FOOD BELIEFS AND PRACTICES OF SELECTED SENIOR CITIZENS

by

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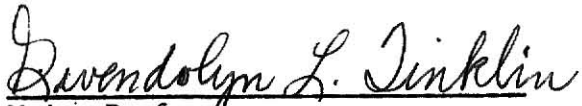

Major Professor

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INTRODUCTION

In this century, the percentage of the U.S. population 65 years of age and older has more than doubled (Anonymous, 1970a). A large part of the Mid West population is elderly (Robbins, 1971). Kansas has the sixth largest elderly population in the nation, with 12.1% of the population 65 years of age or older (Anonymous, 1973a). The White House Conferences on Aging in 1961 and 1971 sought to identify the needs of America's aging population. Three basic problems of the elderly population identified by the 1971 White House Conference on Aging were: (1) nutrition, (2) income and (3) housing (Anonymous, 1971b).

Nutrition adequacy has been linked to both income and housing of senior citizens. LeBovit and Baker (1965) reported that when low-income people have poor diets they tend to be lower in nutritional quality than poor diets of the average population. Housing also may create food barriers for the elderly. Housing may be distant from markets or food service facilities, or have inadequate storage and kitchen facilities (Todhunter, 1971). Sherman and Britton (1973) reported that the trend toward supermarkets replacing corner grocery stores greatly increased the problem of obtaining food for the elderly population. The prevalence of nutrition misinformation and lack of knowledge may compound those problems; America has been called a nation of "nutritional illiterates," and the elderly are not exempt (Pelcovits, 1972).

At the time of the present study, a highrise apartment complex for the elderly in Manhattan, Kansas had been in operation less than 18 months. This complex offers reasonable rent which is adjusted to income, close proximity to grocery stores, special design to meet physical needs,

adequate cooking facilities, plus an organized group meal program for any senior citizens in the community who care to participate. Thus, this complex has the potential to meet the needs cited in Public Law 92-258 (Anonymous, 1972b).

No study was found that compared the food beliefs and practices of residents in special housing for senior citizens with food beliefs and practices of nonresidents. It seemed possible that the special apartments for the elderly might affect their food beliefs and practices. Therefore, the present study was designed to compare the (1) food beliefs and (2) food practices of selected senior citizens in Manhattan, Kansas who reside in the highrise apartment complex with those who are nonresidents. Relationships between food beliefs and practices also were investigated.

REVIEW OF LITERATURE

Characteristics of senior citizens

Age and living situation. One of the newest and most rapidly growing minorities in America today is the aging. Approximately 20 million Americans are now 65 years of age and over (Anonymous, 1970a). An additional 18 million are between the ages of 58 and 64 and will shortly be classified as older Americans (Ornstein, 1971). The median age of these senior citizens has risen to 73 (Pelcovits, 1972). On the average for individuals 65 years of age and over, there are 140 women per 100 men (Brotman, 1974). Seventy percent of the aged live in family situations, about 25% live alone or with nonrelatives, and 5% are institutionalized (Pelcovits, 1972).

Education. In terms of formal schooling, older people are among the most poorly educated segment of the American population. McClusky (1971) reported that 66% of those over 65 have an eighth grade education or less, 72% of those 75 years and over have eight or fewer years of schooling, and only 8% have attended college. The low educational attainment by older people becomes more meaningful when compared with the formal education of young people. For example, only 17% of those aged 25-29 have less than an eighth grade education and 33% have attended college.

Income. Economic problems are characteristic of this age group. In 1971, it was reported that about 4.5 million, or a quarter of all older Americans had total incomes below the poverty index (Brotman, 1974). Widows and members of minority groups are most likely to live in poverty. Approximately 85% of the nonwhite older women and about 60% of the older women who live alone or with nonrelatives live in poverty (Anonymous, 1971a).

The median income for older couples in 1971 was about $95 a week and for older people living alone or with nonrelatives about $45 a week. This median income is less than half that of younger persons (Brotman, 1974). The identified sources for income of the aged include approximately 26% from Social Security, 14% from retirement programs, 30% from earnings, 25% from assets, and 8% from other sources (Anonymous, 1971a).

Health problems. In 1971, persons 65 years of age and older spent approximately 4 times more for health care than those under 65. Older persons tend to have more and longer hospital stays, more doctor visits, more days of some degree of disability, and spend more for drugs (Brotman, 1974). Approximately 75% of all persons between 65 and 74 years of age have chronic health conditions (Brink, 1968).

Despite these health problems, a majority of the aged in the community function relatively independently. Eighty-one percent have no limitation on physical mobility, 8% can manage on their own or with mechanical aids, 6% need the help of another person, and 5% are homebound (Brotman, 1974). But since the median age of senior citizens is increasing, the degree of risk is increasing as well. Individuals 75 years of age are most vulnerable to mental, physical, and environmental insults (Brody, 1974).

Health problems of the elderly are varied. They may range from serious malfunction of an organ to difficulties in chewing. In 1967, for persons 44 years of age and over, 39% of the deaths were attributed to heart diseases, 16.8% to cancer, and 10.9% to strokes (Chinn et al., 1971). Other commonly occurring diseases include gout and rheumatic disease, diabetes mellitus, and osteoporosis (Anonymous, 1973b). Diabetes mellitus occurs in about 5.5% of the population and osteoporosis affects 20% of the women and 10% of the men (Howell and Loeb, 1969).

The extent to which diet influences these health conditions has been studied. There is increasing evidence that caloric overnutrition is accelerating the onset of diseases of senescence (Howell and Loeb, 1969). The prevalence of obesity in the aged is not uncommon, although the incidence varies from population to population. Davidson et al. (1962) reported that over 25% of their study group aged 51-97 were more than 20% above their desirable weight. Hollifield and Parson (1959) found that 11.0% of males and 15.9% of females were 20% or more over their desirable weight. They concluded that the incidence of obesity is as great or greater among the 65+ age group than among younger adults. Fry et al. (1963) reported that only 6% of their study group were overweight.

Beliefs and practices of senior citizens

Dietary fads and supplementation. Jalso et al. (1965) studied the nutrition beliefs and practices of groups of different ages, economic levels, and education. They classified individuals as "faddist" or "non-faddist" on the basis of an agree or disagree response to statements regarding food and nutrition misconceptions. The subjects classified as "faddists" had less formal education, less nutrition education, and were concentrated in the older age and lower income groups than the "non-faddist." Engel (1959) believed that the elderly are the group most prone to food faddism since old age often is accompanied by ailments which faddists propose to cure. Jalso et al. (1965) reported that 73.6% of the "faddists" and 58.4% of the "non-faddists" used vitamins. In most of these cases, vitamin supplementation was self-prescribed.

Other incidences of supplementation have been reported. LeBovit and Baker (1965) found that over 1/3 of the participants in the Rochester, N.Y. study took vitamin or mineral supplements. Half of those taking vitamins had already met the recommended intakes from their diets. In the San Manteo nutrition survey (Steinkamp et al., 1965), 35% of the participants used vitamin or mineral supplements. These were usually taken by persons with adequate nutrient intakes.

Dietary intakes. In addition to caloric overnutrition in the aged, there are reported incidences of undernutrition. Dietary intake studies of the elderly have been conducted. Nutrient deficiencies vary somewhat from population to population. Lyons and Trulson (1956) collected diet histories from 100 persons 65 years of age or over living at home. Of those interviewed, 25% consumed less than 75% of the National Research

Council Recommended Dietary Allowances for calories, riboflavin, and ascorbic acid. Milk products, and yellow and dark green leafy vegetables were the foods most often omitted in the diets of both men and women.

Jordan et al. (1954) also studied the dietary habits of persons aged 65 and older who lived alone. Of that group, 43% consumed less than the recommended amounts of milk products, and the adequacy of protein was questionable in 34%. Ascorbic acid sources were insufficient in 40% of the diets and 59% received less than the recommended amounts of vitamin A.

Fry et al. (1963) determined nutrient intakes of active healthy women 65 years of age and over. In general, the diets provided 2/3 or more of the Recommended Dietary Allowances. Exceptions were that iron intake was low in 12%, calcium intake in 16%, and vitamin A intake in 9% of the diets. Calcium was the only nutrient consumed in less than half the recommended amount.

In the San Manteo nutrition study (Steinkamp et al., 1965), which incorporated 3 follow-up studies, no consistent trend in individual intakes was apparent. Calcium and niacin were below 2/3 of the recommended level for about 25% of the diets in all 4 studies. Vitamin A and ascorbic acid were low in 25% of the diets for at least 1 year.

National studies of the nutritional status of the elderly tend to support findings of less extensive investigations. In the nationwide household food consumption survey in 1965-66 (Anonymous, 1970), older men and women had diets that were under the allowances for more nutrients than did younger groups. Intakes were more than 30% below the recommendations for thiamine, riboflavin, iron, and vitamin A in older women age 65+. In older men age 75+, calcium was 24% below recommended amounts. Low amounts of riboflavin, vitamin A, and ascorbic acid were reported also.

It was indicated in the Ten-State Nutrition Survey that the elderly as a group had one of the highest incidences of nutritional deficiencies. Persons over 60 years of age showed evidence of general undernutrition which was not restricted to the very poor nor to any single ethnic group. The prevalence of poor ascorbic acid status also was found to increase with age (Anonymous, 1972a).

Factors affecting dietary intakes. Beeuwkes (1960) identified factors that might influence the food habits of the elderly. These included ability to masticate food, lifelong eating habits, place and conditions of residence, income, educational achievement, and vulnerability to dietary fads.

Ability to masticate and taste food. Horwitt (1953) reported that one of the most important factors affecting nutrition of the aged was the loss of teeth and absence of good dentures. About 50% of all Americans have lost their teeth by the age of 65 and 67% by the age of 75 (Kaplan, 1971). Horwitt (1953) described food choices as being related most to the ability to chew rather than to other health reasons. Food choices also may be related to the ability to taste certain foods since the sense of taste and smell become less acute in the aged (Havinghurst, 1974).

Lifelong eating habits. The eating habits of the elderly may have been formed even before the basic concepts of nutrition were recognized. Such habits may not help them obtain adequate diets, yet they are deep rooted habits which are difficult to change (Hoffman, 1973).

The type of the food may influence eating habits of the elderly. It is suspected that older persons because of well established food preparation habits do not use extensively many newer food products, such as frozen fruits and vegetables. In addition, the number of mixes

designed for small households is limited. The use of frozen dinners is also thought to be limited even though there are advantages of less preparation, clean-up, and individual serving sizes (Howell and Loeb, 1969). However, Bivens (1969) reported that low-income households increased their use of convenience foods by 47% from 1955 to 1965. Since a high proportion of the aged are in the low income groups, the incidence of use of convenience foods may be increasing.

