

## The Nutrition Knowledge and Attitudes toward Dietary Fats

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### ABSTRACT

Knowledge and attitudes on current selection of fats and oils were surveyed among college students and USDA extension off campus faculties. The objective of this survey was to obtain information about the nutrition knowledge and attitudes toward dietary fats and to assess relationships between the nutrition knowledge, general attitudes toward dietary fats, and specific attitudes toward the eating of certain foods. The attitudes toward and nutrition knowledge of dietary fat sections consisted of 22 and 39 statements respectively. Avoiding red meat and eggs and avoiding fats as a flavoring were attitudes whose maintenance may require special, long-term intervention strategies. Replacing high-fat foods with low-fat foods, modification (cutting fat off any meat) and substitution were easily adopted and maintained low-fat habit. The responses to wanting to lose some weight and feeling better if increasing exercise were favorable. The attitudes toward the possible relationships between fat consumption and health were favorable. Respondents on the nutrition knowledge test attained a mean score of 129.69 and a median score of 127 out of the highest possible score of 200. Extension off campus faculties, nutrition majoring/majored subjects, and over 41-year-olds tended to have more favorable general attitudes and specific attitudes toward the consumption of certain foods and higher knowledge. Senior students had more negative general attitudes and specific attitudes, and college graduates and graduate students had more nutrition knowledge. Nutrition knowledge was related to general attitudes toward dietary fats, but not to more specific attitudes toward the eating of certain foods. Nutrition education will not be effective in modifying the intake of dietary fats in the population because nutrition knowledge related to general attitudes toward dietary fats and general nutrition practice but not the eating of certain foods. (*Korean J Nutrition* 30(1) : 75~83, 1997)

**KEY WORDS** : nutrition knowledge · general attitudes · specific attitudes · dietary fats.

### Introduction

Dietitians, physicians, and the press have repeatedly told the public that intake of dietary fat and cholesterol is associated with heart disease, obesity, and some forms of cancer and should therefore be reduced. The Dietary Guidelines<sup>1)</sup> stress reduction of fat, saturated fat, and cholesterol, and the Surgeon General<sup>2)</sup>

and the National Research Council<sup>3)</sup> have singled out excessive intake of dietary fat as a national health problem in the US. Fat intake among Koreans is generally low. According to the National Nutrition Survey of 1992, about 16% of energy comes from dietary fat<sup>4)</sup>. However, the figure goes beyond 30% in several studies conducted with young populations in urban area<sup>5,6)</sup>.

The diet may be changed through several courses of action, such as legislation changing the composi-

tion of certain foods (or voluntary changes by the food industry), or changes in the relative pricing or availability of particular foods. However, the most likely mechanism of change is the choice by individuals of different types of foods. This may be facilitated by improved labeling of foods, and increased knowledge of nutrition by consumers.

Although the public's awareness of the relationship between dietary fat and health has increased, their understanding remains limited. In 1988, 60% of consumers in the US rated fat as a serious health hazard compared with only 42% in 1985<sup>7</sup>. However, among surveyed adults, approximately half did not understand the term polyunsaturated fat<sup>8</sup>, thought cholesterol was found in vegetable foods<sup>9</sup>, associated cholesterol and saturated fats with heart disease<sup>10</sup>, or knew that saturated fats come primarily from animal sources, that polyunsaturated fats come primarily from plant sources, or that cholesterol and fat different substances<sup>11</sup>. Only 10% recognized that hydrogenation increases fat saturation<sup>12</sup>.

Nutrition knowledge is a scientific construct that nutrition educators have created to represent individual's cognitive processes related to information about food and nutrition. This construct plays an important role in nutrition education because one assumption underlying nutrition information/persuasion efforts is that increasing individuals' knowledge (or changing their beliefs) about food and nutrition will bring about desired changes in their food-related attitudes and behavior. Research findings indicate that this assumption has merit; that is, knowledge, attitudes, and behavior have been found to be significantly interrelated<sup>13,14</sup>. Although no one is given credit specifically for originating the nutrition knowledge construct and its relationship to dietary behavior, the construct and its theoretical relationship to behavior probably are logical extensions of the historical proposition that people think, feel and do, and that what people think should therefore be related to what they feel and do. However, the evidence for that proposed link is not very good.

