

A Study of Factors Affecting Health-Promoting Behaviors to Young-Elderly Adults in Urban and Rural Communities

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Abstract

The purpose of this study was to identify the factors affecting health-promoting behaviors in young-elderly adults in urban and rural communities. The subjects were 202 men and women aged 65–74 years. Multiple regression analysis was performed. The most significant predictor of health-promoting behaviors was health-related behaviors ($\beta = 0.574$, $P < 0.001$) in elderly adults from urban communities, and this model accounted for 63.1% of the variance in health-promoting behaviors ($F = 47.661$, $P < 0.001$). The most significant predictor of health-promoting behaviors was perceived benefit ($\beta = 0.738$, $P < 0.001$) in subjects from rural communities, and this model accounted for 66.2% of the variance in health-promoting behaviors ($F = 59.168$, $P < 0.001$). Health management personnel should recognize the importance of health management for healthy aging individuals and implement preventive health management policies and nursing interventions actively, with the objective of promoting the performance of health-promoting behaviors in elderly adults.

Keywords: Aged, Health promotion, Rural population, Urban population

1. Introduction

Health-promoting behaviors refer to general activities that improve self-realization and a sense of well-being, including acts that assist individuals in maintaining and promoting healthy lifestyles [1]. Health-promoting activities for elderly adults are significant, in that they could minimize the limitations imposed by the aging process, promote independence, and maximize remaining ability. While almost half of the aged population in South Korea (48.7%) considered their subjective health status to be poor [2], they tended to neglect positive health management that requires time and energy, including physical activities [3]. Industrialization has led to family nuclearization and population gravitation toward cities; consequently, rural communities have faced aging and feminization of the farming population, with an increasing number of aged individuals living alone, and urban communities have seen disease types change due to Westernized dietary habits, diversified family composition, and increasing sociopsychological health problems in elderly adults [3]. Therefore, there is an urgent need for the analysis of health-promoting behaviors, which could improve health status and prevent diseases in elderly adults, and relevant factors affecting such behaviors in urban and rural communities, in addition to the development and implementation of health programs that could revise or reinforce such behaviors.

As health management behaviors may be affected by, and depend upon, diverse perceptual factors, theories regarding research concerning the factors predicting or affecting health-related behaviors are based on the agent's cognitive perception [4]. One of the relevant integrated models is Pender's health promotion model [1], which was used

in this study. To investigate health-promoting behaviors in elderly adults residing in specific communities, integrative research should be conducted via multilateral approaches to sociodemographic characteristics [5], recognition of the benefits of physical activity [6], and self-efficacy [7], all of which were found to affect health behaviors in a literature review.

Elderly adults were divided into urban and rural populations to determine health-promoting behavior status and identify the factors affecting such behaviors, with the objectives of contributing to the improvement of health equality within South Korean communities and presenting basic data to develop a plan for health-promoting behavioral training programs and nursing interventions, taking geographical characteristics into account.

2. Methods

2.1. Data Collection and Subjects

Data collection was performed between January 1 and December 31, 2014, and three trained research assistants recruited subjects with the help of women's cultural centers, community service centers, and religious groups in each of the communities involved. The questionnaires were distributed to the individuals who agreed to participate in the study, and the research assistants provided explanations to those who experienced difficulty in understanding the questions. The questionnaires were collected immediately subsequent to completion. Convenience sampling was performed and included 202 men and women aged 65–74 years who resided in one city and five eups/myeons (towns/townships). The sample size found to be sufficient on the basis of the results of regression analysis performed using the G*power3 Program [8] was 85 for urban communities and 77 for rural communities, with a significance level of .05, a medium-level effective size of .15, and testability of .80.

2.2. Measurements

The model in this study was based on Pender's [1] health promotion model to determine levels of health-promoting behavior performance and identify the variables affecting those levels. The model contained personal characteristics and experiences, behavior-related cognition and emotions, and outcomes of behaviors.

Perceived Health Status. The subjects described their levels of general health and compared them with those of others in the same age group using a 3-point scale ranging from 1 (poor) to 3 (good). Cronbach's α for the scale was .91 in this study.

Previous Health-Related Behaviors. The four-point scale developed by Yun and Kim [9] was used to measure previous health-related behaviors and consists of seven items. These seven items include two items regarding health information inquiry and one item regarding each of the following: exercise, diet, counseling, psychological well-being, and spiritual activity. Total possible scores ranged from 7 to 28, with a higher score indicating more active performance of health-related behaviors during the preceding six months. Cronbach's α for the scale was = .74 when it was developed and .81 in this study.

Perceived Benefit. I developed a four-point scale consisting of eleven items for use in this study, by adapting Moon's [10] Perceived Benefit Scale. Total possible scores ranged from 11 to 44, with a higher score indicating a higher likelihood that a subject would perceive health-promoting behavior performance as beneficial. Cronbach's α for the scale was .71 when it was developed and .92 in this study.