Place and conditions of residence. Place and conditions of residence may affect dietary intakes too. The housing may be distant from markets or food service facilities, have inadequate storage, lack refrigeration facilities, and/or kitchen equipment. Any or all of these conditions may adversely affect the nutritional well-being of the elderly (Todhunter, 1971).

Income and education. The relationships among dietary habits, income, and education also have been studied. Davidson et al. (1962) reported that the income level of the individuals with the 10 "best" diets in their study were generally higher than for those with the worst diets. Young et al. (1954) studied food habits of older workers and found positive relationships between income and dietary intake. However, they suggested that education was more significant than income in affecting dietary quality. Schwartz et al. (1964) also related education level to adequacy of diet but failed to relate it to income.

There is a recognized need for nutrition education for all age groups, especially the elderly. In 1963 it was reported, at the Public Health Association Conference, that Americans were increasing their nutrition knowledge with the exception of junior high students and the elderly (Anonymous, 1964). However, in a study by the Pillsbury

Corporation, Bauman (1973) reported that consumers in general show a lack of knowledge about the constitution of well-balanced diets. He indicated also that consumers had inadequate conceptions of common food sources of important nutrients. In another study of nutrition knowledge of consumers by FDA, the poor, elderly, less-educated, and minorities were the groups indicating the most need for nutrition education (Beloian and Schrayer, 1974).

Isolation. The role that isolation plays in the food habits of the elderly has recently been emphasized. Weinburg (1972) stated that isolation usually is not self-imposed and isolated individuals may not be able to successfully cope with the situation. Reasons for isolation may be poor health, poverty, lack of transportation, feelings of rejection and apathy, or loss of a role in the social structure. Whatever the reason, there is a link between nutrition and isolation. Lonely people often fall into poor eating habits and will not prepare proper meals for themselves (Pelcovits, 1972). This can be related to the knowledge that food is more than a biological necessity; it is a medium of socialization, and may even become a substitute or enhancer of love (Weinburg, 1972). Thus the psychological state of the elderly may affect their nutritional status.

Available programs for senior citizens

Organized meal programs. Knowledge of the relationship between isolation and poor nutrition was a factor in the development of permanent nutrition programs for the elderly under Title VI of the Older Americans Act. Income limitations, lack of selection and preparation skills, and

limited mobility were other recognized reasons which limit the nutritional status of the elderly (Anonymous, 1972b).

Experimental projects to improve the nutrition of the elderly began in 1968 (Pelcovits, 1971). Studies to determine the nutritional contribution of group meal programs were conducted. Joering (1971) reported that the poorest nutrient intake of 5 study groups occurred in the group that did not participate in the meal program. Therefore, the use of fresh produce or fruit juice and milk in the meals was recommended to improve ascorbic acid, riboflavin, and calcium intakes. Holmes (1972) reported that the eating habits, nutrition knowledge, and total diet characteristics of participants in a New York meal program improved after the group was formed. Improvements in interpersonal relationships and morale were noted also. In one evaluation, participants rated equally the social and food benefits (Pelcovits, 1972).

Meal delivery systems. In addition to the national group meal program, certain organizations sponsor meal delivery programs. These programs deliver ready-to-eat meals to the homes of aged and handicapped persons. They are designed to help a recipient maintain or restore his health, hasten recuperation during convalescence, and enable recipients to attain the highest possible level of independence without unnecessary institutionalization (Williams, 1959).

Piper et al. (1965) reported that the median age of users of this service was 78, with twice as many women as men using the service, and 7 out of 10 living alone. Eligibility is usually based on age, economic need, and inability to prepare adequate meals for oneself (Kaplan, 1971). This program does provide a service and helps some individuals to function independently who could not do so without the program.

MATERIALS AND METHODS

A survey was conducted in Manhattan, Kansas with cooperative senior citizens 60 years of age and older. Permission was received from the Director of Housing to involve all eligible residents of the highrise apartment complex (HR) located at 5th and Leavenworth. All residents of the 88 apartments (HR) were contacted. Forty-five single females, 2 single males, and 3 couples completed the interviews. A single male or female was defined as a person living alone. A couple designated any two people residing together.

Using a table of random numbers, a nonresident sample (NHR) was selected from the May, 1974 census obtained from the County Clerk's Office. The NHR sample contained approximately the same number and proportion of single females, single males, and couples as the HR sample. Forty-five single females, 2 single males, and 7 couples completed the interviews in the NHR sample.

The data were collected using a pretested interview schedule (Appendix, p. 40). The interview schedule was developed using as a basis some applicable questions from Clarke's study (1973). The interview schedule contained 3 parts: (1) biographical data, (2) food and nutrition beliefs, and (3) food practices. The order of listing questions on beliefs regarding normal nutrition, food fads, and convenience foods were randomized within the section on food and nutrition beliefs to help prevent bias. Questions on purchasing, preparation, consumption, and frequency of use of food products were listed in part 3 on food practices.

Three trained interviewers conducted the survey between June and September, 1974. The purpose of the study was explained to them. They

read "The Interview Technique in Research--Source of Bias" (Wakefield, 1966), and participated in the pretesting process of the interview schedule. After the interview schedule had been polished, practice interviews were held. A group training session discussing procedures and possible problems preceded actual data collection.

Interviewers contacted the selected senior citizens personally and presented the letter of introduction which was typed on letterhead stationary (Appendix, p. 48). Confidentiality of the information was stressed. If individuals freely agreed to participate in the study, the interviewers conducted the interview and recorded the data directly on precoded computer-Mark-Sense cards (Appendix, p. 49). If interviewees had difficulty in remembering possible responses on certain long questions, large typed 5" by 8" show cards (Appendix, p. 50) indicating possible answers were shown. This method of recording data and using show cards was used successfully by Clarke (1973).

The computer programmer developed a computer program for storage of the data. Information was collected and computerized for analyses of data as specified by the statistician. Frequency distributions for HR and NHR responses to the interview schedule were run. Chi-square tests were used to determine any significant differences in HR and NHR responses.

RESULTS AND DISCUSSION

A total of 104 elderly households were interviewed. The household composition of the HR and NHR populations was approximately 90% single females, 4% single males, and 6% couples. About 1/2 of each population was between 60 and 75 years of age. Biographical data concerning the HR

and NHR residents are in Table 1. Chi-square tests indicated 2 significant differences in biographical data of the 2 populations. The HR residents reported less formal education ($P < 0.05$) and lower income ($P < 0.001$) than the NHR residents. The fact that more HR respondents than NHR indicated that they had lost all natural teeth but had satisfactory dentures was significant also ($P < 0.01$, Table 9, Appendix p. 53).

The percentage of correct responses regarding nutrition knowledge were similar for the 2 populations and are presented in Table 2. Of each population, 75% or more answered 35% of the statements correctly. Chi-square tests (Table 3) revealed a significant difference ($P < 0.05$) between beliefs of HR residents and NHR for only the statement about the importance of carbohydrate foods in the diet. That question was answered correctly by 42% of the HR respondents and by 61% of the NHR.

Responses to statements regarding beliefs about food faddism are in Table 4. In general, more HR residents than NHR held beliefs about food faddism. Significant differences were revealed between beliefs of the 2 populations in regard to commercial processing of foods ($P < 0.01$), nutritional value of canned vegetable products ($P < 0.05$), and the use of chemical fertilizers ($P < 0.01$).

Only one significant difference ($P < 0.01$) was revealed between the beliefs of the 2 populations regarding convenience foods (Table 10, Appendix, p. 54). Ninety-two percent of the HR residents versus 70% of the NHR believed that fresh vegetables have a better flavor than frozen vegetables.

Responses to questions concerning food purchasing practices are reported in Table 5. Some significant differences in the practices were found between the 2 populations. The HR population indicated they planned

Table 1-Biographical information with percentage of responses for 2 populations[a]

Biographical information		Responses[b] (%) A	B	C	D	E	F	Other
Live A)alone B)with spouse C)with relative		94	6	0	0	-	-	-
D)with nonrelative		89	4	6	2	-	-	-
Age A)60-64 B)65-69 C)70-74 D)75-79 E)80-89		16	22	16	32	10	2	2
F)90 or over		7	20	24	33	13	2	0
Education A)8th grade or less B)some high school	*	30	18	28	20	4	0	0
C)high school D)some college E)BS or BA degree		15	9	20	32	11	11	2
F)graduate work								
Income A)less than $3000/yr. B)$3000-5000	***	66	22	2	0	-	-	10
C)$5000-10,000 D)over $10,000		30	32	19	7	-	-	13
Who does most of the food preparation? A)male		8	88	2	-	-	-	2
B)female C)both		6	94	0	-	-	-	-
FOR HR ONLY:								
Length of time in highrise A)6 mo. or less		10	90	-	-	-	-	-
B)6 to 18 mo.		-	-	-	-	-	-	-
Reason for moving into highrise:								
health A)yes B)no		14	86	-	-	-	-	-
		-	-	-	-	-	-	-
death of spouse or relative A)yes B)no		4	96	-	-	-	-	-
		-	-	-	-	-	-	-
finances A)yes B)no		40	60	-	-	-	-	-
		-	-	-	-	-	-	-
convenience A)yes B)no		30	70	-	-	-	-	-
		-	-	-	-	-	-	-
alternative to nursing home A)yes B)no		4	96	-	-	-	-	-
		-	-	-	-	-	-	-
other reason A)yes B)no		24	76	-	-	-	-	-
		-	-	-	-	-	-	-
FOR NHR ONLY:								
If you could no longer remain in your present dwelling and had a choice of residency, where would you prefer to live?								
with relatives A)yes B)no		-	-	-	-	-	-	-
		6	94	-	-	-	-	-
highrise apartment for elderly A)yes		-	-	-	-	-	-	-
B)no		24	76	-	-	-	-	-
nursing home A)yes B)no		-	-	-	-	-	-	-
		13	87	-	-	-	-	-
other residence A)yes B)no		-	-	-	-	-	-	-
		57	43	-	-	-	-	-

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

***HR and NHR differ $P < 0.001$

Table 2-Percentage of respondents with percentage of correct responses regarding nutrition knowledge[a] for 2 populations[b]

	HR	NHR
Respondents (%)	Correct responses (%)	
90 or more	10	25
75-89	25	10
50-74	20	40
49 or less	45	25

