Review* 18 (2): 113-120
- Gregoire MB (1992): Dietetic education research. In Monson E, ed. *Research: Successful Approaches*. Chicago, IL: American Dietetic Association
- Hoover LW (1983): Enhancing managerial effectiveness in dietetics. *J Am Diet Assoc* 82: 58-61
- Jackson R (1997): *Nutrition and Food Services for Integrated health Care: A handbook for leaders*. Gaithersburg, ME: Aspen publication
- Jeon Y (1984): *Business and industry foodservice and dietitians' practice*. Seoul, Korea: Sook-myung Women's University; Dissertation.
- Kane MT, Estes CA, Colton DA, Eltoft CS (1990): Role delineation for dietetic practitioners: empirical result. *J Am Diet Assoc* 90: 1124-1133
- Kast FE, Rosenzweig JE (1985): *Organization and management: a system and contingency approach*, 4th ed., New York, NY: McGraw-Hill
- Kwon J, Yoon BJ (2003): Prevalence of outsourcing and perception of clinical nutrition managers on performance of health care dietetics services. *J Am Diet Assoc* 103 (8): 1039-1042
- Lafferty L, Dowling RA (1997): Position of the American Dietetic Association: Management of health care food and nutrition

- service. *J Am Diet Assoc* 97: 1427-1430
- Lechowich KA, Soto TK (1995): Opportunities in commercial foodservice: the industry perspective. *J Am Diet Assoc* 95: 1163-1166
- Lee Y (1990a): School health and foodservice. *Nutrition and Dietetics in Korea* 121: 2-6
- Lee Y (1990b): School food service and role of Korean dietitians. *Nutrition and Dietetics in Korea* 121: 7-11
- Palacio JP, Spears MC, Vaden AG, Downey RG (1985): Dimensions of managerial work in hospital dietetic services. *J Am Diet Assoc* 85: 809-815
- Palacio JP, Harger V, Shugart G, Theis M (1994): West's and Wood's Introduction To foodservice, 7th ed. Englewood Cliffs, NJ: Prentice Hall
- Park M (1984): Research of dietitians in quantity foodservice: dietitians in Kyung-Buk area. *Nutrition and Dietetics in Korea* 58: 14-19
- Salant P, Dillman DA (1994): *How to conduct your own survey*. New York, NY: John Wiley & Sons, Inc.,
- Shanklin CW, Dowling R (1995): Opportunities in commercial foodservice- the members' perspective. *J Am Diet Assoc* 95: 236-238
- Silverman MR, Gregoire MB, Lafferty LJ, Dowling RA (2000): Current and future practices in hospital foodservice. *J Am Diet Assoc* 100(1): 76-80
- Sneed J, Gregoire M, Martin J (1993): Developing a philosophy statement for food procurement in child nutrition program. *School Food Service Research Review* 17 (1): 3-6
- Snyder JR, Schiller MR, Smith JL (1985): A comparison of career-entry administrative competencies with skills required in practice: Implications for continuing education. *J Am Diet Assoc* 85: 934-938
- Sullivan CF, Atlas C (1998): *Health Care Food Service Systems Management*. Gaithersburg, MD: Aspen Publication
- Yang I (1991): Expectation of dietitians' roles for changing foodservice industry. *Nutrition and Dietetics in Korea* 132: 12-23
- Yang I (1996): Present and future of contract foodservice management in Korea. *Nutrition and Dietetics in Korea* 177: 16-26
- Yates SC, Shanklin CW, Gorman MA (1987): Competencies of foodservice directors/managers required in health care operations. *J Am Diet Assoc* 87: 1636-1643
- Zolba K (1982): The president's page. *J Am Diet Assoc* 81: 594