There have been several reports of a relationship between nutrition knowledge and attitudes<sup>15-20</sup>, but in most cases they tended to be general attitudes toward nutrition, e.g., that nutrition is important, rather than

to the consumption of specific foods. Attitudes have been found to relate to nutritional behavior when it is defined in terms of a score for "general nutrition practices"<sup>15-19</sup>, but when it is examined in terms of specific foods or nutrient intakes, a small number of significant relationships<sup>20</sup> or no relationships<sup>21</sup> may be found. The objective of this survey was to obtain information about the nutrition knowledge and attitudes toward dietary fats and to assess relationships between the nutrition knowledge, general attitudes toward dietary fats, and specific attitudes toward the eating of certain foods.

## Materials and Methods

Questionnaires were distributed to college students through the classes that were related to the department of Nutritional Science and Hospitality Management, University of Nebraska and to the extension off campus faculties through the regular education program. One hundred forty-eight completed questionnaires were returned. The first section of the questionnaire contained questions on the demographic profile. Responses to some of the questions were missing, and, therefore, fewer than 148 responses were included for some of the analyses. The second section of the questionnaire concerned attitudes toward dietary fats. Attitudes were measured using statements based on the objectives of the study to which the respondents reacted positively or negatively. Guidelines used to develop the statements were: (a) the statement has no right or wrong answer; (b) the statement should be strong enough to elicit a response; (c) there should be only one basic idea in each statement; (d) the item should be directional; (e) the statement should be presented in an indirect manner. The third section contained questions on knowledge test of dietary fats. Principles followed in knowledge test construction were: (a) include only one central significant idea in each statement; (b) word the statement so precisely that it can be judged unequivocally agree or disagree; (d) use negative statements sparingly and avoid double negatives; (e) cite the source of and opinion statement; (f) avoid extraneous clues to the answer<sup>22</sup>.

The attitudes toward and nutrition knowledge of

dietary fat sections consisted of 22 and 39 statements respectively to which the subjects responded Strongly Agree(SA), Agree(A), No Opinion(N), Disagree(D), Strongly Disagree(SD). In scoring, subjects received varying points for degree of agreement or disagreement with the statement. Responses which favored the value statement were scored +5 if strongly agree was circled and +4 for agree, +3 for no opinion, +2 for disagree and +1 for strongly disagree. For negatively worded statements the opposite scoring system was used : +5 and +4 were given for choices of strongly disagree and disagree and +1 and +2 were given for choices of strongly agree and agree, and +3 was given for a choice of no opinion. Thus, high scores indicated a favorable attitude and knowledge toward the attitude statement and questions.

The questionnaires were analyzed utilizing the Statistical Analysis System(SAS). The demographic data were tabulated to describe the sample. Frequencies were tabulated for the responses to the knowledge and attitude questions. A mean and median were calculated for the knowledge test. Pearson correlation coefficients were computed between the knowledge and attitudes of the questionnaire, and differences between responses were assessed using analysis of variance, Duncan's multiple range test, and t-tests. The responses to the ranking statements were tabulated and converted into percentages.

## Results and Discussion

### 1. Sample characteristics

The characteristics of the sample are found in Table in 1. Of 148 respondents, approximately three-fourths of the sample were college students and one-fourth of the sample were extension off campus faculties. The majorities of the sample were female(91.9%) and Caucasian(87.1%). There were no black subjects. Percentages of Asian, native Indian, and Hispanics were 8.8%, 0.7%, and 0.7%, respectively. The subjects ranged in age from under 21 to over 70 with the highest frequency age being 21-30. Nearly three quarters of the sample were undergraduate students while the remainder had received at least bachelor's degrees. The majorities of the respondents were from Home Economics College and 56% were majors in Nutritional Sci-