[a]Based on 20 questions

[b]Residents in highrise apartment complex (HR); Nonresidents (NHR)

Table 3-Nutrition knowledge with percentage of responses for 2 populations[a]

Statement	Responses[b] (%) A	B	C	Other
A balanced diet is composed of the basic food groups of: A)meat and potatoes B)milk and cereal C)milk, vegetable-fruit, meat, and bread-cereal.	4 4	2 0	94 96	0 0
The best way to lose weight is to: A)eat a balanced diet that is low in calories B)go on a grapefruit diet C)skip breakfast.	94 94	4 4	0 0	2 2
An especially good source of protein is: A)fresh fruits B)fresh vegetables C)meat.	8 4	2 4	84 89	6 4
The nutrient needed most by the body to build and replace cells: A)fat B)proteins C)vitamins.	8 0	66 69	14 9	12 22
The nutrient which has the most concentrated source of food energy (calories) is: A)carbohydrate B)fat C)protein.	18 28	20 20	56 37	6 15
Gelatin is one of the best sources of protein. A)yes B)no C)sometimes.	56 52	18 28	2 4	24 17
A good source of calcium is: A)banana B)chicken C)milk and cheese.	8 2	2 0	80 93	10 6
Calcium is needed for: A)good skin B)good vision C)strong bones and teeth.	0 0	2 2	84 93	14 6
Carbohydrate foods are important: A)for digestion B)for food. energy C)to prevent scurvy.	16 * 9	42 61	15 4	26 26
The richest source of carbohydrate is: A)dairy products B)enriched bread and cereals C)fish	24 19	46 61	16 9	14 11
Vitamin A is needed for: A)blood formation B)good hearing C)good night vision.	8 13	6 6	40 44	46 37
A good source of vitamin A is: A)apples B)dark green leafy vegetables C)white potatoes.	20 19	42 54	6 4	32 24
A good source of vitamin C is: A)citrus fruits B)dried beans C)enriched breads.	78 93	6 4	8 2	8 2
Vitamin C is needed for: A)good elimination B)good vision C)healing of wounds.	10 17	20 11	24 26	46 46
Iron is needed for: A)blood formation B)good skin C)good vision.	78 74	2 2	6 6	14 19
Excellent sources of iron include: A)citrus fruits B)liver, meat, and eggs C)milk and dairy products.	12 11	56 54	14 11	18 24
A calorie is: A)a measurement of food energy B)a mineral C)a vitamin.	72 78	4 7	10 4	14 11
Vitamins and minerals are a source of calories. A)yes B)no C)sometimes.	48 28	40 57	4 2	8 13
Margarine contains fewer calories than butter. A)yes B)no C)sometimes.	56 48	28 37	6 4	10 11
Water is fattening. A)yes B)no C)sometimes.	32 20	54 70	12 7	2 2

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

Table 4-Beliefs about food faddism with percentage of responses for 2 populations[a]

Statement		Responses[b] (%) Yes	No	Some-times	Other
Everyone should take vitamin and/or mineral supplements to remain healthy and energetic.		34 26	54 61	10 11	2 2
Natural vitamins are better for you than synthetic vitamins.		84 93	10 6	2 0	4 2
Vitamin E helps all heart conditions.		12 7	42 37	2 2	44 54
Large doses of vitamin C can prevent and/or cure the common cold.		26 30	56 48	2 6	16 17
Blackstrap molasses, yoghurt, wheat germ and sea water help cure anemia, rheumatism, "tired blood" and other illnesses.		28 22	42 50	8 7	22 20
"Liquified vegetables" or "raw vegetable juices" like carrot juice or celery juice are higher in food value than the vegetables themselves.		30 35	50 48	8 2	12 15
Commercial processing of foods removes most of the nutritional value.	**	26 26	32 61	28 7	14 6
Frozen orange juice has less nutritive value than fresh.		44 35	44 54	8 4	4 7
Canned vegetable products have less nutritional value than fresh vegetables when cooked.	*	66 50	20 41	12 6	2 4
Prepared cereals provide only empty calories.		28 24	60 57	6 6	6 13
Whole grain products are more nutritious than enriched white flour products.		62 61	28 32	2 0	8 7
Pesticides in cultivation of fruits and vegetables are causing serious health problems.		58 44	18 28	14 17	10 11
Chemical fertilizers used to improve the soil for plant growth are harmful to human beings.	**	44 32	12 39	32 20	12 9
Food additives should be used in canned fruits and vegetables.		22 19	54 65	16 6	8 11
Adequate protein may be obtained from fruits and vegetables.		46 32	46 59	2 0	6 9
Adults need to drink milk.		78 89	10 4	12 7	0 0
Eating an egg a day is harmful.		34 20	50 67	16 9	0 4
White eggs are more nutritious than brown eggs.		6 2	82 85	0 0	12 13

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

**HR and NHR differ $P < 0.01$

Table 5-Food purchasing practices with percentage of responses for 2 populations[a]

Question		Responses[b] (%) A	B	C	D	E	Other
Do you plan menus for the week? A)always B)sometimes	*	10	60	30	-	-	-
C)never		9	35	54	-	-	2
Do you consider it a problem to get your food? A)yes		20	78	2	-	-	-
B)no C)sometimes		24	72	4	-	-	-
How would you describe your walking ability? A)no problem		46	50	2	-	-	2
B)limited C)don't walk		50	50	0	-	-	-
How often do you buy groceries other than "pick-up" items?		10	16	54	12	2	6
A)whenever you run out of groceries B)two times per week		6	11	67	9	4	4
C)once per week D)every two weeks E)once per month							
Is there a special reason fur buying groceries this often?							
not much storage space A)yes B)no	*	22	78	-	-	-	-
		6	94	-	-	-	-
go whenever someone takes you A)yes B)no		10	90	-	-	-	-
		18	82	-	-	-	-
can carry only a limited number of bags A)yes B)no		12	88	-	-	-	-
		7	93	-	-	-	-
other reason A)yes B)no		60	40	-	-	-	-
		72	28	-	-	-	-
In what type of store do you do your purchasing?							
chain store A)yes B)no		92	8	-	-	-	-
		80	20	-	-	-	-
independent grocery A)yes B)no	*	10	90	-	-	-	-
		28	72	-	-	-	-
other type A)yes B)no		0	100	-	-	-	-
		0	100	-	-	-	-
Why do you shop at this store?							
people are friendly A)yes B)no		18	82	-	-	-	-
		26	74	-	-	-	-
reasonable prices A)yes B)no		16	84	-	-	-	-
		28	72	-	-	-	-
close to you A)yes B)no	*	78	22	-	-	-	-
		57	43	-	-	-	-
clean A)yes B)no		14	86	-	-	-	-
		6	94	-	-	-	-
delivery service A)yes B)no		12	88	-	-	-	-
		9	91	-	-	-	-
other reason A)yes B)no		4	96	-	-	-	-
		13	87	-	-	-	-
How do you get your groceries?							
call a taxi A)yes B)no		2	98	-	-	-	-
		9	91	-	-	-	-
friend or relative take you A)yes B)no		14	86	-	-	-	-
		18	82	-	-	-	-
walk A)yes B)no	***	72	28	-	-	-	-
		26	74	-	-	-	-
delivery service A)yes B)no		14	86	-	-	-	-
		7	93	-	-	-	-
personal car A)yes B)no	***	18	82	-	-	-	-
		57	43	-	-	-	-
other means of transportation A)yes B)no		2	98	-	-	-	-
		0	100	-	-	-	-

Table 5-Concluded

Question	Responses[b] (%) A	B	C	D	E	Other
Do you use any of the following in planning your shopping?						
newspaper ads A)yes B)no	68	32	-	-	-	-
	74	26	-	-	-	-
TV commercials A)yes B)no	10	90	-	-	-	-
	6	94	-	-	-	-
radio commercials A)yes B)no	2	98	-	-	-	-
	6	94	-	-	-	-
store posters and displays A)yes B)no	8	92	-	-	-	-
	13	87	-	-	-	-
recommendations from others A)yes B)no	8	92	-	-	-	-
	18	82	-	-	-	-
other sources A)yes B)no	22	78	-	-	-	-
	18	82	-	-	-	-
Have you noticed any new methods of labeling in the past year? A)yes B)no	64	36	-	-	-	-
	54	46	-	-	-	-
If yes, what changes have you noticed?						
nutritional labeling A)yes B)no	16	84	-	-	-	-
	22	78	-	-	-	-
open dating A)yes B)no	14	86	-	-	-	-
	15	85	-	-	-	-
unit pricing A)yes B)no	6	94	-	-	-	-
	9	91	-	-	-	-
other changes A)yes B)no	12	88	-	-	-	-
	11	89	-	-	-	-
Do you use nutrition labeling in selecting your foods? A)rarely B)sometimes C)whenever possible D)don't know what it is	30	24	18	28	-	-
	32	37	13	18	-	-
Do you use open dating in selecting your foods? A)rarely B)sometimes C)whenever possible D)don't know what it is	14	42	6	28	-	10
	19	48	4	20	-	9
Do you use a grocery list when shopping? A)always B)sometimes C)never	64	24	12	-	-	-
	74	20	6	-	-	-
Do you most often purchase national brand or store brand products if they are of comparable value? A)national brands B)store brands	46	40	-	-	-	14
	59	33	-	-	-	8
Are some packaged food items too large for you to use efficiently? A)yes B)no C)sometimes	76	14	8	-	-	2
	67	31	2	-	-	-

[a]Residents in highrise apartment complex (HR); Nonresident (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

***HR and NHR differ $P < 0.001$

menus more frequently ($P < 0.05$) than the NHR population. Lack of storage space was a reason given for the frequency of buying groceries by about 3 times more HR residents ($P < 0.05$) than NHR. Even though over 80% of both populations said they did most of their shopping at chain stores, fewer HR residents than NHR reported shopping at independent stores. One of the reasons given most often for shopping at a particular store was distance. More HR residents ($P < 0.05$) than NHR reported closeness as a factor in the selection of a store. This may have been related to the available means of transportation. More HR residents ($P < 0.001$) than NHR said they walked to purchase their groceries. By contrast, fewer HR ($P < 0.001$) than NHR reported that they used a personal car for shopping.

Significant differences in the food preparation practices of the 2 populations are indicated in Table 6. Residents of the HR reported participation in organized meal programs ($P < 0.001$) and in the use of the pressure cooker for meat preparation ($P < 0.05$) about 4 times more frequently than NHR residents. By contrast, the HR population reported less frequent use of casseroles ($P < 0.05$) and homemade pies ($P < 0.05$) than the NHR population.

