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Factors Affecting the Health-Related Quality of Life Among Male Elders[1]

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Abstract

This study was done to identify the relationship of social support network, activities of daily living, depression and health-related quality of life of male elders, and to identify factors affecting the health-related quality of life in this population. This research design for this study was a descriptive survey design using a convenience sampling. Data collection was done using self-questionnaire with 194 elders from welfare centers for senior citizens located in G city from December 20, 2014 to January 31, 2015. Pearson correlation coefficients and stepwise multiple regression with the SPSS 20.0 Program were used to analyze the data. Health-related quality of life had positive correlations with social support network (r=.23, p =.001) and with activities of daily living (r=.40, p <.001) and a negative correlation with depression (r=-.55, p <.001). The explained variance for health-related quality of life was 44.7%. Of the variables, health status (β=.147, p=.021), chronic disease (β=-.142, p=.016), activities of daily living (β=.259, p<.001) and depression (β=-.396, p<.001) significantly predicted the degree of health-related quality of life.

Keywords: *health, quality of life, male, aged*

1. Introduction

Average life expectancy is increasing due to advancement of medical technology and improvement of living environment. As of 2013, people aged 65 years or older occupied 12.2% of total population in Korea. The speed of aging is especially fast in Korea. Korea is expected to enter aging society with the percentage reaching 15.7% in 2020 and 37.4% in 2060. As aging in Korea proceeds at a very high rate, the elderly is prospected to consist 20.8% of the total population by 2020 and the average life expectancy is expected to elongate to 81.9 years by 2030 [1].

The gender ratio of the elderly population of age 65 or over in Korea has increased from 59.7% in 1997 by to 69.2% in 2009: the ratio of male elders has increased per 100 female elders [2]. This shows that the gender difference in average life expectancy has decreased, the mortality rate of male elders has been lowered, and thus, the male elderly population has increased. Though the life expectancy of male elders has been increasing, many previous researches have considered female elders to be relatively weak compared to male elders and mainly focused on females. Male elders experience different socioeconomic conditions,

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social status and role changes from what their female counterparts undergo, from employment to retirement and from marriage to bereavement [3].

Male elders are taken cared of by females and receive the benefits from the patriarchal society throughout their lives until the retirement from their jobs, the moment from which they enter the unfamiliar life at home and face considerable severance and difficulty to adapt. Especially, when the male elders are bereaved of their wives, who understand them most and share affection with them, they live a poor life in solitude and isolation due to the cutoff from the social network inexperience at daily living, and the quality of their lives degenerate [4]. Moreover, males tend to smoke and drink more frequently, to consume less balanced meals less regularly, and to be more highly related to violence or risky behaviors, than females [5]. In fact, malignant neoplasm was the foremost mortal cause of elders aged 60 to 69, and males had approximately 2.5 times higher mortality rate than females [6]. Considering such different characteristics of male elders from those of female counterparts, it is necessary to pay more attention to the health of male elders and to emphasize their health improvement.

Health-related quality of life is a status of health evaluated subjectively by each individual; it is defined as the degree of satisfaction of each patient or individual in comparison of what is considered to be feasible or ideal to the current functionality [7].; the elders' health-related quality of life is influenced by activities daily living [8], depression [9], and other factors, and is different from younger generation's health-related quality of life [8].

In senescence, the necessity of care increases, and thus, the relevance of social network becomes important. Males tend to form wide and temporary supporting relationship than females, and male elders mainly rely on their spouses for social support [5].If the contacts with family, relatives, friends, and acquaintances are frequent, the structure of social support network is large, the relations in the social support network are diverse, and support are available at old age, these factors would contribute to the health and psychological well-being and enhance the quality of elders' lives [10].

Activities of daily living of elders is an important factor to successful aging and appears to influence the overall living activities and health-related behaviors.

Depression is one of the very important measures of psychological health: if depression is neglected, it causes physical, cognitive, social disorders, delays recovery from diseases, may cause increased visits to hospitals and suicide, and degenerates the quality of life [11].

For health-related quality of life improvement of male elders, it is necessary to pay attention to male elders, to satisfy their health rights and needs, and to deal appropriately with their problems. In order for this to happen, it is necessary to identify the factors that affect health-related quality of life and to develop and utilize a nursing intervention program.

The up-to-date research factors about health-related quality of elders' life have included economic status, marriage status, education level, social support, self-esteem, self-efficacy, stress, health behavior, social networks, and so on. Most of the research has been centered on the entire elderly population, a special interest group, or female elders. Meanwhile, there has not been sufficient factor research about the health-related quality of life centered solely about male elders. Thus, this research aims to understand the standard health-related quality of life of male elders, to provide the fundamental data for the development of nursing intervention to improve their health-related quality of life by analyzing the related factors, and to seek nursing intervention solutions.

