

Promoting Healthy Lifestyles in Urban and Rural Elders

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Abstract

The daily or frequent practice of health promotion activities by elders is critical to maximize health, decrease disabilities, and enhance well-being. The purposes of this descriptive correlational study was to (a) determine differences in 244 urban and rural elders and (b) relationships among health promotion activities, perceived health, functional health, perceived level of social support, and demographic characteristics. Data were analyzed using descriptive and linear regression to determine that the perceived level of social support was the significant predictor variable for the overall practice of health promotion. Race and functional health were significant predictors of lesser degree. The activities of exercise, nutrition, safety, and substance use were significant to urban and rural elders with different predictor variables for each activity.

Keywords: health promotion, perceived health, functional health, social support, urban, rural, elders

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Research studies over the last two decades have shown that elders practice a variety of health promotion activities in varying degrees (Brown & McCreedy, 1986; Harris & Guten, 1979; Pender, 1996; Potts, Hurwicz, Goldstein, & Berkanovic, 1992; Riffle, Yoho, & Sams, 1989; Scott & Beare, in press; Strawbridge, Camacho, Cohen, & Kaplan, 1993). Health promotion activities benefit elders by preventing or controlling health problems, decreasing disabilities, lowering health care costs, and enhancing a sense of well-being (Frenn, 1996; Harris & Guten, 1979; Kaufman, 1996; Strawbridge et al. 1993). The focus of Healthy People 2010 for elders is to increase the quality and years of life by changing risky behaviors into healthy behaviors to decrease health disparities (U.S. Department of Health & Human Services, 2000). The identification of variables that influence elders to practice health promotion activities should facilitate the planning and provision of interventions to achieve these goals.

Health promotion consists of specific behaviors to facilitate health and the wellbeing of an individual on a daily basis (Orem, 1991; Pender, 1996). The Theory of Self-Care suggests that individuals are autonomous and responsible for self-care and refers to a systematic, deliberate practice of activities that individuals initiate, perform, and regulate on their own behalf to maintain life, promote health, and enhance well-being. An individual's basic conditioning factors, such as age, gender, socioeconomic factors, health state, family system, and patterns of living are internal and external factors that influence self-care and affect one's ability to engage in self-care or health promotion activities (Orem, 1991).

Specific health promotion activities are exercising regularly, refraining from smoking, moderating alcohol consumption, sleeping 7 to 8 hours nightly, maintaining a desirable body weight, observing safety practices, seeking annual medical and dental examinations, performing

monthly self-breast examination, and practicing stress management techniques (Belloc & Breslow, 1972; Harris & Guten, 1979; Pender, 1996). Brown and McCreedy (1986) studied the health practices, demographic characteristics, and current health status of 386 elders aged 55 and older to determine that subjects routinely practiced half of the identified health behaviors and that perceived health significantly correlated to the practice of these health behaviors. Riffle et al. (1989) studied 113 Appalachians with a mean age of 74 years to find significant relationships between perceived health, health promotion activities, and social support with perceived health being the significant predictor for the practice of health promotion activities. Other researchers confirmed elders' practice of health promotion (Johnson, 1991; Potts et al. 1992; Strawbridge et al. 1993).

Perceived health is an individual's assessment of one's general health and distinguishes between subjective and objective health; demonstrates stability across time, cultures, and age groups; and is congruent with a physician's assessment of general health (Maddox & Douglas, 1973; Magnani, 1990). Perceived health is a logical predictor for elders' practice of health promotion activities because elders who believe their health to be better are more likely to perform health promotion activities. Speake, Cowart, and Stephens (1991) studied 580 rural and urban elders to find that perceived health and internal locus of control were the most consistent predictors of health promotion activities. Nicholas (1993) found that 72 elders aged 55 to 92 years old who lived with a spouse or others had better perceived health, higher levels of hardiness, and practiced more health promotion activities. Duffy (1993) reported that elders with good perceived health, strong internal locus of control, and high self-esteem frequently practiced the health promotion activities of nutrition, stress management, interpersonal support, exercise, and self-actualization.