**Table 1.** Sample characteristics

Characteristic	Frequency	Percent
Student/Extension :		
Student	109	73.6
Extension	39	26.4
Sex :		
Male	12	8.1
Female	136	91.9
Race :		
Caucasian	128	87.1
Asian	13	8.8
Indian(Native)	1	0.7
Hispanic	1	0.7
Black	0	0
Unclassified	5	2.7
Age :		
Under 21	39	26.7
21-30	59	40.4
31-40	25	17.1
41-50	15	10.3
51-60	6	4.1
61-70	1	0.7
Over 70	1	0.7
Year :		
Freshman	0	0
Sophomore	23	15.5
Junior	37	25.0
Senior	35	23.6
B.S/B.A completed	16	10.8
M.S student	10	6.8
M.S/M.A completed	23	15.5
Ph.D student	4	2.7
Major :		
Nutrition/Management	82	55.8
Consumer Science	12	8.2
Textiles, Clothing & Design	6	4.1
Home Economics Education	26	17.7
Food Science & Technology	2	1.4
Human Development/the Family	9	6.1
Others	10	6.8

ence/Hospitality Management.

### 2. Nutrition attitudes

The mean scores for the responses to the attitude questions are presented in Table 2. The mean scores, above 3, indicated that the responses were favorable. The responses to decreasing consumption of or never eating red meat and eggs, not adding a salad dressing, and not using butter or margarine on breads were unfavorable. Our results agree with the results of Kristal et al.<sup>23)</sup> and Lloyd et al.<sup>24)</sup> Adoption was smallest for

the two-fat dietary habits related to meat use-avoiding meat and modifying meats to be lower in fat. Modification, however, was well maintained after the trial, although there was considerable recidivism in avoiding meat. Avoiding fats as a flavoring was strongly adopted, but there was considerable recidivism.

The responses to increasing consumption of fish, poultry and vegetables or avoiding eating fried snacks and snacks contained high fat were favorable. Shepherd and Stockley<sup>25)</sup> study showed that contributors to total fat intake in the United Kingdom were meat (17.3%), meat products(9.9%), butter or margarine(24.6%), cheese(4.8%), milk(12.6%) and fried foods; the contribution from fat and oil is about 12% but not all of this were used for fried foods. The responses to decreasing consumption of fat in the diet, cutting fat off any meat before eating, selecting the reduced fat ver-

sions of food, and reading food labels to determine fat content of foods were favorable. Attitudes to these behaviors that are mentioned directly about fat were more favorable in comparison to attitudes to previous behaviors that are mentioned about foods containing high total fat. We interpret these findings as support for two intervention strategies. First, using specially manufactured substitute foods and modifying meat to be lower in fat may be relatively easy ways to lower fat that can be adopted early in an intervention and maintained with relative ease. Second, low-fat dietary habits that require substantial change in usual dietary patterns-avoiding meat, replacement and avoiding fats as a flavoring-may require long-term maintenance strategies.

In this survey, the responses to wanting to lose some weight and feeling better if increasing exercise were fa-