2. Materials and Methods

2.1 Design of Research

This research is a descriptive survey design that attempts to study the relationship of social support network, activities of daily living, depression and health-related quality of life of male elders, and to identify predictors of health-related quality of life in this population

2.2 Research Subject and Data Collection

This study was approved (IRB No. KD-14-0101) by Institutional Review Board of the university the researcher is affiliated with, and collected the data of 194 male elders at and over the age of 65 who visited a senior welfare center at City G between December 20, 2014 and January 31, 2015.

2.3 Measures

1) Social support network

LSNS-K18, the Korean version of Lubben Social Network Scale-18 that was initially developed as 10 items by Lubben and modified to 18 items in 2002 has been used [12]. It consists of three categories: family (relatives), neighbors and friends. Each category consists of 6 items, and each item follows Likert scale ranging from none or never (0 point) to nine or more or always (5 points). The total score is 90 and higher score indicates wider social support network. In Lubben's research using LSNS-18, the reliability was Cronbach's α .82, and the reliability in this research was Cronbach's α .93.

2) Activities of daily living

A tool based on Korean Activities of Daily Living (K-ADL) by Jangwon Won, *et al.*, [13] and modified and complemented by Sohn [14] has been used. The contents of the scale consisted of seven items that evaluate basic daily life capabilities, such as putting on clothes, washing face, taking a bath, having a meal, moving to places, using the restroom, and controlling urine and feces. A higher score indicates higher daily life performance capability. In Sohn's research [14], the reliability was Cronbach's α .88, and the reliability in this research was Cronbach's α .86.

3) Depression

Depression was measured by Geriatric Depression Scale Short Form Korea Version, GDSSF-K developed by Kee [15]. The questionnaire consists of 15 items that can be answered either 'yes' or 'no', and the higher score indicates more severe depression: 0-4 points as normal, 5-9 points as minor depression, and 10-15points as major depression. At the time of the development of GDSSF-K, the reliability level was Cronbach's α .88, and the reliability in this research was Cronbach's α .89.

4)Health-related quality of life

For the measurement of health-related quality of life, EQ-5D, a standardized scale developed to evaluate clinical and economic feasibility by EuroQol Group [16], has been used. EQ-5D scale consists of five sub-categories: mobility, self-care, usual activities, pain/discomfort, anxiety/depression, and it calculates the total score by assigning each item a different value score based on self-evaluation response of the respondents. This research used HyeSeong Nam's method that is officially used in the National Health and Nutrition Survey to calculate the score. The reliability in this research was Cronbach's α.76.

2.4 Data Analysis

The collected data were analyzed with frequency, mean, standard deviation, ANOVA Pearson's correlation coefficient and stepwise multiple regression by using SPSS WIN 20.0.

3. Research Results and Discussions

3.1. General Characteristics of the Subjects

The average age of the research subjects was 73.00±4.67, most (81.4%) of them were married, and the most frequent number of family members living together (35.1%) was one. The health status was reported as 49.5% 'Moderate' and 24.2% 'Good'. 60.7% of the subjects were currently suffering a chronic disease, 81.4% were not restricted to daily life and social activities, and 51.5% felt stress a little. 58.2% reported to "have quit smoking but had smoked", and 52.6% were drinking. 62.4% of the subjects exercised regularly, and 87.1% had six meals for the past two days (Table 1).

Table 1. General Characteristics of the Ubjects(N=194)

Characteristics	Categories	n(%)	Mean±SD
Age(yr.)	65-69	44(22.7)	73.00±4.67
	70-74	76(39.2)	
	75-79	59(30.4)	
	≥ 80	15(7.7)	
Marital Status	Married	158(81.4)	
	Divorce	10(5.2)	
	Widowed	17(8.8)	
	No response	9(4.6)	
Number of family members living together	0	12(6.2)	
	1	68(35.1)	
	2	60(30.9)	
	≥3	51(26.2)	
	No response	3(1.5)	
Health Status	Very good	20(10.3)	
	Good	47(24.2)	
	Moderate	96(49.5)	
	Bad	25(12.9)	
	Very bad	6(3.1)	
Chronic Disease	Have	118(60.7)	
	Have not	62(32.0)	
	No response	14(7.2)	
Restriction of daily life and social activities	No problems	158(81.4)	
	Some problems	33(17.0)	
	No response	3(1.5)	