Health beliefs of elders vary and encompass functional health. The maintenance of physical functioning was the most frequently cited dimension of physical health (Huck & Armer, 1996; Kaufman, 1996). Functional health maintains independence and is defined as the maximum output of an individual to perform the activities of daily living, such as bathing, dressing, toileting, transferring, continence, and ambulation in addition to the complex instrumental activities of daily living, such as using the telephone, cooking, cleaning house, handling money, and shopping (Lawton, 1972; Linn & Linn, 1984; Matteson, 1997). Functional health was a more absolute and objective measurement than perceived health, more stable over time, and not affected by mood or outlook (Lichtenstein & Thomas, 1987).

In 179 elders, Duffy and MacDonald (1990) found that married elders with more income, younger age, and higher perceived health were more likely to have higher functional health and a moderate practice of health promotion activities, specifically nutrition. A study of 126 elders with a mean age of 78 years found that younger elders with internal locus of control and more education had greater social satisfaction, greater functional health, and practiced more health promotion activities, specifically exercise (Hawkins, Duncan, & McDermott, 1988). Conversely, other studies concluded that older females with greater functional health practiced more health promotion activities (Jensen, Counte, & Glandon, 1992; Martin & Panicucci, 1996; Strawbridge et al. 1993). Scott and Beare (in press) supported these findings in 122 elders and determined that perceived health was the significant predictor for health promotion activities; however, functional health was the significant predictor in the practice of exercise, nutrition, substance avoidance, and safety activities.

Social support serves as a positive feedback mechanism to promote positive adaptive behavior, foster a sense of well-being, and increase resistance to disease (Cobb, 1976).

Continuous changes, such as the aging process, multiple chronic illnesses, physical disabilities, and multiple losses of spouse, family, and friends increase the need for social support in elders (Johnson, 1998). Social support was described as satisfying relationships, companionship, enjoyment of life, and reciprocal caring (Frenn, 1996; Huck & Armer, 1996). Many studies indicated that elders with high levels of perceived social support significantly practiced more health promotion activities and demonstrated positive associations with health, such as lower morbidity and mortality rates (Adams, Bowden, Humphrey, & McAdams, 2000; Martin & Panicucci, 1996; Potts et al. 1992; Riffle et al. 1989; Schank & Lough, 1990; Strawbridge et al. 1993). Social support is another logical predictor for elders' practice of health promotion activities.

Diverse definitions, characteristics, and health issues of rural and urban areas have been documented in the literature. For this study, urban was defined as a community with a combined population of at least 50,000 from a central city and contiguous closely settled territory. Rural was defined as territories, populations, and housing units not classified as urban generally located 15 to 30 miles from a community with a population no larger than 10,000 residents (U. S. Bureau of the Census, 1993; U. S. Office of Management and Budget, 1994).

Rural areas reported more children and elderly residents that consisted of Caucasian and native-born residents with few minority residents. Rural residents were more likely to have a high school education, experience lower incomes, report lower levels of insurance coverage, perceive lower levels of health (fair to poor), sustain higher trauma mortality rates, specifically in motor vehicle accidents and gun-related incidences, experience higher rates of chronic diseases, report higher infant mortality rates, report less utilization of hospitals and health care providers, and use less preventive health screening than urban residents. Comparatively, more elders

resided in rural areas (14.6%) than in metropolitan areas (12.6%) and were more likely to receive lower social security incomes, report greater use of Medicaid and Medicare, own their own home, report poorer health, and experience fewer days of disability with greater levels of perseverance than urban elders. Rural elders were less likely to use formal in-home long-term services or long-term care facilities (Coburn & Bolda, 1999; Ricketts, Johnson-Webb, & Randolph, 1999).

Rural residents were less likely to use seatbelts, exercise, and smoke and more likely to be obese (Ricketts et al. 1999). These findings were confirmed by Johnson (1991) who found that 250 rural elders inconsistently and infrequently practiced only 7 of 24 health practices. Conversely, Adams et al. (2000) reported that 102 rural women frequently practiced health promotion activities and social support being the significant predictor variable.