Responses to questions concerning consumption practices of the 2 populations are in Table 11 (Appendix, p. 55). One significant difference ($P < 0.05$) existed in the description of chewing ability which could not be explained. Approximately 4 times more HR than NHR rated their chewing ability as excellent.

Selected foods consumed with percentage of responses for the 2 populations is found in Table 7. Several significant differences ($P < 0.05$, $P < 0.01$, $P < 0.001$) in the frequency of use were reported. Food items used more often by HR residents than the NHR were: "TV" dinners

Table 6-Food preparation practices with percentage of responses for 2 populations[a]

Question		Responses[b] (%) A	B	C	D	E	F	Other
Do you consider it a problem to prepare your food? A)yes B)no C)sometimes		26	74	0	-	-	-	0
		17	83	0	-	-	-	0
Do you eat any meals with Senior Citizens' groups or participate in an organized meal program? A)yes B)no C)sometimes	***	46	38	12	-	-	-	4
		11	87	2	-	-	-	0
If yes, how often? A)once per week B)twice per week C)3 to 6 times per week D)daily E)other		8	12	12	4	12	-	52
		6	0	2	0	0	2	91
Have you used home delivered meals (Meals on Wheels)? A)yes B)no C)sometimes D)not available		14	86	0	0	-	-	-
		15	83	2	0	-	-	-
How often do you eat meals in a restaurant or in a friend or relative's home? A)daily B)once per week C)twice per week D)3 to 6 times per week E)2 times per month E)monthly		0	26	16	12	16	24	6
		4	30	18	15	15	17	2
Do you?								
cook for self only A)yes B)no		92	8	-	-	-	-	-
		85	15	-	-	-	-	-
cook for self and others A)yes B)no		8	92	-	-	-	-	-
		15	85	-	-	-	-	-
help with cooking A)yes B)no		0	100	-	-	-	-	-
		0	100	-	-	-	-	-
not cook A)yes B)no		0	100	-	-	-	-	-
		0	100	-	-	-	-	-
How do you generally prepare your meat products such as beef, chicken, and fish?								
broil A)yes B)no		38	62	-	-	-	-	-
		24	76	-	-	-	-	-
fry A)yes B)no		34	66	-	-	-	-	-
		50	50	-	-	-	-	-
roast A)yes B)no		38	62	-	-	-	-	-
		43	57	-	-	-	-	-
pressure cooker A)yes B)no	*	18	82	-	-	-	-	-
		4	96	-	-	-	-	-
other method A)yes B)no		16	84	-	-	-	-	-
		18	82	-	-	-	-	-
How do you generally prepare your cooked vegetables?								
open a can and heat A)yes B)no		50	50	-	-	-	-	-
		59	41	-	-	-	-	-
prepare from the fresh state A)yes B)no		40	60	-	-	-	-	-
		32	68	-	-	-	-	-
prepare from the frozen state A)yes B)no		40	60	-	-	-	-	-
		39	61	-	-	-	-	-
How do you generally prepare your potato products?								
mashed A)yes B)no		12	88	-	-	-	-	-
		28	72	-	-	-	-	-
French fried A)yes B)no		2	98	-	-	-	-	-
		13	87	-	-	-	-	-
boiled A)yes B)no		40	60	-	-	-	-	-
		39	61	-	-	-	-	-
scalloped A)yes B)no		2	98	-	-	-	-	-
		7	93	-	-	-	-	-
baked A)yes B)no		46	54	-	-	-	-	-
		37	63	-	-	-	-	-
preprepared A)yes B)no		10	90	-	-	-	-	-
		7	93	-	-	-	-	-
Do you prepare (or use) casseroles? A)yes B)no C)sometimes	*	32	40	28	-	-	-	-
		33	19	48	-	-	-	-

Table 6-Concluded

Question	Responses[b] (%) A	B	C	D	E	F	Other
If you are serving an egg, will you most often serve it: A)scrambled B)fried C)poached D)hard or soft cooked E)baked	8	20	20	16	-	-	36
	15	22	20	15	-	-	28
If you are serving a bread product, will you most often: A)make it from scratch B)use a dry mix C)use a canned or frozen product D)use a bakery product	10	6	4	70	-	-	10
	11	13	9	59	-	-	7
If you are serving a pie, will you most often: A)make it from scratch B)use a pie filling C)bake a purchased frozen pie D)buy a bakery pie	* 34	10	28	10	-	-	18
	65	4	13	11	-	-	7
If you are serving orange juice, will you most often serve: A)canned juice B)frozen concentrate C)squeeze fresh oranges	14	66	8	-	-	-	12
	4	78	7	-	-	-	11
If you are serving fruit, will you most often serve it: A)fresh when available B)canned C)frozen	40	42	0	-	-	-	18
	63	28	0	-	-	-	9
If you are preparing a pudding, will you most often: A)make it from scratch B)use a dry mix C)open a can of pudding	22	42	16	-	-	-	20
	20	61	9	-	-	-	9
Do you use any of the following equipment in meal preparation?							
stove A)yes B)no C)sometimes	100	0	0	-	-	-	-
	100	0	0	-	-	-	-
refrigerator A)yes B)no C)sometimes	98	2	0	-	-	-	-
	100	0	0	-	-	-	-
hotplate A)yes B)no C)sometimes	2	96	2	-	-	-	-
	6	94	0	-	-	-	-
freezer space A)yes B)no C)sometimes	96	2	2	-	-	-	-
	98	2	0	-	-	-	-
dry storage A)yes B)no C)sometimes	100	0	0	-	-	-	-
	96	4	0	-	-	-	-
other small appliances A)yes B)no	90	10	-	-	-	-	-
	98	2	-	-	-	-	-

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

***HR and NHR differ $P < 0.001$

Table 7-Selected foods consumed with percentage of responses for 2 populations[a]

Food Item		Responses[b] (%)					
		Daily	Several times per week	At least once per week	2 or more times per month	Seldom	Never
Main Dishes:							
Beef and veal		16	68	8	4	2	2
		17	74	6	2	2	0
Liver		0	4	20	16	26	34
		0	0	6	26	39	30
Poultry (chicken, turkey, etc.)		0	38	48	8	4	2
		0	30	48	19	4	0
Fresh and cured pork		0	14	12	20	28	26
		4	20	18	32	11	15
Fish (fresh, frozen, canned)		0	14	30	14	28	14
		0	9	19	33	26	13
A. Frozen:							
Pot pies	*	0	0	0	4	24	72
		0	0	2	15	37	46
"TV" dinners	*	2	16	6	12	22	42
		0	0	4	15	33	48
Casseroles (macaroni & cheese, stews, pizza, Chinese dishes)		0	0	6	16	24	54
		0	4	4	9	18	65
B. Dry Mixes:							
Macaroni & cheese		0	0	8	14	30	48
		0	4	2	17	44	33
"Hamburger Helper"	*	0	0	0	0	6	94
		0	0	0	4	22	74
Noodle dishes		0	2	8	22	20	48
		0	0	2	11	31	56
C. Canned main dishes:							
Pork and beans		0	2	8	20	40	30
		0	0	7	41	35	17
Spaghetti		2	0	0	6	12	80
		0	0	2	7	20	70
Stews		0	0	2	8	10	80
		0	0	2	9	11	78
Hash		0	0	0	2	12	86
		0	0	0	4	6	91
Other (canned hams, etc.)	*	2	0	0	12	18	68
		6	0	0	0	15	80
Milk and Milk Products:							
Whole or 2% milk		58	10	4	4	10	14
		76	11	0	0	2	11
Skim or nonfat dry milk	*	10	4	4	6	4	72
		6	4	4	17	22	48
Canned milk		2	2	4	10	24	58
		0	4	2	15	44	35
Ice milk or ice cream	***	6	14	12	22	24	22
		15	30	28	17	4	7
Substitute for coffee cream (coffee whitener)		20	8	2	2	6	62
		15	4	0	4	11	67

Table 7-Continued

Food Item		Responses[b] (%) Daily	Several times per week	At least once per week	2 or more times per month	Seldom	Never
Bread or Bread Products:							
Prebaked white bread or rolls		24	12	8	10	18	28
		35	20	2	4	11	28
Prebaked whole grain bread or rolls		12	16	8	2	16	46
		6	13	4	13	26	39
Doughnuts and sweet rolls		0	4	4	18	30	44
		0	4	13	30	33	20
Pancakes and waffles		0	2	10	10	42	36
		0	2	9	33	33	22
Cookies and cakes		6	14	14	18	36	12
		7	30	18	26	13	6
Pies	*	2	4	8	14	46	26
		0	0	7	33	52	7
Processed cereals		20	16	16	18	12	18
		11	26	31	9	9	13
Hot cereals		2	14	18	22	24	20
		6	15	22	24	20	13
Fruits:							
Fresh fruits		32	32	14	12	6	4
		24	50	17	6	2	2
Frozen fruits		0	6	2	4	36	52
		2	2	9	13	33	41
Canned fruits	*	2	56	10	16	14	2
		4	41	37	11	7	0
Dried fruits	**	0	4	8	6	16	66
		0	7	9	6	48	30
Fruit Juices:							
Citrus or tomato juice		42	36	4	8	2	8
		44	26	11	7	4	7
Other fruit juices (grape, apple, pineapple, etc.)		4	16	8	16	22	34
		2	6	11	31	28	22
Vegetables:							
Fresh vegetables		26	42	10	6	12	4
		17	59	15	4	4	2
Canned vegetables		2	60	16	6	12	4
		4	48	24	13	6	6
Frozen vegetables	*	2	16	22	12	22	26
		0	31	37	7	15	9
Dehydrated vegetables		0	0	0	2	6	92
		0	2	0	2	15	81
Prepared salads (jello, potato, mixed green)		8	8	0	8	8	68
		2	2	6	6	11	74
Fats and Oils:							
Butter or margarine		78	10	0	6	4	2
		81	6	6	2	0	6
Shortening		2	14	20	22	18	24
		7	11	28	31	9	13
Oils	**	4	14	16	20	10	36
		6	11	39	33	6	6
Salad dressing		8	12	22	20	24	14
		2	20	33	20	15	9