**Table 2.** Response to items assessing nutrition attitudes toward fat

Item	Question Content	Mean <sup>1)</sup>	Response				
			SA %	A %	N %	D %	SD %
1	I plan to decrease my consumption of red meat.	2.73	8	25	15	35	17
2	I never eat red meat.	1.70	4	7	2	31	56
3	I plan to decrease my consumption of eggs.	2.75	10	13	29	37	11
4	I never eat eggs.	2.56	12	19	6	38	24
5	I plan to increase my consumption of fish and poultry.	3.65	15	54	15	11	4
6	Vegetables are an important part of my usual food consumption pattern.	4.19	43	44	2	10	1
7	When I eat a salad, I do not add a dressing <sup>2)</sup> .	1.90	4	6	4	48	39
8	When I eat bread or rolls, I usually do not spread them with butter or margarine <sup>2)</sup> .	2.45	12	16	4	41	27
9	If given the choice between french fried potatoes or a salad with my lunch, I usually take the salad.	3.55	28	36	6	22	8
10	I avoid eating fried snacks such as potato chips.	3.19	21	29	5	39	6
11	High fat ice cream usually do not taste better to me than do ice milks <sup>2)</sup> .	3.23	20	33	13	20	15
12	I plan to decrease my consumption of fat in my diet.	4.14	33	56	4	6	1
13	Eating foods which are good for me rather than foods that I like is the most important consideration in determining what I actually eat <sup>2)</sup> .	3.50	15	49	9	26	1
14	I usually cut all fat off any meat before I eat it.	4.13	48	34	5	11	3
15	If given a choice, I usually select the reduced fat versions of food.	4.11	40	40	11	9	1
16	I read food labels to determine fat content of foods I buy.	3.81	32	42	6	14	6
17	I would like to lose some weight in the near future.	3.68	33	35	9	13	10
18	I feel better and would be in better health if I increase my exercise.	4.40	61	26	7	5	1
19	I really feel that my current body weight is not about right for me <sup>2)</sup> .	2.92	10	37	3	36	15
20	My blood cholesterol level has been recently measured.	3.35	35	21	7	20	18
21	I am highly concerned about the possible relationships between fat consumption and good health.	4.17	41	42	11	4	2
22	During the last few years, I have made changes in my fat consumption practices because of my concern with good health.	3.98	38	35	15	11	1

1)  $\frac{\% SA \times 5 + \% A \times 4 + \% N \times 3 + \% D \times 2 + \% SD \times 1}{100\%}$

2) Statements have been reworded so items which were negatively stated in the testing instrument are now positively stated.

favorable. However, the response that respondents' current body weight was not right for respondents was unfavorable. The attitudes toward the possible relationships between fat consumption and health were favorable.

**3. Nutrition knowledge**

The scores on the nutrition knowledge test were shown in Table 3.

**Table 3.** Frequency distribution of scores on knowledge test

Test Score	Number of Subjects
106 - 110	2
111 - 115	5
116 - 120	20
121 - 125	30
126 - 130	27
131 - 135	12
136 - 140	9
141 - 145	4
146 - 150	6
151 - 155	2
156 - 160	2
161 - 165	2
166 - 170	2
171 - 175	1

The highest possible score was 200. Respondents in this sample attained a mean score of 129.69 and a median score of 127. For the entire test 41.7% of responses were correct, 25.3% were incorrect, and 32.9% were no opinion. A comparison of these figures with mean indicated that a subject received +1 or +2 points even though he or she marked an unfavorable answer. The total point a subject received was influenced by the degree of certainty : e.g. the subject who was less certain of their answers would receive a lower score than the subject who indicated a high degree of certainty. The responses to items assessing nutrition knowledge toward fats are presented in Table 4. It is assumed that some questions were too difficult.

For several statements, more than 60% of respondents in total didn't know the correct answers or gave the wrong response. These are indicative of areas where nutrition education is needed.