Few studies have addressed differences in the urban and rural elders' practice of health promotion. Speake et al. (1991) studied 343 rural and 232 urban elders to determine that there was no difference in the practice of health promotion in relation to their geographical residence. Thornson and Powell (1992) studied 200 rural and 196 urban elders to report no differences in their health promotion activities; however, the rural elders were more independent and autonomous in self-care. However, Johnson, Ratner, and Bottorff (1995) determined in 853 subjects (16.5% elderly subjects) that rural Canadians engaged in more healthy behaviors than urban residents. More research is needed to determine if differences exist in the practice of health promotion and predictor variables in urban and rural elders. The research questions of this descriptive, correlational study were:

1. What are the differences among health promotion activities, perceived health, functional health, perceived level of social support, and demographic characteristics of urban and rural elders living in the community?
2. What are the relationships among health promotion activities, perceived health, functional health, perceived level of social support, and demographic characteristics of urban and rural elders living in the community?

A greater understanding of these variables and their influence on each other are needed to develop and implement interventions to maximize elder's health in various geographical areas, especially if differences exist.

Methodology

Design

A descriptive, correlational design was used to address the research questions. A power analysis was performed to determine a sufficient sample size to reduce the possibility of a Type II error. This study required a sample size of 120 subjects in each geographic location to have a power level of .80. The replicated study with rural elders was completed one year after the completion of the urban study. Data were collected using a one-time face-to-face private interview.

Sample

Each convenience sample consisted of 122 male and female elders ($n = 244$) aged 65 years and older who lived in the community and lived alone, with their spouse, or with a relative or friend. The urban subjects lived in a seven-county continuum or contiguously close areas with a population range of 40,000 to 80,000 and were recruited from a retirement apartment complex, three churches, and a family medical practice located in the southeastern region of the

United States. The rural subjects lived in a four-county continuum or contiguously close areas with a population range of 1,500 to 20,000 and were recruited from four nutritional centers located in the western region of the United States. The rural areas were less populated with greater distances between towns or incorporated areas and consisted of fewer shopping opportunities and minimal health care services and providers than the urban areas. The studies were approved at an university's institutional review board in each geographical region and the participating agencies. Signed informed consent was obtained from each subject prior to participation in the study.

Measures

Health Promotion Activities. The Personal Lifestyle Questionnaire (PLQ) measures the frequency that individuals participate in health promotion activities (Muhlenkamp & Brown, 1983). The PLQ is a 24-item, 4-point Likert scale based on Orem's (1991) Theory of Self-Care and delineates specific activities measured by the six subscales of exercise, nutrition, relaxation, substance use, safety, and health promotion or maintenance. The summated score ranges from 24 to 96 with higher scores indicating a greater number of positive health activities practiced. This measure was used in similar groups with reported reliability ($\alpha = .76$, test-retest $\alpha = .88$) and validity (Muhlenkamp & Brown, 1983). A comparison of the Cronbach alpha coefficients for overall health promotion and the subscales of this study with other studies are presented in Table 1 and shows a high correlation in overall health promotion and moderate correlation in all of the subscales except nutrition (Guilford, 1956).

Table 1
Comparison of Cronbach Alpha Coefficients of Health Promotion Activities and Subscales

Health Activities	Urban and Rural	Health Fair*	Combined Data*
Overall or total	.71	.74	.76
Exercise	.40	.72	.67
Nutrition	.39	.33	.24
Relaxation	.43	.54	.47
Safety	.46	.42	.45
Substance use	.64	.27	.56
Health promotion or maintenance	.64	.74	.75

* (Muhlenkamp & Brown, 1983)

Perceived Health. The Self-Rated Health (SRH) measures an individual's perceived health and is part of the physical domain of the Philadelphia Geriatric Center Multilevel Assessment Instrument. The SRH contains four items with a 3- or 4-point category response. The summated score ranges from 4 to 13 with higher scores indicating higher levels of perceived health. This health dimension has demonstrated evidence of reliability (alpha = .76, test-retest alpha = .92) and validity (Lawton, Moss, Fulcomer, & Kleban, 1982). The urban and rural group's Cronbach alpha was equivalent (alpha = .76).