Table 7-Concluded

Food Item		Responses[b] (%) Daily	Several times per week	At least once per week	2 or more times per month	Seldom	Never
Miscellaneous:							
Candy, sugar	**	22	6	10	12	26	24
		17	22	15	28	11	7
Carbonated beverages - regular and diet		2	10	8	12	24	44
		2	17	13	22	18	28
Beer, wine, liquor		2	4	0	8	4	82
		2	0	2	11	9	76
Nuts	**	0	0	2	30	20	48
		2	6	11	28	35	18
Snack foods (potato chips, corn chips, pretzels)	*	0	4	6	10	32	48
		0	6	18	18	35	22
Soups:							
Canned		2	10	22	30	20	16
		2	0	20	52	15	11
Frozen		0	0	0	0	6	94
		0	0	0	0	11	89
Dehydrated		0	2	0	4	4	90
		0	0	0	6	7	87
Box Desserts:							
Cake mixes	**	0	0	10	20	36	34
		0	0	11	44	35	9
Pudding or gelatin, etc.		0	22	18	22	18	20
		0	15	30	31	11	13
Foil wrapped mixes (salad dressing mix, gravy mix, sauce mix, spaghetti)		4	0	2	0	4	90
		0	0	6	7	6	81
Instant coffee and tea		56	16	4	2	2	20
		54	13	2	2	6	24
Regular coffee and tea (brewed, Sanka, etc.)	*	46	2	2	4	16	30
		39	13	2	19	7	20

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

**HR and NHR differ $P < 0.01$

***HR and NHR differ $P < 0.001$

($P < 0.05$), other canned main dishes--canned hams ($P < 0.05$), skim or nonfat dry milk ($P < 0.05$), pies ($P < 0.05$), canned fruits ($P < 0.05$), and regular coffee and tea ($P < 0.05$). By contrast, the items used less frequently by HR residents than NHR included: frozen pot pies ($P < 0.05$), "Hamburger Helper" ($P < 0.05$), ice cream or ice milk ($P < 0.001$), dried fruits ($P < 0.01$), frozen vegetables ($P < 0.05$), oils ($P < 0.01$), candy and sugar ($P < 0.01$), nuts ($P < 0.01$), snack foods ($P < 0.05$), and cake mixes ($P < 0.01$). In general, the HR population seemed to use fewer sweet or snack foods than the NHR population.

Relationships between food beliefs and practices were investigated and analyzed by the use of relative frequencies. In response to one of the nutrition knowledge statements (Table 3), 94% of the HR and 96% of the NHR residents answered that a balanced diet is composed of the Basic Four groups of milk, meat, bread and cereals, and fruits and vegetables. Also, 94% of each group knew that the best way to lose weight is to eat a balanced diet that is low in calories. It was interesting to compare the respondent's knowledge of The Basic Four with their actual practices. Over 80% of each population knew that meat is an especially good source of protein and more than 65% knew it was the nutrient needed to build and replace cells (Table 3). However, respondents were confused on other functions and sources of protein. For example, 56% of the HR and 37% of the NHR residents believed that proteins are the most concentrated source of food energy, whereas over 50% of both groups indicated that gelatin is one of the best sources of protein. The use of beef and other meat products several times per week by respondents (Table 7), suggested that they incorporated adequate amounts in their diets.

Over 80% of both populations knew the purpose of calcium in the diet as well as good food sources for calcium (Table 3). Approximately the same number believed that adults need to drink milk (Table 4). In practice, 58% of the HR and 76% of the NHR residents reported daily use of whole or 2% milk as well as the use of some additional dairy products (Table 7). Thus it appeared that the group in the present study not only knew the purpose and food sources of calcium, but incorporated milk products in their diets.

Forty-two percent of the HR and 61% of the NHR residents knew that carbohydrate foods are important for food energy. Also, 46% of the HR and 61% of the NHR population knew that breads and cereals are rich sources of that nutrient (Table 3). The daily use of bread or bread products by the group (Table 7) was rather low which may imply that their beliefs influenced their practices. Prebaked white bread or rolls were used daily by 24% of the HR and 35% of the NHR residents, and prebaked whole grain bread or rolls by 12% of the HR and 6% of the NHR respondents. Some additional use of other bread products were reported also (Table 7).

Less than 45% of the respondents knew that vitamin A is needed for good night vision. Also, 42% of the HR and 54% of the NHR residents knew that dark green leafy vegetables are good sources of the vitamin (Table 3). About 1/4 of both populations knew that vitamin C is needed for wound healing. In practice, fruits and vegetables were consumed daily in various forms. The 3 forms most often used daily by both groups were citrus or tomato juice, fresh fruits, and fresh vegetables (Table 7).

Some beliefs of the total group regarding certain products were related to practices. About 1/3 of all respondents (Table 8) believed that everyone should take vitamin or mineral supplements to remain

Table 8-Percentage of all respondents' beliefs and practices regarding certain products and their frequency of use

Belief	Percentage holding belief	Product used	Practice (Percentage using product)	Frequency of use
Everyone should take vitamin or mineral supplements to remain healthy and energetic.	34	Vitamin and mineral supplements	46	-
Natural vitamins are better for you than synthetic vitamins.	88	-	-	-
Commercial processing of foods removes most of the nutritive value.	26	-	-	-
Frozen orange juice has less nutritive value than fresh.	40	Frozen orange juice	72	Served most often
Canned vegetable products have less nutritive value than fresh vegetables when cooked.	58	Canned vegetables Fresh vegetables	77 52	1/wk. 1/wk.
Whole grain cereals are more nutritious than enriched white flour products.	60	Prebaked whole grain bread or rolls Prebaked white bread or rolls	9 30	Daily Daily
Prepared cereals provide only empty calories.	26	Prepared cereals	60	1/wk.
Pot pies are convenient to use.	85	Pot pies	10	2 or > times/mo.
"TV" dinners are easy to use and prepare.	95	"TV" dinner	14	1/wk.
Less time, energy, and utensils are needed to prepare a cake made from a mix.	95	Cake mix	64	Served most often
You can always identify a cake made from a mix.	32	-	-	-
Dried mixes are more expensive than home prepared products.	79	Dry mixes: Macaroni & cheese Noodle dishes Cake mixes Pudding & gelatin mixes	 7 6 10 42	 1/wk. 1/wk. 1/wk. 1/wk.
Frozen vegetables are more expensive than canned vegetables.	49	Canned vegetables Frozen vegetables Fresh vegetables	77 55 52	1/wk. 1/wk. 1/wk.
Fresh vegetables have a better flavor than frozen vegetables.	81	-	-	-
Frozen fruit pies taste as good as home prepared pies.	12	Frozen pies	11	Served most often
Package and canned puddings produce a flavorful, smooth textured product.	75	Dry pudding mixes Canned puddings	50 12	Served most often -

healthy and energetic, although 88% believed that natural vitamins are better than synthetic. Supplements were used by 46% of the total population. The 2 reasons most often cited for taking these supplements were personal belief and doctor's prescription (Table 11, Appendix, p. 55). The incidence of supplementation in the present study was higher than that reported in studies by LeBovit and Baker (1965), Steinkamp et al. (1965), and Dibble et al. (1967). They had found that about 35% of elderly populations used supplements.

The aged population have been regarded as particularly vulnerable to food faddist claims (Alexander et al., 1967). One of the nutrition myths identified by the Food and Drug Administration was that overprocessing of food results in excessive loss of nutrients (Lane, 1968). However, only 26% of the population in the present study believed that commercial processing of food removes most of the nutritional value (Table 8). Nevertheless, they did believe that some of the nutritive value was decreased when subjected to various forms of processing. With regard to orange juice, 40% believed that frozen orange juice has less nutritive value than fresh. Yet 72% indicated that the form of orange juice they most often served was frozen concentrate. Also, 58% believed that canned vegetable products have less nutritive value than fresh vegetables when cooked. However, 77% indicated using canned vegetables at least once per week and 52% also reported using fresh vegetables at least once per week (Table 7). It was believed by 60% that whole grain cereals are more nutritious than enriched white flour products, yet only 9% used prebaked whole grain bread or rolls daily (Table 8). About 1/4 indicated they believed that prepared cereals provide only empty calories, and 60% of the respondents reported using processed cereals.

When beliefs regarding convenience foods were related to practices, there were some interesting findings. Several responses indicated that the population generally believed that convenience foods increased ease of preparation for several products, yet frequency of use for those products varied. Approximately 85% believed that pot pies are convenient to use. However, the use of these products was not extensive. Seoane (1971) reported that the low income groups she surveyed did not consume frozen dinners, precooked meats, canned meats, nor frozen casseroles to any noticeable extent. LeBovit and Baker (1965) found that only 1 out of 283 households surveyed used frozen "TV" dinners. In the study reported here, a higher use of "TV" dinners than pot pies was indicated. "TV" dinners were used at least once per week by 14% of the respondents whereas pot pies were used only 2 or more times per month by 10%. The greater use of "TV" dinners might have been related to the frequency of meals eaten with a senior citizens' group which serve "TV" dinners in this area. It was noted (Table 6) that 46% of the HR residents and 11% of the NHR said that they participated in these group meals.

Ease of preparation also appeared to be a factor in cake preparation. It was believed by 95% of the respondents that baking a cake was easier when using a mix (Table 8). Although 32% believed that they could always identify cakes made from a mix, 64% said they most often used a cake mix. Thus, the convenience of the product appeared to be a big factor in this study. Seoane (1971) also reported that over 80% of the low-income group she surveyed used cake mixes.

The expense of convenience foods may have influenced practices (Table 8). Dry mixes were believed by 79% to be more expensive than home prepared products. Pudding and gelatin mixes were used by 42% one or more

times each week. Less frequent use of dry mixes for main dishes and cakes were reported. Thus the belief that convenience foods are expensive may have influenced the frequency of use.

Beliefs and practices regarding vegetable products were noted (Table 8). About 1/2 believed that frozen vegetables are more expensive than canned vegetables. Eighty-one percent of the respondents believed that fresh vegetables have a better flavor than frozen vegetables. The use of canned, frozen, and fresh vegetables at least once per week were 77%, 55%, and 52%, respectively. The preference for canned vegetables over frozen vegetables also was reported by Seoane (1971) who surveyed low-income groups. She speculated that cost and freezer space might be limiting factors in the purchases. LeBovit and Baker (1965) stated that the elderly used fewer frozen vegetables than canned because their food practices were established before the advent of frozen commercial products.

Beliefs regarding flavor of convenience foods also may have influenced practices (Table 8). Twelve percent believed that frozen fruit pies taste as good as homemade pies, and 11% said they serve frozen pies most often. It was believed by 75% that canned and packaged puddings produce a flavorful, smooth textured product. Fifty percent indicated that when they served puddings they used dry pudding mixes whereas 12% used canned puddings. Thus the beliefs regarding the flavor of such convenience foods may have directly influenced use of these products.