Stress	Rarely stressful	64(33.0)
	Slightly stressful	100(51.5)
	Very much stressful	24(12.4)
	Extremely stressful	6(3.1)
Smoking	No smoker	55(28.4)
	Ex-smoker	113(58.2)
	Smoker	24(12.4)
	No response	2(1.0)
Drinking	No drinker	87(44.8)
	Usual drinker	102(52.6)
	No response	5(2.6)
Exercise	Regular	121(62.4)
	Irregular	71(36.6)
	No response	2(1.0)
Meals	3 meals/day	169(87.1)
	1-2 meals/day	24(12.4)
	No response	1(0.5)

3.2. Social Support Network, Activities of Daily Living, Depression, and Health-Related Quality of Life of the Subjects

The social support network of the research subjects was at a medium level with the average of 35.48±17.58 points (near the center of response range 0-76 points), similar to the average of test 35.0±14.3 and of re-test 33.9±11.8 from the research that applied the Korean version of a social support network assessment tool LSNS-18 to investigate reliability and validity [17].

The activities of daily living of the research subjects was at a high level with the average of 20.83±1.04 points (response range 12-21 points). In a research about elderly in facilities and elderly at home, the average activities of daily living of the elderly in facilities and elderly at home were respectively 3.9±3.6 and 0.5±1.9, and elderly at home were more independent, exhibiting lower dependency in daily life [18]. This is similar to the research result that signifies that the higher the score of decoding at the time of statistical processing is, the lower the dependency is.

Depression was at a low level with the average of 2.93±3.68 points (response range 0-15 points). In a research about female elderly in a rural area, depression was at a high level with the average of 8.4±3.54 [19], exhibited a considerable difference to male elders, and confirmed that there is a gender difference in depression between female elders and male elders.

Health-related quality of life was at a high level with the average of 0.83±0.30 (response range -1.27-0.99 points). Compared to the average health-related quality of life of 0.8707 from Korea National Health and Nutrition Examination Survey, on elders at or over the age of 65, the average health-related quality of life of this research was 0.83, slightly lower than the health-related quality of life score of the residents in the local community [20] (Table 2).

Table 2. Social Support Network, Activities of Daily Living, Depression, and Health-Related Quality of Life of the Subjects

Variables	Mean±SD	Range
Social support network	35.48±17.58	0-76
Activities of daily living	20.83±1.04	12-21
Depression	2.93±3.68	0-15
Health-related quality of life	0.83±0.30	-1.27-0.99

3.3. Health-Related Quality Of Life By General Characteristics

The health-related quality of life had a significant difference by age (F=3.384, p=.019), number of family members living together (F=2.905, p=.036), health status (F=15.691, p<.001), chronic disease (t=2.982, p<.001), restriction of daily life and social activities (t=-4.649, p<.001), and stress (F=14.049, p<.001) among general characteristics of the subjects. Others, such as marital status, smoking, drinking, exercise, meals did not have a significant difference.

The results of this research agreed to Shin's research [21] result that for elders at home, the age appeared to be a significant factor in the quality of life. Moreover, it agreed also with Yu *et al.*, who demonstrated that whether elders live with their families was a significant factor in their sense of helplessness.

The result of research agrees to the research result of Lee, *et al.,* [22] and of Kim, *et al.*, [23], who studied the influence of health on life satisfaction of elders and reported that without chronic disease and better health status is correlated with higher life satisfaction. Cho, *et al.,* [24] reported that life satisfaction is negatively correlated with stress among elders. Kim's [20] research also demonstrated that stress is statistically significant to the health-related quality of life and thus agreed with the result of this research (Table 3).

Table 3. Health-Related Quality of Life by General Characteristics

Characteristics	Categories	Mean±SD	t or F	*p*
Age(yr)	65-69	0.882±0.162	3.384	.019
	70-74	0.839±0.304		
	75-79	0.822±0.231		
	≥ 80	0.605±0.617		
Marital status	Married	0.827±0.302	1.044	.374
	Divorce	0.669±0.402		
	Widowed	0.824±0.273		
Number of family members living together	0	0.646±0.414	2.905	.036
	1	0.830±0.315		
	2	0.786±0.339		
	≥3	0.901±0.157		
Health status	Very good	0.942±0.091	15.691	p<.001
	Good	0.923±0.120		
	Moderate	0.847±0.202		
	Bad	0.622±0.506		
	Very bad	0.175±0.667		
Chronic disease	Have	0.778±0.362	2.982	p<.001
	Have not	0.918±0.102		

Restriction of daily life and social activities	No problems Some problems	0.869±0.242 0.614±0.446	-4.649	p<.001
Stress	Rarely stressful Slightly stressful Very much stressful Extremely stressful	0.918±0.145 0.837±0.280 0.677±0.325 0.239±0.740	14.049	p<.001
Smoking	No smoker Ex-smoker Smoker	0.854±0.233 0.804±0.345 0.858±0.204	0.662	.517
Drinking	No drinker Usual drinker	0.784±0.385 0.859±0.202	-1.701	.230
Exercise	Regular Irregular	0.844±0.285 0.790±0.327	1.194	.952
Meals	3 meals/day 1-2 meals/day	0.845±0.250 0.719±0.514	1.955	.204

3.4. Correlation Among Social Support Network, Activities Of Daily Living, Depression And Health-Related Quality Of Life

Health-related quality of life of the research subjects had positive correlations with social support network (r=.23, p=.001) and with activities of daily living (r=.40, p<.001) and a negative correlation with depression (r=-.55, p<.001). In other words, the health-related quality of life was higher with better social support network and with higher activities daily living and was lower with more depression (Table 4).