**4. Relationship between knowledge, attitudes, and demographic data**

The 22 items for measuring attitudes were divided

**Table 4.** Response to items assessing nutrition knowledge toward fat

Question Content	Response		
	Cor. %	Incor. %	Don't know %
Omega-3 fatty acids are polyunsaturated fatty acids.	51.7	12.2	30.7
All essential fatty acids are not monounsaturated fatty acids <sup>1)</sup> .	54.6	11.3	34.0
Corn oil is not the vegetable oil most commonly used in food products in the United States <sup>1)</sup> .	39.3	40.7	20.0
Hydrogenation of liquid vegetable oils reduces their degree of unsaturation.	58.2	18.4	23.4
The triglycerides composing most food fats and oils contain a mixture of saturated, monounsaturated, and polyunsaturated fatty acids.	59.7	6.5	33.8
Fats containing trans fatty acids generally have higher melting points than do those containing cis fatty acids.	27.4	8.2	64.4
A blood serum cholesterol level of 150 mg/dl is not The American Heart Association is recommending that adults should lower their fat intakes to less than 30% of total Kcalories <sup>1)</sup> .	51.4	36.0	12.5
The triglycerides composing beef tallow contain approximately 50% saturated and 50% unsaturated fatty acids.	14.1	38.5	47.4
Fish oils are not the only source of omega-3 fatty acids <sup>1)</sup> .	29.7	44.4	25.9
Prostaglandins are not formed from monounsaturated fatty acids <sup>1)</sup> .	8.2	7.5	84.3
Vitamin D is one form of cholesterol.	14.8	57.0	28.2
Long chain fatty acids gave higher melting points than do medium and short chain fatty acids <sup>1)</sup> .	31.6	24.1	44.4
Melting points of fatty acids of similar length decrease as the number of double bonds they contain increase.	27.1	22.5	50.4
Butter does not melt at room temperature because of its high content of saturated fatty acids <sup>1)</sup> .	46.2	22.8	31.1
Stability of food fats and oils decrease as their degree of unsaturation increases.	49.6	15.8	34.6

1) Statements have been reworded so items which were negatively stated in the testing instrument are now positively stated.

**Table 4.** Response to items assessing nutrition knowledge toward fat(cont.)

Question Content	Response		
	Cor. %	Incor. %	Don't know %
Liquid oils are not always more unsaturated than are solid fats <sup>1)</sup> .	29.1	51.5	19.4
Animal fats are not always more saturated than are plant oils <sup>1)</sup> .	30.8	57.1	12.1
Populations having a high death rate from atherosclerosis/coronary heart disease do not have short life expectancies <sup>1)</sup> .	59.7	14.0	26.4
Canola oil is less unsaturated than is corn oil <sup>1)</sup> .	23.5	46.2	30.3
Potato chips contain more fat than do french fried potatoes <sup>1)</sup> .	44.0	21.2	34.8
Chocolate must contain cocoa butter in order for it to be legally considered chocolate.	41.7	23.5	34.8
Fats contained in food products are usually a mixture from several sources in order to improve the quality of product <sup>1)</sup> .	40.5	26.7	32.8
Vitamin E helps prevent the rancidity both food and body fats.	43.2	12.1	44.7
Palm oil does not contain a poison <sup>1)</sup> .	54.2	6.9	38.9
Palm oil ranks number 2 in world usage as a plant food fat.	32.3	19.2	48.5
Chicken fat is far less saturated than is beef tallow <sup>1)</sup> .	67.4	9.8	22.8
Coconut oil is a more saturated fat than is beef tallow.	43.2	27.3	29.5
Trans fatty acids are not found largely in unhydrogenated vegetable oils <sup>1)</sup> .	22.1	15.3	62.6
Human milk contains considerably higher amounts of fat and cholesterol than does cow's milk <sup>1)</sup> .	33.6	33.6	32.8
Skim milk is not a better food for children under five years of age than is 4% fat milk <sup>1)</sup> .	81.1	7.6	11.3
Pie crust pastry quality is superior if made with a solid shortening rather than a liquid oil.	64.4	23.5	12.1
In the deep fat frying of foods, more fat is absorbed if liquid oils are used than if solid fats are employed <sup>1)</sup> .	31.0	28.8	40.2
Monounsaturated fatty acid rich oils do not have superior health properties to those rich in polyunsaturated fatty acids <sup>1)</sup> .	26.0	32.0	42.0
Canola oil (a form of rape seed oil) and olive oil are rich sources of monounsaturated fatty acids.	53.8	11.4	34.8
Beef tallow is a good source of monounsaturated fatty acids.	14.4	50.7	34.8
Corn oil, traditional sunflower oil, traditional safflower oil and soybean oil are all excellent sources of polyunsaturated fatty acids.	72.0	4.5	23.5
Plant oil margarine should be recommended for a replacement for butter.	66.7	12.1	21.2
Ground beef which is advertised as being 90% fat-free does not contain 10% of its caloric content as fat <sup>1)</sup> .	30.3	46.2	23.5