SUMMARY

Over 1/2 of each group in the study, the residents of the highrise apartment complex (HR) and nonresidents (NHR), were between 60 and 74

years of age. The HR population reported lower levels of education and income than the NHR. Both groups had similar types of health problems. Few significant differences were revealed in the beliefs of the 2 populations regarding normal nutrition, food faddism, or convenience foods. Purchasing, preparation, and consumption patterns of the 2 groups were similar also. Some significant differences were found in the frequency of use of food products by the 2 groups. However, the HR population seemed to use fewer sweet or snack foods than the NHR population.

A majority of both groups indicated knowledge of good food sources in two of the Basic Four food groups. In addition, they knew the purpose of some of the nutrients in these groups.

A comparison of some beliefs regarding food faddism with actual practices revealed that the respondents did not practice always what they believed. A high percentage believed that some convenience foods increased ease of preparation, yet the use of these products was varied. The expense of convenience foods may have influenced practices, especially the use of dried mixes. The beliefs regarding the flavor of convenience forms of food seemed to be related directly to the use of those products.

CONCLUSIONS

Under the conditions of this study, it was concluded that:

1. The HR population had less income and education than the NHR, but had similar health problems.
2. Residency in the HR seldom appeared to influence the food beliefs regarding normal nutrition, food faddism, and convenience foods.

3. There were more differences in the food practices of the 2 populations.
   a. Several significant differences in the frequency of use of selected food items were reported between the 2 populations.
   b. In general, HR residents used fewer sweet and snack foods than the NHR.
4. HR and NHR respondents indicated knowledge of food sources and major nutrients found in the Basic Four groups of meat and milk. They reported a substantial use of those food groups in their diets.
5. Beliefs regarding food faddism and the ease of use, expense, and flavor of convenience foods were not related necessarily to practices.

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APPENDIX

INTERVIEW SCHEDULE S. No. _____ (Columns 1-5)

PART ONE: BIOGRAPHICAL DATA Interviewer: _____

Mark 9 if no other answer is applicable Date: _____

\+ = Show cards available for use

CARD 1 (Columns 6-32)

		Column No.
1. Independent 1)alone 2)spouse 3)relative 4)nonrelative	1 2 3 4 9	6
2. Age 1)60-64 2)65-69 3)70-74 4)75-79 5)80-89 6)90 or over	1 2 3 4 5 6 9	7
3. Education 1)8th grade or less 2)some high school 3)high school 4)some college 5)BS or BA degree 6)graduate work	1 2 3 4 5 6 9	8
+4. Income: 1)less than $3000/yr. 2)$3000-5000 3)$5000-10,000 4)over $10,000	1 2 3 4 9	9
5. Who does most of the food preparation? 1)male 2)female 3)both 9)other	1 2 3 9	10
FOR HIGHRISE ONLY:		
6. Length of time in highrise: 1)6 mo. or less 2)6 to 18 mo.	1 2 9	11
+7. Reason for moving into highrise 1)health 2)death of spouse or relative 3)finances 4)convenience 5)alternative to nursing home	1 2 3 4 5 9	12
FOR COMMUNITY ONLY:		
+8. If you could no longer remain in your present dwelling and had a choice of residency, where would you prefer to live? 1)with relatives 2)highrise apt. for elderly 3)nursing home 9)other	1 2 3 9	13
9. Have you now or have you had any of these conditions during the past 2 years?	Yes No	
1. Ulcers or repeated stomach trouble	1 2 9	14
2. Diabetes	1 2 9	15
3. Hardening of arteries	1 2 9	16
4. Diseases of the heart	1 2 9	17
5. Some form of cancer or tumors	1 2 9	18
6. Bronchitis, emphysema, and asthma	1 2 9	19
7. Poor vision (uncorrected)	1 2 9	20
8. Poor hearing (uncorrected)	1 2 9	21
9. Arthritis or rheumatism	1 2 9	22
10. Repeated trouble of arms, legs, back or trunk	1 2 9	23
11. Absent limbs	1 2 9	24
12. Repeated bladder or kidney trouble	1 2 9	25
13. Paralysis or stroke	1 2 9	26
14. Lost all natural teeth, satisfactory dentures	1 2 9	27
15. Lost all natural teeth, but unsatisfactory or no dentures	1 2 9	28
16. Periodontal disease with natural teeth (inflammatory disease of gum tissue)	1 2 9	29
17. Overweight (or obesity)	1 2 9	30
18. Other	1 2 9	31
PART TWO: FOOD AND NUTRITION BELIEFS		
1. Everyone should take vitamin and/or mineral supplements to remain healthy and energetic. 1)yes 2)no 3)sometimes	1 2 3 9	32

S. No. _____

CARD 1 (Columns 33-39)

2. Eating an egg a day is harmful. 1)yes 2)no 3)sometimes	1 2 3	9	33
3. Large doses of vitamin C can prevent and/or cure the common cold. 1)yes 2)no 3)sometimes	1 2 3	9	34
4. Canned fruits and vegetables are used more often than fresh because there is less refuse. 1)yes 2)no 3)sometimes	1 2 3	9	35
5. Whole grain products are more nutritious than enriched white flour products. 1)yes 2)no 3)sometimes	1 2 3	9	36
6. Excellent sources of iron include: 1)citrus fruits 2)liver, meat, and eggs 3)milk and dairy products	1 2 3	9	37
7. Dried mixes are more expensive than the home prepared product. 1)yes 2)no 3)sometimes	1 2 3	9	38
8. You can always identify a cake made from a mix. 1)yes 2)no 3)sometimes	1 2 3	9	39

CARD 2 (Columns 6-23)

9. Vitamin E helps all heart conditions. 1)yes 2)no 3)sometimes	1 2 3	9	6
10. Margarine contains fewer calories than butter. 1)yes 2)no 3)sometimes	1 2 3	9	7
11. The nutrient needed most by the body to build and replace cells: 1)fat 2)proteins 3)vitamins	1 2 3	9	8
12. A good source of vitamin C is: 1)citrus fruits 2)dried beans 3)enriched breads and cereals	1 2 3	9	9
13. Gelatin is one of the best sources of protein. 1)yes 2)no 3)sometimes	1 2 3	9	10
14. Prepared cereals provide only empty calories. 1)yes 2)no 3)sometimes	1 2 3	9	11
15. Food additives should be used in canned fruits and vegetables. 1)yes 2)no 3)sometimes	1 2 3	9	12
+16. A balanced diet is composed of the basic food groups of: 1)meat and potatoes 2)milk and cereal 3)milk, vegetable-fruit, meat, and bread-cereal.	1 2 3	9	13
17. Calcium is needed for: 1)good skin 2)good vision 3)strong bones and teeth.	1 2 3	9	14
18. Chemical fertilizers used to improve the soil for plant growth are harmful to human beings. 1)yes 2)no 3)sometimes	1 2 3	9	15
19. Canned and packaged puddings produce flavorful, smooth textured products. 1)yes 2)no 3)sometimes	1 2 3	9	16
20. Commercial processing of foods removes most of the nutritional value. 1)yes 2)no 3)sometimes	1 2 3	9	17
21. Vitamin A is needed for: 1)blood formation 2)good hearing 3)good night vision	1 2 3	9	18
22. Vitamin C is needed for: 1)good elimination 2)good vision 3)healing of wounds	1 2 3	9	19
23. Water is fattening. 1)yes 2)no 3)sometimes	1 2 3	9	20
24. Frozen fruit pies never taste as good as home prepared pies. 1)yes 2)no 3)sometimes	1 2 3	9	21
25. Vitamins and minerals are a source of calories. 1)yes 2)no 3)sometimes	1 2 3	9	22
26. A calorie is: 1)a measurement of food energy 2)a mineral 3)a vitamin	1 2 3	9	23

S. No. _____

CARD 2 (Columns 24-39)

27. Less time, energy, and utensils are needed to prepare a cake made from a mix. 1)yes 2)no 3)sometimes	1 2 3	9	24
+28. The best way to lose weight is to: 1)eat a balanced diet that is low in calories 2)go on a grapefruit diet 3)skip breakfast	1 2 3	9	25
29. Canned vegetable products have less nutritional value than fresh vegetables when cooked. 1)yes 2)no 3)sometimes	1 2 3	9	26
30. A good source of calcium is: 1)banana 2)chicken 3)milk and cheese	1 2 3	9	27
31. The nutrient which has the most concentrated source of food energy (calories) is: 1)carbohydrate 2)fat 3)protein	1 2 3	9	28
32. Frozen vegetables are more expensive than canned vegetables. 1)yes 2)no 3)sometimes	1 2 3	9	29
33. The richest source of carbohydrate is: 1)dairy products 2)enriched bread and cereals 3)fish	1 2 3	9	30
34. Pesticides in cultivation of fruits and vegetables are causing serious health problems. 1)yes 2)no 3)sometimes	1 2 3	9	31
35. An especially good source of protein is: 1)fresh fruits 2)fresh vegetables 3)meat	1 2 3	9	32
36. Iron is needed for: 1)blood formation 2)good skin 3)good vision	1 2 3	9	33
+37. The time of the day you eat the most food is: 1)early morning 2)mid-morning 3)noon 4)mid-evening 5)late evening 6)before bed time	1 2 3 4 5 6	9	34
38. Frozen orange juice has less nutritive value than fresh. 1)yes 2)no 3)sometimes	1 2 3	9	35
39. Frozen "TV" dinners are easy to use and prepare. 1)yes 2)no 3)sometimes	1 2 3	9	36
40. A good source of vitamin A is: 1)apples 2)dark green leafy vegetables 3)white potatoes	1 2 3	9	37
41. Carbohydrate foods are important: 1)for digestion 2)for food energy 3)to prevent scurvy	1 2 3	9	38
42. Adequate protein may be obtained from fruits and vegetables. 1)yes 2)no 3)sometimes	1 2 3	9	39
CARD 3 (Columns 6-10)			
43. Fresh vegetables have a better flavor than frozen vegetables. 1)yes 2)no 3)sometimes	1 2 3	9	6
44. White eggs are more nutritious than brown eggs. 1)yes 2)no 3)sometimes	1 2 3	9	7
45. Natural vitamins are better for you than synthetic vitamins. 1)yes 2)no 3)sometimes	1 2 3	9	8
46. Blackstrap molasses, yoghurt, wheat germ, and sea water help cure anemia, rheumatism, "tired blood" and other illnesses. 1)yes 2)no 3)sometimes	1 2 3	9	9
47. Frozen pot pies are convenient to use when you don't want to spent time preparing a main dish. 1)yes 2)no 3)sometimes	1 2 3	9	10