In Lee's research [25], the health-related quality of life and depression had a significantly negative correlation for both male elders and female elders, agreeing with the research result that the more severe depression, the lower the quality of life. Yim and Lee [8] stated that there is a positive correlation between basic daily life activities and quality of life, Moon [26] stated the more capable one is of daily life performance, the higher his/her quality of life is, supporting this research result. Such results demonstrate the necessity of appropriate nursing intervention that takes into account the characteristics of the elders by checking the daily living activities of the elders.

Table 4. Correlation among Social Support Network, Activities of Daily living, Depression and health-related Quality of Life (N=194)

Variables	Social support network r (p)	Activities of daily living r (p)	Depression r (p)	Health-related quality of life r (p)
Social support network	1			
Activities of daily living	.24(p=.001)	1		
Depression	-.39(p<.001)	-.23(p=.001)	1	
Health-related quality of life	.23(p=.001)*	.40(p<.001)*	-.55(p< .001)	1

3.5. Factors Affecting the Health-Related Quality of Life

In order to identify the factors that affect the health-related quality of life of the subjects, variables with significant difference, such as age, number of family members living together, health status, chronic disease, restriction on daily life and social activities, and stress, and variables with significant correlation, such as social support network, activities of daily living , and depression, were selected.

The health-related quality of life prediction model was significant (F=16.600, p<.001), the explained variance for health-related quality of life was 44.7%. The major factors that affect the health-related quality of life were health status (β=.147, p=.021), chronic disease (β=-.142, p=.016), activities of daily living (β=.259, p<.001), and depression (β=-.396, p<.001) (Table 5).

This result is similar to the research result of Yu, *et al.,* [27] that a group, which reported to have a good health status, displayed a significantly lower helplessness. Shin, *et al.,* [21], who studied elderly at home, and Kim, *et al.,* [28], who studied 860 elders at age 65 or older by using the raw data from the National Health and Nutrition Survey 2005, both reported that activities of daily living is the most influential factors in health-related quality of life.

The result of this research is analogous to Yuetal's research [27] result: those who reported their own health status to be in a good state had significantly lower sense of helplessness. Furthermore, Shin's research [21], in which the daily life functions and the limits on daily life performance of elders at home were the significant factors, and Kim's research [28], which showed that daily life performance capabilities, multiple disease, and subjective health status were significant factors, both supported the claims of this research.

Furthermore, Jeon, *et al.,* [29], who studied vulnerable male elders, reported that for the older aged male elders, depression had a significant impact on health-related quality of life, agreeing with this research result. Lee, *et al.,* [25], who studied low-income elders at home, also supported the result of this research by reporting that depression is the foremost important variable in prediction health-related quality of life.

While in Kim's research [30], social support had a significant correlation to health-related quality of life, it did not appear to affect elder's health-related quality of life in this research. Such disparity seems to result from the inclusion of both male and female subjects in Kim's research and from the gender difference on how social network affect health-related quality of life differently.

Table 5. Factors Affecting the Health-Related Quality of Life (N=194)

Variables	Bβt (p)		
Constant	-.432		-.947 (.345)
age	-.004	-.066	-1.139(.256)
number of family members living together	.014	.060	1.017(.311)
Health status	.126	.147	2.323 (.021)
chronic disease	-.092	-.142	-2.443(.016)
Restriction on daily life and social activities	.069	.079	1.267 (.207)
Stress	.033	.039	.582 (.561)
Social support network	.000	-.021	-.326 (.745)

Activities of daily living	.074	.259	4.310 (p<.001)
Depression	-.034	-.396	-5.524 (p<.001)
R^2		.475	
Adj R^2		.447	
F(p)		16.600 (p<.001)	

4. Conclusion

The health-related quality of life of the research subjects becomes significantly better with better social support network and betteractivities of daily living. Moreover, health status, chronic disease, activities of daily living, and depression influence health-relatedquality of life of male elders. In order to improve male elders' health-related quality of life, the development of an effective program that includes the above factors for elders to maintain good health status and manage to live an independent and active life.

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