1) Statements have been reworded so items which were negatively stated in the testing instrument are now positively stated.

into the following areas : general attitudes and specific attitudes toward the eating of certain foods. Two scales were constructed from these items for purposes of analysis. Specific attitudes are item 1 to item 12, and general attitudes are item 13 to item 22(Table 2). The correlations between general attitudes, specific attitudes regarding the consumption of certain foods, and nutrition knowledge toward dietary fats are shown in Table 5. Analysis of data revealed that general attitudes and the subjects' nutrition knowledge were significantly correlated( $P < 0.05$ ), and the correlation coefficient was 0.22. Specific attitudes toward the eating of certain foods did not correlate with nutrition knowledge. Subjects with high nutrition knowledge scores did not report lower consumption of the high-

**Table 5.** Correlation coefficients between knowledge, general attitudes, and specific attitudes (n=148)

	General Attitudes	Specific Attitudes
Knowledge	0.217*	0.141
General Attitudes	1.000	0.542***

\* $P < 0.05$ , \*\*\* $P < 0.001$

fat foods. The general attitude scores were correlated positively with the specific attitude scores toward the eating of certain foods( $r = 0.54$ ,  $P < 0.001$ ), indicating that those with more positive general attitudes had better food selection practices and eating habits. Investigation of the relationship between knowledge and a general dietary attitude score has shown effects<sup>15)(17)(19)</sup>, but when intake is defined in terms of nutrients or specific foods, either no effects<sup>20)(21)(26)</sup> or correlations

**Table 6.** Results of t-tests for student/extension and major

Measures	Student/Extension		Major	
	Student (n=109)	Extension (n=39)	Nutrition (n=82)	Non-Nutrition (n=65)
General Attitudes	33.1	36.3***	34.4	33.4
Specific Attitudes	39.8	41.5	42.2***	37.6
Knowledge	119.0	133.8***	124.2	120.7***

\*\*\*P<0.001

**Table 7.** Results of Duncan's multiple range test for age and year

Measures	F Value	Age				
		Under 21 (n=39)	21-30 (n=59)	31-40 (n=25)	41-50 (n=15)	Over 51 (n=8)
General Attitudes	4.01**	34.4 <sup>ab</sup>	32.3 <sup>b</sup>	35.3 <sup>ab</sup>	35.9 <sup>a</sup>	37.8 <sup>a</sup>
Specific Attitudes	1.43	40.5	39.3	39.7	42.1	44.1
Knowledge	3.55**	117.1 <sup>b</sup>	122.6 <sup>ab</sup>	125.3 <sup>ab</sup>	129.4 <sup>a</sup>	129.0 <sup>a</sup>

  

Measures	F Value	Year				
		Sophomore (n=23)	Junior (n=37)	Senior (n=35)	B.S/B.A (n=16)	Graduate (n=37)
General Attitudes	3.50**	35.1 <sup>a</sup>	32.9 <sup>ab</sup>	31.9 <sup>b</sup>	35.8 <sup>a</sup>	35.4 <sup>a</sup>
Specific Attitudes	3.29*	42.6 <sup>a</sup>	40.8 <sup>a</sup>	37.0 <sup>b</sup>	41.1 <sup>a</sup>	41.0 <sup>a</sup>
Knowledge	16.87***	118.7 <sup>b</sup>	116.2 <sup>b</sup>	117.8 <sup>b</sup>	131.8 <sup>a</sup>	132.7 <sup>a</sup>

\*P<0.05, \*\*P<0.01, \*\*\* P<0.001

for a small number of nutrients<sup>27)</sup> have been found. Our results are consistent with these surveys.

Differences between subgroups of subjects were examined separately for student/extension, age, major, and year education because the numbers of responses from these subgroups were not balanced. The results of these analyses for student/extension and major are shown in Table 6.