S. No. _____

CARD 3 (Columns 11-29)

48. "Liquified vegetables" or "raw vegetable juices" like carrot juice or celery juice are higher in food value than the vegetables themselves. 1)yes 2)no 3)sometimes	1 2 3	9	11
49. Adults need to drink milk. 1)yes 2)no 3)sometimes	1 2 3	9	12
PART THREE: FOOD PRACTICES			
A. PURCHASING			
1. Do you consider it a problem to get your food? 1)yes 2)no 3)sometimes	1 2 3	9	13
2. How do you get your groceries? 1)call a taxi 2)friend or relative take you 3)walk 4)delivery service 5)personal car	1 2 3 4 5	9	14
3. How often do you buy groceries other than "pick-up" items? 1)whenever you run out of groceries 2)two times per week 3)once per week 4)every two weeks 5)once per month	1 2 3 4 5	9	15
4. Is there a special reason for buying groceries this often? 1)not much storage space 2)go whenever someone takes you 3)can carry only a limited number of bags 9)other	1 2 3	9	16
5. In what type of store do you do your purchasing? 1)chain store 2)independent grocery	1 2	9	17
6. Why do you shop at this store? 1)people are friendly 2)reasonable prices 3)close to you 4)clean 5)delivery service	1 2 3 4 5	9	18
7. How would you describe your walking ability? 1)no problem 2)limited 3)don't walk	1 2 3	9	19
+ 8. Do you use any of the following in planning your shopping? 1)newspaper ads 2)TV commercials 3)radio commercials 4)store posters and displays 5)recommendations from others	1 2 3 4 5	9	20
9. Do you use a grocery list when shopping? 1)always 2)sometimes 3)never	1 2 3	9	21
10. Do you plan menus for the week? 1)always 2)sometimes 3)never	1 2 3	9	22
11. Have you noticed any new methods of labeling in the past year? 1)yes 2)no	1 2	9	23
12. If yes, what changes have you noted? 1)nutritional labeling 2)open dating 3)unit pricing 9)other	1 2 3	9	24
13. Do you use nutritional labeling in selecting your foods? 1)rarely 2)sometimes 3)whenever possible 4)don't know what it is	1 2 3 4	9	25
14. Do you most often purchase national brand or store brand products if they are of comparable value? 1)national brands 2)store brands	1 2	9	26
15. Do you use open dating in selecting your foods? 1)rarely 2)sometimes 3)never 4)don't know what it means	1 2 3 4	9	27
16. Are some packaged food items too large for you to use efficiently? 1)yes 2)no 3)sometimes	1 2 3	9	28
17. If yes, give a few examples		9	29

S. No. _____

CARD 3 (Columns 30-39)

B. PREPARATION

1. Do you consider it a problem to prepare your food? 1)yes 2)no 3)sometimes	1 2 3	9	30
2. Do you? 1)cook for self only 2)cook for self and others 3)help with cooking 4)not cook	1 2 3 4	9	31
3. Do you eat any meals with Senior Citizens' groups or participate in an organized meal program? 1)yes 2)no 3)sometimes	1 2 3	9	32
4. If yes, how often? 1)once per week 2)twice per week 3)3 to 6 times per week 4)daily 5)other	1 2 3 4 5	9	33
5. Do you use any of the following equipment in meal preparation?			
1. stove 1)yes 2)no 3)sometimes	1 2 3	9	34
2. refrigerator 1)yes 2)no 3)sometimes	1 2 3	9	35
3. hot plate 1)yes 2)no 3)sometimes	1 2 3	9	36
4. freezer space 1)yes 2)no 3)sometimes	1 2 3	9	37
5. dry storage 1)yes 2)no 3)sometimes	1 2 3	9	38
9. other small appliances (name) 2)no	2	9	39

CARD 4 (Columns 6-16)

6. Have you used home delivered meals (Meals on Wheels): 1)yes 2)no 3)sometimes 4)not available	1 2 3 4	9	6
+ 7. How often do you eat meals in a restaurant or in a friend or relative's home? 1)daily 2)once per week 3)twice per week 4)3 to 6 times per week 5)two times per month 6)monthly	1 2 3 4 5 6	9	7
8. How do you generally prepare your meat products such as beef, chicken, and fish? 1)broil 2)fry 3)roast 4)pressure cooker 9)other	1 2 3 4	9	8
9. How do you generally prepare your potato products? 1)mashed 2)French fried 3)boiled 4)scalloped 5)baked 6)pre-prepared 9)other	1 2 3 4 5 6	9	9
10. How do you generally prepare your cooked vegetables? 1)open a can and heat 2)prepare from the fresh state 3)prepare from the frozen state 9)other	1 2 3	9	10
11. Do you prepare (or use) casseroles? 1)yes 2)no 3)sometimes	1 2 3	9	11
12. If you are serving a pie, you will most often: 1)make it from scratch 2)use a pie filling 3)bake a purchased frozen pie 4)buy a bakery pie	1 2 3 4	9	12
13. If you are serving a cake, you will most often: 1)use a cake mix 2)use a frozen cake 3)make it from scratch 4)buy a bakery cake	1 2 3 4	9	13
14. If you are serving a bread product, you will most often: 1)make it from scratch 2)use a dry mix 3)use a canned or frozen product 4)use a bakery product	1 2 3 4	9	14
15. If you are preparing a pudding, you will most often: 1)make it from scratch 2)use a dry mix 3)open a can of pudding	1 2 3	9	15
16. If you are serving fruit, you will most often serve it: 1)fresh when available 2)canned 3)frozen	1 2 3	9	16

S. No. _____

CARD 4 (Columns 17-39)

17. If you are serving orange juice, you will most often serve: 1)canned juice 2)frozen concentrate 3)squeeze fresh oranges	1 2 3 9	17
18. If you are serving an egg, you will most often serve it: 1)scrambled 2)fried 3)poached 4)hard or soft cooked 5)baked	1 2 3 4 5 9	18

C. CONSUMPTION

1. Usual eating companions: 1)none 2)spouse 3)friends or relatives 4)others but not friends particularly	1 2 3 4 9	19
2. Number of times you eat per day: 1)one 2)two 3)three 4)four 5)five 6)more than five	1 2 3 4 5 6 9	20
3. Do you eat snacks? 1)rarely 2)occasionally 3)often 4)never	1 2 3 4 9	21
4. Do you use iodized salt or iodized "lite" salt? 1)always 2)sometimes 3)never 4)don't know	1 2 3 4 9	22
5. Do you use vitamin or mineral supplements? 1)yes 2)no 3)sometimes	1 2 3 9	23
+ 6. If yes, how often do you use a vitamin or mineral supplement? 1)daily 2)several times per week 3)at least once per week 4)two or more times per month 5)seldom 6)never	1 2 3 4 5 6 9	24
7. Why do you use a vitamin or mineral supplement? 1)believe that you need them 2)advice from friend or relative 3)doctor prescribed	1 2 3 9	25
+ 8. How would you rate your ability to eat any kind of food? 1)quite limited 2)omit a few foods (less than 10) 3)omit a number (10 or more) 4)eat anything	1 2 3 4 9	26
9. Appetite: 1)excellent 2)good 3)fair 4)poor	1 2 3 4 9	27
10. Chewing ability: 1)excellent 2)good 3)fair 4)poor	1 2 3 4 9	28

D. FREQUENCY OF USE OF PRODUCTS

\+ EATING FREQUENCY CODE
1. EATEN DAILY
2. EATEN SEVERAL TIMES PER WEEK
3. EATEN AT LEAST ONCE PER WEEK
4. EATEN TWO OR MORE TIMES PER MONTH
5. SELDOM EATEN
6. NEVER EATEN

FOOD ITEM	EATING FREQUENCY	
Main Dishes		
Beef and veal	1 2 3 4 5 6	29
Liver	1 2 3 4 5 6	30
Poultry (chicken, turkey, etc.)	1 2 3 4 5 6	31
Fresh and cured pork	1 2 3 4 5 6	32
Fish (fresh, frozen, canned)	1 2 3 4 5 6	33
A. Frozen		
Pot pies	1 2 3 4 5 6	34
"TV" dinners	1 2 3 4 5 6	35
Casseroles (macaroni & cheese, pizza, stews, Chinese dishes)	1 2 3 4 5 6	36
B. Dry Mixes		
Macaroni & cheese	1 2 3 4 5 6	37
"Hamburger Helper"	1 2 3 4 5 6	38
Noodle dishes	1 2 3 4 5 6	39

S. No. _____

CARD 5 (Columns 6-39)

C. Canned Main Dishes		
Pork and beans	1 2 3 4 5 6	6
Spaghetti	1 2 3 4 5 6	7
Stews	1 2 3 4 5 6	8
Hash	1 2 3 4 5 6	9
Other (canned hams, etc.)	1 2 3 4 5 6	10
Milk and Milk Products		
Whole or 2% milk	1 2 3 4 5 6	11
Skim or nonfat dry milk	1 2 3 4 5 6	12
Canned milk	1 2 3 4 5 6	13
Ice milk or ice cream	1 2 3 4 5 6	14
Substitute for coffee cream (coffee whitener)	1 2 3 4 5 6	15
Bread or Bread Products		
Prebaked white bread or rolls	1 2 3 4 5 6	16
Prebaked whole grain bread or rolls	1 2 3 4 5 6	17
Doughnuts and sweet rolls	1 2 3 4 5 6	18
Pancakes and waffles	1 2 3 4 5 6	19
Cookies and cakes	1 2 3 4 5 6	20
Pies	1 2 3 4 5 6	21
Processed cereals	1 2 3 4 5 6	22
Hot cereals	1 2 3 4 5 6	23
Fruits & Vegetables		
Fresh fruits	1 2 3 4 5 6	24
Frozen fruits	1 2 3 4 5 6	25
Canned fruits	1 2 3 4 5 6	26
Dried fruits	1 2 3 4 5 6	27
Fruit Juices		
Citrus or tomato juice	1 2 3 4 5 6	28
Other fruit juices (grape, apple, pineapple, etc.)	1 2 3 4 5 6	29
Vegetables		
Fresh vegetables	1 2 3 4 5 6	30
Canned vegetables	1 2 3 4 5 6	31
Frozen vegetables	1 2 3 4 5 6	32
Dehydrated vegetables	1 2 3 4 5 6	33
Prepared Salads (jello, potato, mixed green)	1 2 3 4 5 6	34
Fats and Oils		
Butter or margarine	1 2 3 4 5 6	35
Shortening	1 2 3 4 5 6	36
Oils	1 2 3 4 5 6	37
Salad dressing	1 2 3 4 5 6	38
Miscellaneous		
Candy, sugar	1 2 3 4 5 6	39

CARD 6 (Columns 6-12)

Carbonated beverages--regular and diet	1 2 3 4 5 6	6
Beer, wine, liquor	1 2 3 4 5 6	7
Nuts	1 2 3 4 5 6	8
Snack foods (potato chips, corn chips, pretzels)	1 2 3 4 5 6	9
Soups		
Canned	1 2 3 4 5 6	10
Frozen	1 2 3 4 5 6	11
Dehydrated	1 2 3 4 5 6	12

S. No. _____
CARD 6 (Columns 13-17)

Box Desserts		
Cake mixes	1 2 3 4 5 6	13
Pudding or gelatin, etc.	1 2 3 4 5 6	14
Foil wrapped mixes (salad dressing mix, gravy mix, sauce mix, spaghetti)	1 2 3 4 5 6	15
Instant coffee and tea	1 2 3 4 5 6	16
Regular coffee and tea (brewed, Sanka, etc.)	1 2 3 4 5 6	17

Are there any programs or services you would like to see developed for you?