Functional Health. The physical disability domain of the Self-Evaluation of Life Function (SELF) measures an elder's ability to achieve the Activities of Daily Living (ADL) and Instrumental Activities of Living (IADL). The measure consists of 13-items on a 4-point Likert scale with a summated score ranging from 13 to 52 with lower scores indicating greater

functional health. There was reported evidence of reliability ($\alpha = .96$) and validity (Linn & Linn, 1984). Internal consistency for the urban and rural group was lower ($\alpha = .82$).

Social Support. The Personal Resource Questionnaire 85: Part II (PRQ85: II) measures an individual's perceived level of social support. It consists of 25 items with a 7-point Likert scale and a summated score ranging from 25 to 175 with higher scores indicating higher levels of perceived social support (Weinert, 1987). There was reported evidence of reliability ($\alpha = .89$, test-retest $\alpha = .93$) and validity (Brandt & Weinert, 1981; Weinert, 1987). The urban and rural group α of .88 provided further support for reliability.

Demographic Characteristics. The demographic questionnaire measures the characteristics of age, gender, race, marital status, educational level, income, living arrangement, and living status for each subject.

Data Analysis

Data analysis was performed on all study variables by the SPSS 9.0 for Windows using descriptive and inferential statistics. A simple linear procedure was used when only one independent variable correlated with its respective variable. The forward stepwise method was used in the linear regression analysis when more than one variable entered into the equation, and $p < .05$ was used as the level of significance. Multiple regression analysis determined which of the independent variables was most important in explaining the variance in the dependent variables. Although the significance level was reported, the standard beta coefficient determined the importance of the variable in its relationship to various health promotion activities subscales.

Results

The majority of the 244 subjects were women, Caucasian, and married (Table 2). The mean age of the subjects was 74.8 years with ages ranging from 65 to 96 years. Significant

demographic differences between the urban and rural elders were race (chi-square = 29.88, $p < .001$) with 88.9% of the subjects being Caucasian and in living arrangements (chi-square = 55.52, $p < .001$) with 63.5% of the subjects living in their own home and 13.5% living in mobile homes, specifically the rural elders.

The mean score for the PLQ was 70.4 with scores ranging from 45 to 96 and indicated a relatively high practice of health promotion activities. The mean score for SRH was 9.1 with scores ranging from 4 to 13 to indicate good perceived health. The mean score for SELF was 15.8 with scores ranging from 13 to 41 to indicate high levels of functional health. The mean score for the PRQ85: II was 129.8 with scores ranging from 25 to 223 to indicate moderate perceived levels of social support. Significant differences between the urban and rural elders were the overall practice of health promotion (chi-square = 118.73, $p .001$) and perceived health (chi-square = 25.90, $p .002$) (Table 3). In the health promotion subscales, significant differences were in the practice of nutrition (chi-square = 37.81, $p .001$), safety (chi-square = 109.61, $p .001$), and substance use (chi-square = 242.00, $p .001$).

Table 2
Characteristics of Subjects

Characteristic	Urban		Rural		Group	
	n	%	n	%	n	%
Gender						
Male	34	28	41	33.6	75	30.7
Female	88	72	81	66.4	169	69.3
Race						
Caucasian	96	79	121	99.2	217	88.9
African-American	26	21			26	10.7
Hispanic			1	0.8	1	0.4
Marital Status						
Never married	2	1.6	4	3.3	6	2.5
Married	62	50.8	51	41.8	113	46.3
Divorced and separated	5	4.1	18	14.7	23	9.4
Widowed	53	43.4	49	40.2	102	41.8
Educational Level						
Less than 7 th grade	11	9	4	3.3	15	6.1
Almost completed high school	30	24.6	31	25.4	61	25
Completed high school	34	28	41	33.6	75	30.7
Partial college	30	24.5	34	27.9	64	26.2
Community college	4	3.3	3	2.5	7	2.9
Baccalaureate degree or >	13	10.6	9	7.3	22	9