Self-efficacy. A five-point scale developed by Sherer and Maddux [11] was used to measure self-efficacy in general situations and included seventeen items. Total possible

scores ranged from 17 to 85, with a higher score indicating a deeper belief in one's ability to succeed in performing one's duties. Cronbach's α for the scale was .71 when it was developed and .78 in this study.

Health-promoting Behaviors. Suh's [13] Korean translation of the Health Promotion Lifestyle Profile (HPLP) developed by Walker *et al.*, [12] was used to measure health-promoting behaviors. This is a four-point scale consisting of 47 items concerning six aspects of health-promoting behaviors, as follows: eleven items regarding spiritual growth, ten items regarding health responsibility, five items regarding exercise, seven items regarding diet, seven items regarding interpersonal relationship support, and seven items regarding stress management. Total possible scores ranged from 47 to 188, with a higher score indicating a higher level of health-promoting behavior. Cronbach's α for the scale was .90 in Suh's [13] study and .95 in this study.

2.3. Data Analysis

Data were analyzed using SPSS for Windows version 18.0 (SPSS, Chicago, IL, USA). A chi-square test was used to verify the homogeneity of the subjects' general characteristics. To determine whether subjective health status, previous health-related behaviors, perceived benefit, and self-efficacy differed with respect to health-promoting behaviors, independent-sample t tests were performed. Correlations between the variables were calculated using Pearson's correlation coefficient. Each variable that was significantly correlated with health-promoting behaviors was regarded as an independent variable in the multiple regression analysis.

4. Results

4.1. Subjects' General Characteristics

The subjects' mean age was 68.8 years (SD = 3.02), with 59.9% (121 subjects) aged between 65 and 69 years. Of 202 subjects, 57.9% (117) were women and 84.7% (171) had received a standard education. Homogeneity was confirmed between the two groups, as there were no statistically significant intergroup differences in age, sex, or experience of a standard education (Table 1).

Table 1. Subjects' General Characteristics (N = 202)

Variable	Total (N = 202) n (%)	Urban (n = 112) n (%)	Rural (n = 90) n (%)	χ^2 (P)
Age (years)				37.106 (0.197)
65–69	121 (59.9)	46 (41.1)	75 (83.3)	
70–74	81 (40.1)	66 (58.9)	15 (16.7)	
M \pm SD	68.8 \pm 3.02			
Sex				1.951 (0.162)
Male	85 (42.1)	52 (46.4)	33 (36.7)	
Female	117 (57.9)	60 (53.6)	57 (63.3)	
Standard education				1.568 (0.211)
Yes	171 (84.7)	98 (87.5)	73 (81.1)	
No	31 (15.3)	14 (12.5)	17 (18.9)	

4.2. Differences in Mean Scores for Health-Promoting Behaviors between Subjects from Urban and Rural Communities

There were statistically significant mean differences in variables such as subjective health status ($t = 4.057, P < 0.001$), perceived benefit ($t = 3.787, P < 0.001$), and self-efficacy ($t = 5.116, P < 0.001$) between the subjects from urban and rural communities (Table 2), with higher levels found in subjects from urban areas relative to those from rural areas. In contrast, subjects from rural areas showed higher levels of previous health-related behaviors ($t = -1.664, P < 0.098$) relative to those from urban areas. The rural population showed statistically significantly higher levels of health-promoting behaviors ($t = -3.865, P < 0.001$) relative to the urban population.

Table 2. Differences in Mean Scores for Health-Promoting behaviors between Subjects from Urban and Rural Communities (N = 202)

Variables	Urban (n = 112)	Rural (n = 90)	t (P)
	Mean ± SD	Mean ± SD	
Subjective health status	3.64 ± 1.49	2.92 ± 1.03	4.057 (<0.001)
Previous health-related behaviors	16.31 ± 4.18	17.07 ± 2.10	-1.664 (0.098)
Perceived benefit	30.68 ± 6.81	27.73 ± 4.14	3.787 (<0.001)
Self-efficacy	52.50 ± 8.20	47.93 ± 4.12	5.116 (<0.001)
Health-promoting behaviors	118.09 ± 21.96	130.26 ± 22.58	-3.865 (<0.001)

4.3. Correlations between Study Variables and Health-Promoting Behaviors

Correlations between health-promoting behaviors and the study variables in subjects from urban and rural communities are presented in Table 3. Health-promoting behaviors were significantly positively correlated with subjective health status ($r = 0.216, P = 0.022$), previous health-related behaviors ($r = 0.735, P < 0.001$), perceived benefit ($r = 0.602, P < 0.001$), and self-efficacy ($r = 0.348, P < 0.001$) in the urban population and previous health-related behaviors ($r = 0.501, P < 0.001$), perceived benefit ($r = 0.810, P < 0.001$), and self-efficacy ($r = 0.226, P = 0.032$) in the rural population.