For interviewer to answer after each interview:
In your opinion, was the person interviewed able to follow the interviewing process?

LETTER OF INTRODUCTION

Summer, 1974

Dear Riley County Resident:

This letter is to introduce a member of our research group. The Department of Foods and Nutrition at Kansas State University is seeking information regarding senior citizens.

We hope you will help us by answering our questions about your own food beliefs and practices. Your answers are important to us. The information will aid in better understanding and evaluating the needs of the senior citizen. We believe we can serve the community, Kansas, and the nation more effectively when we have such answers.

Thank you for your time and all courtesy extended.

Sincerely yours,

Gwendolyn L. Tinklin
Professor

Telephone No. (913) 532-5508

CODE FOR COMPUTER-MARK-SENSE DATA CARD

IBM M93230 DATA COLLECTION CARD IBM M93231

Code:

Column 1: Coded to identify the card number

Column 2: Coded to differentiate among couples (1), single females (2), and single males (3)

Columns 3, 4, 5: Coded to identify subjects (HR: 001 to 100 and NHR: 101 to 200).

Columns 6 to 39: Coded to indicate answers from interviewee

SHOW CARDS

Responses to certain long questions were typed on 5" by 8" plain index cards. These show cards were shown to the interviewee in the event that he could not remember the possible responses to a specific question. All show cards were attached loosely by a string for easy handling.

Show Card 1

1. Less than $3000/yr. or $250/mo.
2. $3000-$5000/yr. or $250-$415/mo.
3. $5000-$10,000/yr. or $415-$830/mo.
4. Over $10,000/yr. or over $830/mo.

Show Card 2

1. Health
2. Death of spouse or relative
3. Finances
4. Convenience
5. Alternative to nursing home

Show Card 3

1. With relatives
2. Highrise apartment for the elderly
3. Nursing home
4. Other

Show Card 4

1. Meat and potatoes
2. Milk and cereal
3. Milk, vegetable-fruit, meat, and bread-cereal

Show Card 5

1. Eat a balanced diet that is low in calories
2. Go on a grapefruit diet
3. Skip breakfast

Show Card 6

1. Early morning
2. Mid-morning
3. Noon
4. Mid-evening
5. Late evening
6. Before bed time

Show Card 7

1. Newspaper ads
2. TV commercials
3. Radio commercials
4. Store posters and displays
5. Recommendations from others

Show Card 8

1. Daily
2. Once per week
3. Twice per week
4. Three to 6 times per month
5. Monthly

Show Card 9

1. Daily
2. Several times per week
3. At least once per week
4. Two or more times per month
5. Seldom
6. Never

Show Card 10

1. Quite limited
2. Omit a few foods
3. Omit a number
4. Eat anything

Show Card 11

1. Eaten daily
2. Eaten several times per week
3. Eaten at least once per week
4. Eaten two or more times per month
5. Seldom eaten
6. Never eaten

Table 9-Possible health problems with percentage of responses for 2 populations[a]

Health problems--now or during the past 2 years	Responses[b] (%) Yes	No
Ulcers or repeated stomach trouble	10	90
	15	85
Diabetes	12	88
	4	96
Hardening of arteries	20	80
	18	82
Diseases of the heart	10	90
	11	89
Some form of cancer or tumors	10	90
	2	98
Bronchitis, emphysema, and asthma	20	80
	20	80
Poor vision (uncorrected)	18	82
	17	83
Poor hearing (uncorrected)	26	74
	24	76
Arthritis or rheumatism	70	30
	61	39
Repeated trouble of arms, legs, back, or trunk	38	62
	24	76
Absent limbs	0	100
	0	100
Repeated bladder or kidney trouble	16	84
	7	93
Paralysis or stroke	8	92
	6	94
Lost all natural teeth, satisfactory dentures	** 70	30
	43	57
Lost all natural teeth, but unsatisfactory or no dentures	6	94
	0	100
Periodontal disease with natural teeth (inflammatory disease of gum tissue)	4	96
	6	94
Overweight (or obesity)	50	50
	32	68
Other health problems	26	74
	17	83

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

**HR and NHR differ $P < 0.01$

Table 10-Beliefs about convenience foods with percentage of responses for 2 populations[a]

Statement		Responses[b] (%) Yes	No	Sometimes	Other
Frozen pot pies are convenient to use when you don't want to spend time preparing a main dish.		84 93	6 4	0 0	10 4
Frozen "TV" dinners are easy to use and prepare.		94 96	0 2	4 0	2 2
Dried mixes are more expensive than the home prepared product.		66 72	18 17	10 4	6 7
Fresh vegetables have a better flavor than frozen vegetables.	 **	92 70	8 17	0 13	0 0
Frozen vegetables are more expensive than canned vegetables.		46 52	34 30	14 11	6 7
Canned fruits and vegetables are used more often than fresh because there is less refuse.		40 44	36 44	16 4	8 7
Frozen fruit pies taste as good as home prepared pies.		16 9	72 80	10 11	2 0
Less time, energy, and utensils are needed to prepare a cake made from a mix.		96 94	2 2	2 4	0 0
You can always identify a cake made from a mix.		34 30	56 62	10 8	0 0
Canned and packaged puddings produce flavorful, smooth textured products.		70 87	12 4	8 4	10 6

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

**HR and NHR differ $P < 0.01$

Table 11-Food consumption practices with percentage of responses for 2 populations[a]

Question	Responses[b] (%) A	B	C	D	E	F	Other
Usual eating companions? A)none B)spouse C)friends	84	6	2	4	-	-	4
or relatives D)others but not friends particularly	87	4	9	0	-	-	0
Number of times you eat per day? A)one B)two	6	14	66	10	0	2	2
C)three D)four E)five F)more than five	0	11	80	2	2	6	0
The time of the day you eat the most food is? A)early	20	0	46	26	6	0	2
morning B)midmorning C)noon D)mid-evening	11	9	46	22	7	0	4
E)late evening F)before bed							
Appetite? A)excellent B)good C)fair D)poor	52	30	12	6	-	-	-
	32	48	15	6	-	-	-
Chewing ability? A)excellent B)good C)fair	26	44	26	4	-	-	-
D)poor	7	69	20	4	-	-	-
How would you rate your ability to eat any kind of	10	16	10	62	-	-	2
food? A)quite limited B)omit a few foods (less	2	28	17	54	-	-	-
than 10) C)omit a number (10 or more)							
D)eat anything							
Do you eat snacks? A)rarely B)occasionally	30	22	20	28	-	-	-
C)often D)never	26	28	28	18	-	-	-
Do you use iodized salt or iodized "lite" salt?	62	14	20	2	-	-	2
A)always B)sometimes C)never D)don't know	61	11	24	2	-	-	2
Do you use vitamin or mineral supplements?	38	60	2	-	-	-	-
A)yes B)no C)sometimes	54	39	7	-	-	-	-
If yes, how often do you use a vitamin or mineral	30	8	0	0	0	0	62
supplement? A)daily B)several times per week	54	2	0	2	2	0	41
C)at least once per week D)two or more times							
per month E)seldom E)never							
Why do you use a vitamin or mineral supplement?							
believe that you need it A)yes B)no	22	78	-	-	-	-	-
	35	65	-	-	-	-	-
advice from friend or relative A)yes B)no	2	98	-	-	-	-	-
	2	98	-	-	-	-	-
doctor prescribed A)yes B)no	16	84	-	-	-	-	-
	20	80	-	-	-	-	-
other reason A)yes B)no	0	100	-	-	-	-	-
	2	98	-	-	-	-	-

[a]Residents in highrise apartment complex (HR); Nonresidents (NHR)

[b]Row 1--HR; Row 2--NHR

*HR and NHR differ $P < 0.05$

FOOD BELIEFS AND PRACTICES OF SELECTED SENIOR CITIZENS

by

JUDY LYNN ROUNTREE

B.S.H.E., University of North Carolina at Greensboro, 1973

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Foods and Nutrition

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1975

The food beliefs and practices of residents of highrise apartment (HR) were compared with those of nonresidents (NHR). Relationships between food beliefs and practices were investigated also. A survey was conducted with cooperative senior citizens 60 years of age and older. An interview schedule consisting of questions concerning biographical data, food and nutrition beliefs, and food practices was administered. Information was computerized for analyses of data.

The HR population reported lower levels of education and income than the NHR population. Both groups had similar types of health problems. Few significant differences were revealed in the beliefs of the 2 populations regarding normal nutrition, food faddism, and convenience foods. Purchasing, preparation, and consumption patterns of the 2 groups were similar also. Some differences were found in the frequency of use of food products by the 2 groups. However, the HR population seemed to use fewer sweet or snack foods than the NHR population.

A majority of both groups indicated knowledge of good food sources in 2 of the Basic Four food groups. In addition, they knew the purpose of some of the nutrients in these groups.

A comparison of some beliefs regarding food faddism with actual practices revealed that the respondents did not practice always what they believed. A high percentage believed that some convenience foods increased ease of preparation, yet the use of these products was varied. The expense of convenience foods may have influenced practices, especially the use of dried mixes. The beliefs regarding the flavor of convenience forms of food seemed to be related directly to the use of these products.