Income						
< \$3000	5	4	7	5.7	12	4.9
\$3000-\$8999	59	48.4	27	22.1	86	35.2
\$9000-\$14999	28	23	49	40.2	77	31.6
\$15000-\$20999	20	16.4	25	20.5	45	18.4
\$21000 or >	10	8.2	14	11.5	24	9.8
Living Arrangement						
Home	91	74.6	64	52.5	155	63.5
Apartment	30	24.6	26	21.3	56	22.9
Mobile Home	1	0.8	32	26.2	33	13.5
Living Status						
Alone	54	44.3	63	51.6	117	48
With spouse	61	50	50	41.0	111	45.5
With family or friend	7	5.7	9	7.4	16	6.5

Table 3
Comparison of Variables Scores

Variables	Group	M	SD	Chi-square	p
Perceived Health	Urban	8.53	2.04	25.90	.002
	Rural	9.61	2.12		
Functional Health	Urban	15.93	4.0	18.67	.498
	Rural	15.70	4.30		
Social Support	Urban	139.44	27.28	111.81	.090
	Rural	120.02	22.88		
Overall or Total	Urban	76.29	7.83	118.73	.001
	Rural	64.33	7.07		
Exercise	Urban	6.73	2.85	8.54	.481
	Rural	7.59	2.81		
Nutrition	Urban	13.56	1.77	37.81	.001
	Rural	12.08	1.94		
Relaxation	Urban	15.58	2.63	10.54	.489
	Rural	15.28	2.32		
Safety	Urban	14.02	1.77	109.61	.001
	Rural	11.54	1.81		
Substance Use	Urban	15.04	1.38	242.00	.001
	Rural	6.98	1.57		
Health Promotion or Maintenance	Urban	11.36	2.57	17.732	.124
	Rural	10.70	2.72		

The second research question asked "What are the relationships among health promotion activities, perceived health, functional health, perceived level of social support, and demographic characteristics of urban and rural elders living in the community?" Correlations of the variables (Table 4) showed statistical significance for rural and urban elders in the overall practice of health promotion ($r = -.627, p < .05$) and in the activities of exercise ($r = .151, p < .05$), nutrition ($r = -.371, p < .05$), safety ($r = -.571, p < .05$), and substance use ($r = -.939, p < .05$).

Table 4
Correlations of Variables

Health Activities	Perceived Health r	Functional Health r	Social Support r	Demographic Characteristics r
Overall or Total	.028	-.124	.339*	-.627* .194* -.316*
Exercise	.358*	-.208*	.056	.151* .150* .198* -.181*
Nutrition	.007	-.109	.201*	-.371* -.182*
Relaxation	.134*	-.130*	.217*	
Safety	-.111	-.146*	.205*	-.571* .155* -.296*
Substance Abuse	-.271*	.001	.357*	-.939* .285* -.368*
Health Promotion or Maintenance	.106	-.052	.072	.276* -.151* -.152*

* $p < .05$ significant

Multiple regression determined that social support was the significant predictor for the overall practice of health promotion in urban and rural elders and explained 11.5% of the variance (Table 5). Race and functional health were other significant predictor variables and explained 4.6% and 1.4% of the variance, respectively.

Discussion

The findings of this study provided some important implications for clinical practice even though the study was limited by a convenience sample and did not allow for generalization to the elderly population. The urban and rural elders of this study were more likely to be Caucasian, married, females, have completed high school, report an annual income between \$3000 to \$8999, live in their own home alone, experience greater functional ability, and have similar practices of relaxation activities and health promotion or maintenance activities. Similar findings, with the exclusion of perceived health and functional health, were reported as characteristics of rural elders, not urban and rural elders (Coburn & Bolda, 1999; Ricketts et al. 1999). Surprisingly, rural elders were more likely to have higher educational levels and perceive their health as better than urban elders. These findings were contrary to those of Thorton and Powell (1992) who determined no differences in rural and urban elders' perceived and functional health.

The differences between urban and rural elders indicated that urban elders were more likely to perceive more positive supportive relationships, practice more overall health promotion activities daily, and practice more nutrition activities, safety activities, and avoid substance use than rural elders. Conversely, these findings were not supported by other researchers who compared urban and rural elders (Johnson et al. 1995; Speake et al. 1991; Thomson & Powell, 1992). Johnson (1991) found that rural elders practiced few health promotion activities while Adams et al. (2000) reported that rural females frequently practiced health promotion activities.