There were some differences in the responses for subgroups. Extension off campus faculties had more favorable general attitudes toward dietary fats(P<0.001), along with a higher knowledge score than college students(P<0.001). One of the roles of an extension specialist is to help people make dietary changes. So the results are not surprising. Nutrition majoring/majored subjects had more specific attitudes toward the eating of certain foods than non-nutrition majoring/majored subjects. The other responses of the nutrition majoring/majored subjects were also generally more positive and higher, although in the other case not significantly so.

The results of analyses for age and year are shown in Table 7. The over 41-year-olds had more positive general attitudes(P<0.01) and higher knowledge(P<0.01) in this survey. It may be that older subjects

were more likely to be extension specialists and to have a higher educational level. Senior students had more negative general attitudes(P<0.01) and specific attitudes regarding the consumption of certain foods (P<0.05) than any other groups. Senior students would appear to be more in hedonic response to the foods and a less health concern regarding fat. B.S/B.A. A completed subjects and graduate students had more nutrition knowledge than the other groups(P<0.001).

One possible problem with our approach was the small number of subjects from the university. The small number of subjects from the university might be fairly crude and a larger number of subjects from various community might classify and generalize the responses more exactly. In general, extension off campus faculties, nutrition majoring/majored subjects, and over 41-year-olds tended to have more favorable general attitudes and specific attitudes toward the eating of foods and higher nutrition knowledge. Senior students had more negative general attitudes and specific attitudes than any other groups, and B.S/B.A completed subjects and graduate students showed higher nutrition knowledge.

In conclusion, nutrition knowledge was related to general attitudes toward dietary fats, but not to more

specific attitudes toward the eating of certain foods. Nutrition education will not be effective in modifying the intake of dietary fats in the population because nutrition knowledge related to general attitudes toward dietary fats and general nutrition practice but not the eating of certain foods.

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=국 문 초 록=

## 식이 지방에 대한 영양 지식과 태도에 관한 조사

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대학생과 미농무성 extension off campus faculties의 지방과 기름의 현재 선택에 대한 영양 지식과 태도를 설문지를 통하여 조사하였다. 이 조사의 목적은 식이 지방에 대한 영양 지식과 태도에 관한 정보를 얻고 식이 지방에 대한 영양 지식과 일반적 태도와 식품의 섭취에 대한 특별한 태도 사이의 관계를 평가하기 위한 것이었다. 조사 대상자들은 대부분의 영양 태도 문항에 대해 긍정적인 태도를 보였으나, 적색 고기류와 계란을 피하는 것과 향미로써 지방을 피하는 것에 특별하고 오랜 기간 중재 전략이 요구되는 부정적인 태도를 보였다. 지방 함량이 높은 식품을 지방 함량이 낮은 식품으로 대체하는 것, 지방 식품의 변화와 대응은 낮은 지방 식습관으로 쉽게 적용되어지고 유지되는 긍정적인 태도였다. 체중을 줄이기 원하는 반응과 운동을 증가한다면 더 좋은 느낌을 가지는 반응은 바람직한 태도를 보였다. 지방 소비와 건강 사이에서의 가능한 관계에 대한 태도는 바람직한 반응을 보였다. 영양 지식 인지도는 가능 최고 점수 200점 중 평균값이 129.69이고 중간 값이 127이었다. Extension off campus faculties와 영양학 전공자와 41세 이상의 응답자는 식이 지방에 대해 더 바람직한 일반적 태도와 특별한 태도를 가졌으며 더 높은 지식수준을 보였다. 4학년 학생은 어떤 다른 학년보다 더 부정적인 일반적 태도와 특별한 태도를 가졌으며, 학부 졸업생과 대학원 학생이 가장 높은 영양 지식을 보였다. 본 조사에서 영양 지식은 식이 지방에 대한 일반적 태도 측정과 유의적인 상관관계가 있었으나 어떤 식품의 섭취에 대한 더 특별한 태도에는 상관관계가 없었다. 그러므로, 영양 교육은 인구 집단에서 식이 지방의 섭취를 변화시키는 데 효과적이지 못함을 시사한다.