Table 3. Correlations between Study Variables and Health-Promoting Behaviors

Variables	Health promoting behaviors	
	Urban (n = 112) r (P)	Rural (n = 90) r (P)
Subjective health status	0.216 (0.022)	0.131 (0.217)
Previous health-related behaviors	0.735 (<0.001)	0.501 (<0.001)
Perceived benefit	0.602 (<0.001)	0.810 (<0.001)
Self-efficacy	0.348 (<0.001)	0.226 (0.032)

4.4. Factors Influencing Health-Promoting Behaviors

The factors affecting the health-promoting behaviors in subjects from urban and rural communities are as follows (Table 4): In subjects from urban communities, predictors of the health-promoting behaviors were previous health-related behaviors ($\beta = 0.574$, $P < 0.001$) and perceived benefit ($\beta = 0.336$, $P < 0.001$), and this model accounted for 63.1% of the total variance in health-promoting behaviors ($F = 47.661$, $P < 0.001$). In subjects from rural communities, the predictors of health-promoting behaviors were previous health-related behaviors ($\beta = 0.154$, $P = 0.033$) and perceived benefit ($\beta = 0.738$, $P < 0.001$), and this model accounted for 66.2% of the variance in health-promoting behaviors ($F = 59.168$, $P < 0.001$).

Table 4. Factors Influencing Health-Promoting Behaviors

Variable	Health-promoting behaviors			
	Urban (n = 112)		Rural (n = 90)	
	β	t (P)	β	t (P)
Subjective health status	0.113	1.924 (0.057)		
Previous health-related behaviors	0.574	8.388 (<0.001)	0.154	2.164 (0.033)
Perceived benefit	0.336	5.014 (<0.001)	0.738	10.446 (<0.001)
Self-efficacy	-0.011	-0.175 (0.862)	-0.003	-0.044 (0.965)
Adj. R ²	0.631		0.662	
F (P)	47.661 (<0.001)		59.168 (<0.001)	

5. Discussion

Pender's [1] health promotion model contains personal characteristics and experiences, perceived health status, previous health-related behaviors, perceived benefit, and self-efficacy. Young-elderly adults from urban communities scored higher, on average, in factors such as subjective health status, perceived benefit, and self-efficacy relative to those from rural communities. The opposite was true for previous health-related behaviors and health-promoting behaviors. This result is similar to that of the previous research indicating that older women in urban communities showed higher levels of perceived benefit and self-efficacy relative to those from rural communities [3]. In contrast, and contrary to the findings of the current study, those from rural communities showed lower levels of health-promoting behaviors relative to those of urban communities [3, 14]. In a meta-analysis examining health-promoting behaviors [15], the elderly population in South Korea was found to perform health-promoting behaviors frequently, scoring 2.3 to 2.66 (out of 4) on average; in particular, those from rural communities showed lower levels of health-promoting behavior performance relative to those from urban communities. Considering the fact that younger individuals are more likely to perform health-promoting behaviors [16], it is necessary to conduct research involving subjects from diverse regions, with the objective of determining whether this result occurred due to geographical differences in data collection or the inclusion of a sample that was limited to young-elderly adults in one region.

In this study, health-promoting behaviors were significantly positively correlated with previous health-related behaviors, perceived benefit, and self-efficacy in elderly adults from both urban and rural communities. This result was consistent with that of previous research [17, 18] indicating that subjects who demonstrated higher perceived self-efficacy, considered practicing health-promoting behaviors beneficial, and exerted greater effort in practicing health behaviors to improve their own health were more likely to perform

health-promoting behavior. Subjective health status was significantly positively correlated with health-promoting behaviors in subjects from urban communities. The finding that young-elderly adults from urban communities who showed higher subjective health status demonstrated higher levels of health-promoting behaviors may be supported by results of previous research [16] indicating that individuals with higher subjective health status display positive attitudes toward health and practice a higher number of health-related behaviors. It is therefore necessary for elderly adults to make an effort to perform usual management and improve their actual health status, which would allow them to accept their health status in a positive manner.

The factors affecting health-promoting behaviors in young-elderly adults from both urban and rural communities were previous health-related behaviors and perceived benefit, and this model accounted for 63.1% and 66.2% of the variance in health-promoting behaviors for urban and rural populations, respectively. This result was similar to those of previous studies [3, 7, 17] examining health-promoting behavior practice and related factors, which indicated that perceived benefit was a significant predictor of health-promoting behaviors. Pender [1] reported that previous health-related behaviors could be related to current health-promoting behaviors, as they could lead to changes in current health-related behaviors and encourage habitual participation in health-promoting behaviors, even without attention to individual behaviors. Considering that elderly adults show greater interest in their health and display stronger intentions to accept health-related behaviors relative to other age groups [3], clinicians and community nurses should provide education and positive management to improve health management ability when implementing health promotion programs, to allow elderly adults to experience the benefits of health-related behaviors from physical, psychosocial, and economic perspectives. It is also necessary to offer another health promotion programs, as continuous health management, and implement mentoring systems, with individuals completed health-promotion program previously.

6. Suggestions

As this study was limited to young-elderly adults in specific communities, it is difficult to generalize the results to the entire elderly population. Extended, repetitive research involving the entire elderly population of South Korea should be conducted to allow generalization of the results. It is also necessary to conduct further research to determine how health-promoting behaviors affect health status and quality of life in elderly adults in the long term.

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