The conflicting findings strongly suggested that nurses needed to thoroughly assess the characteristics and health practice of elders in their geographical region to determine the strengths and deficits of each elder to practice health promotion, maintain functional health, and enhance perceived social support.

Table 5
Predictor Variables of Health Promotion Activities

Predictor	Cumulative R	Cumulative R ²	F*	Standardized Beta
Social Support	.339	.115	31.02	.320
Race	.401	.161	22.83	.213
Functional Health	.418	.175	16.70	-.116

* $p < .05$

The urban and rural elders of this study reported that the perceived level of social support was the significant variable for the overall practice of health promotion activities. It was noted that the greater the practice of health promotion activities, the higher the perceived level of social support. This finding was logical because the opportunities for the enhancement of social support were available as 45.5% of the subjects lived with their spouse and the majority of the subjects routinely participated in activities at nutritional centers and churches. Activities included communicating concerns to a confidant, maintaining intimacy, and allotting daily time for self. These findings were confirmed by several studies (Adams et al. 2000; Martin & Panicucci, 1996; Potts et al. 1992; Riffle et al. 1989; Schank & Lough, 1990; Strawbridge et al. 1993). Elders who experienced higher levels of social support reported satisfying relationships that fostered well-being and promoted positive health promotion activities.

Race was a statistically significant predictor variable for health promotion; however, a limited sample of non-Caucasian subjects (11.4%) possibly influenced biased conclusions. The researchers acknowledged the significant relationship and refrained from presenting any conclusions. The majority of health promotion studies had a larger Caucasian sample than a non-Caucasian sample (Belloc & Breslow, 1972; Brown & McCreedy, 1986; Duffy, 1993; Harris & Guten, 1979; Hawkins et al. 1988; Nicholas, 1993; Riffle et al. 1989).

Functional health was the third significant predictor of health promotion. Even though functional health had a smaller variance than the other predictor variables, the urban and rural elders reported significantly high levels of functional health. Elders viewed functional health as independence and physical health (Huck & Armer, 1996; Kaufman, 1996). Several studies found that elders with greater functional health and greater social satisfaction practiced more health promotion activities (Hawkins et al. 1988; Martin & Panicucci, 1996; Potts et al. 1992; Strawbridge et al. 1993). The strong association between functional health and social support sustained elders in their practice of health promotion.

The specific health promotion activities significant to urban and rural elders were exercise, nutrition, safety, and substance use. Functional health, perceived health, married, higher incomes, and living alone were significant in the practice of exercise activities. Functional health and perceived health were logical findings as physical ability was required to perform exercises on a regular basis and feeling healthy encouraged elders to stay active and enhance their well-being. These findings were congruent with other researchers (Duffy & MacDonald, 1990; Hawkins et al. 1988; Jensen et al. 1992; Riffle et al. 1989; Scott & Beare, in press) and contrary to other studies (Brown & McCreedy, 1986; Harris & Guten, 1972). Elders described their health as activity, exercising, and maintaining independence (Kaufman, 1996).

Social support and living in one's own home were significant in the practice of nutrition activities. All of the rural elders daily or frequently attended a nutritional center and received nutritious food, nutritional education, and social support through positive interactions with others while urban elders frequently participated in church socials. Elders who took care of themselves, such as eating three times a day, eating from the five food groups daily, and maintaining one's desired weight attracted and maintained supportive relationships. The greater the social support, the more nutritional practices were reported. Similarly these findings were confirmed by Riffle et al. (1989) and others (Hawkins et al. 1989; Martin & Panicucci, 1996; Potts et al. 1992; Schank & Lough, 1989; Strawbridge et al. 1992). Married elders probably combined incomes to purchase healthier foods and promote positive nutritional habits.

Functional health, social support, race, and living in one's own home were significant in the practice of safety activities. As individuals aged and developed disabilities, they perceived themselves as being more vulnerable and at risk for injuries resulting in a loss of independence; therefore, elders became more diligent and responsible for maintaining health through positive safety practices (Duffy & MacDonald, 1990; Martin & Panicucci, 1996; Potts et al. 1992). Harris and Guten (1972) reported that being white, female, and older were the best predictors of safety practices or environmental hazards avoidance. Similarly, in this study, 69.3% of the subjects were older females who lived alone or with a spouse in their own home and reported functional health essential to performing safety activities. Social support served as an additive to continue positive behaviors, such as wearing seat belts and staying within the speed limit when driving to prevent accidents and physical harm.

Social support, perceived health, Caucasian, and living in one's own home were significant in the practice of substance use. Rural elders ($M = 6.98$, $SD 1.57$) reported the

greater use of alcohol or tobacco than urban elders ($M = 15.04$, $SD 1.38$). A bias was probably present in the urban elders as 54% of them were recruited from three churches who advocated no alcohol or tobacco usage. This finding was confirmed in elderly Black urban females who attended a Baptist church weekly (Martin & Panicucci, 1996). In comparison, Johnson (1991) found that Western rural elders reported frequent substance use. Hawkins et al. (1988) reported that 87% of the subjects were nonsmokers and 94% were nonalcoholic drinkers; however, these variables were not significant to health promotion activities. Schank and Lough (1990) reported in frail elderly females that 70% had no alcohol consumption and 50% had smoked in their lifetime and reported high levels of social support. Social support and better perceived health combined to influence urban elders to avoid substance use to maintain positive health and sense of well-being.

The findings of this study were consistent with Orem's (1991) Theory of Self-Care as the elders initiated and practiced health promotion activities with high frequency. The predictor variables of perceived health, functional health, perceived level of social support, age, gender, socioeconomic factors, health state, family system, and patterns of living paralleled the basic conditioning factors and were significant to the practice of health promotion activities. The variables of religion, culture, media, and health care systems of the geographical areas were not addressed in this study and possibly influenced the subjects' responses.

Interventions are needed to strengthen the elders' current health promotion activities. Nurses need to perform a comprehensive health assessment of each elder to identify their participation in health promotion activities, perceived level of social support, functional ability, and any existing health deviations. The nurse focuses the elders on their strengths of perceived level of social support and functional health to encourage them to continue positive health

activities, such as continuing a planned exercise program, using seat belts in an automobile, eating a low fat diet, planning periods of relaxation, and visiting family and friends frequently. The nurse performs on-going evaluations of the elder's activities, health outcomes, and health promotion goals to insure progress toward maintaining health, improving functional ability, and enhancing a sense of well-being. Modification of the elder's goals and activities are made by the nurse and elder in relation to health outcomes and elder's needs.

Simultaneously with the comprehensive health assessment, the nurse assists elderly clients to identify any health promotion deficit, such as lack of exercise, poor nutritional habits, poor safety practices, or alcohol or tobacco usage. The nurse encourages elders to determine specific health promotion deficits to change or priority listing of deficits to change over a period of time. The nurse assists the elders to establish specific, realistic goals and develop interventions to change activities and correct identified deficits, such as determining safe, acceptable exercises, teaching daily nutritional needs, eliminating safety hazards in the home, or decreasing alcohol or tobacco usage. On-going evaluations of health outcomes and health promotion goals by the nurse and elders ensure progress toward reducing health promotion deficits and strengthening of positive health promotion activities.

The inclusion of the elders' social support system in planning and implementation of these activities provides reinforcement toward goal achievement. Nursing referrals to community resources, such as a nutritional center, exercise groups, smoking cessation classes, organizations with monetary resources, and voluntary church groups promote goal achievement. Interventions should target elderly men and members of minority groups to increase their participation in health promotion activities, such as seeking annual physical examinations or planning social interactions in diverse cultural groups. These actions by the nurse and elders

support Orem's (1991) Self-Care Theory that individuals are responsible for self-care and regulate deliberate practice of activities to maintain life, promote health, achieve independence, and enhance well-being for a better quality of life.

Further research is needed to determine the similarities and differences between urban and rural elders in health promotion. The utilization of larger, random samples with the inclusion of non-Caucasian subjects in various geographical regions should promote findings that are applicable to the elderly population and assist in planning intervention studies to enhance social support, functional health, and the practice of health promotion in urban and rural elders.

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