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Analysis of the Effect of Wisdom, Self-transcendence, Perceived Health Condition and Family Cohesion of Urban Elderly Women on Health Conservation

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Abstract

Purpose: This study aims to examine the effects of wisdom, self-transcendence, perceived health status, family cohesion of urban elderly women to health conservation.

Methods: Data was collected from February 1st to June 30th, 2017. The study subjects are 150 elderly women over age 65 residing in D, C city and K. region.

Results: Health conservation had positive correlation with wisdom (r=.370, p<.001), perceived health condition (r=.408, p<.001), and family cohesion (r=.445, p<.001). As for the regression analysis result, family cohesion, perceived health condition, regular exercise each explained 19.8% (β=.362, p<.001), 9.9% (β=.306 p<.001), (β=.217 p=.002) of health conservation of elderly women, and these variables explained total 34.4% of health conservation of elderly women.

Conclusion: Family cohesion was the most influential factor to health conservation of elderly women. As elderly women are more family oriented than men, there is a need to build social network to improve family cohesion, and nurse the elderly women to regularly conduct health improvement behavior such as exercise to maintain health condition and feel proper health condition.

Keywords: Elderly women, wisdom, self-transcendence, perceived health condition, family cohesion, health conservation

INTRODUCTION

According to the 2015 life table report published by NSO, the life expectancy of Korean men and women in 2015 is each 79.0 and 85.2. It seems men and women in age 60 would each survive extra 22.2 years and 27.0 years, which lead to rapid increase of elderly women population [1]. Disease or reduced income in senescence is universal, but elderly Korean women have more serious economic, disease or elderly problem compared to men due to various factors [2]. Considering this, there is a need to separate elderly women problem. Also, study results [3] that indicate health conservation of women is worse than men are noticeable considering the demographic background that most of the elderly populations are women.

Due to increase of healthy life of elderly along with aging society, comprehensive aspects of physical, mental, social, spiritual condition are emphasized rather than just one aspect of physical health or cognitive health [4]. In current situation where the society is headed to superaged society, there is a need to improve capability to maintain and improve health of elderlies by themselves, and thus magnifying the health conservation concept [4].

There are various influential factors to health conservation of elderly such as meaning of life, academic level, gender, nutrition, positive thinking, family function and wisdom [3,5,6]. Especially, senescence is a vulnerable period which biological aging is in progress, but as it is the period of stronger mental and spiritual demand in life cycle [7], emotional and psychological well-being of the elderly is more important than other ages. In this sense, the wisdom of elderly has drawn public attention[8]. Wisdom not only accepts positive aspect of reality but also the negative aspect [9], which helps to overcome difficulty of life, and influences successful aging of the elderly [10]. Also, as health behavior habits and self-nursing capability of elderly are proven to be influential [10, 11], it is worth studying.

Meanwhile, gero-transcendence is the process of elderly recognizing aging as positive and natural process [12], which is a significant concept [13] for improving well-being of the elderly. Also, perceived health condition which indicates the perception of overall health condition of individual is an

influential factor [14] to health behavior of elderly, so this study aims to apprehend its relationship with health conservation.

Especially, family is the core standard of satisfactory living of the elderly, and it is the condition for stable living[15], which makes it a significant factor to the elderly with reduced social network. Family protection is the prime need for the elderly [16], the bond among family is one of the most significant and effective functions supporting the elderly, and the support system for physical, mental damage due to aging [17]. The concept of family cohesion includes emotional bond, intimacy, sense of unity including support of family members [18]. Lower family cohesion leads to increase of loneliness and depression and make elderly hard to be mentally healthy [19, 20]. Thus, family cohesion contributes to the elderly maintaining balance as the unity of physics, mind, society and psychology. The increase of nuclearization of family and single elderly households, lack of family support is not an individual problem. Therefore, studies regarding the phenomenon will be able to contribute to seeking methods replacing family function.

When reviewing the previous studies, there have been various studies about health conservation of elderly with various factors, but studies that limited subject to elderly women are very rare, and it is much harder to find studies that intensively focused on factors providing psychological and mental stability considering characteristics of the senescence when the mental and spiritual demands intensify [7].

Thus, this study targeted home care elderly women to examine their health conservation degree, and apprehend the influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of the elderly.

PURPOSE

This study aims to apprehend the influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of the elderly women. It aims to provide the basic data for development of nursing mediation or program to improve health conservation of elderly women, and its specific purposes are as follows.

First, apprehend the degree of wisdom, self-transcendence, perceived health condition, family cohesion of the elderly women.

Second, apprehend the difference of health conservation degree in accordance with general characteristics of elderly women.

Third, apprehend the relationship among wisdom, self-transcendence, perceived health condition, family cohesion of the elderly women.

Fourth, investigate on influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of the elderly women.

METHODS

Research design

This study is a descriptive investigation research to study the influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of the urban elderly women

Subjects

The subjects of this study were elderly women over age 65 that go to local senior welfare center living in urban area of D, C city and K region. The subjects were randomly sampled using nonprobability sampling method. the sample size was based on 139 samples needed to maintain 5 predictors, effect size of .15, significance level of .05, test power of .95 using G*Power 3.1.7 program. Considering the wastage rates, 165 copies were distributed, and total 150 copies excluding 15 copies with insincere answers were used in analysis.

Instruments

Wisdom

The study used ‘wisdom scale of Korean elderly [9]. It is composed of 27 questions with 3 sub categories; 11 empathic emotion, 9 self-introspection, 7 overcoming experience in life questions. Each question is answered by 4-point Likert scale from “Strongly disagree (1 point)” to “Strongly agree (4 points)”. The higher point means higher wisdom. The reliability of the tool at the point of development was Chronbach's α =.92. The reliability of tool in previous research was .98 [6], and it is .90 in this study.

Self-transcendence

The study extracted 15 questions asking about self-transcendence among 140 questions of TCI-RS tool for adult [21] developed by Cloninger which Min et al. translated. It includes creative self-forgetfulness, sense of identity, sense of unity with the universe, spiritual acceptance, rational materialism. Questions are answered by 5-point Liker scale from “Strongly disagree (1 point)” to “Strongly agree (5 points)”. The higher point refers to higher self-transcendence. The reliability tool in previous study was Chronbach's α =.93 [22], and it is .90 in this study.

Perceived health condition

The tool developed by Speake et al. [23] and translated by Kim and Yom was used. It is composed of 3 questions, which are answered by 5-point Liker scale from "Strongly disagree (1 point)" to "Strongly agree (5 points)". Reliability of the tool at the point of development was Chronbach's α =.85. It was .90 in previous study [24], and .88 in this study.

Family cohesion

The tool developed by Olson et al. FACES Ⅲ (Family Adaptability Cohesion Evaluation Scale)[25] which later translated by Song[26] in 1999 was used. As it is composed of family cohesion and family adaptability, 10 questions asking family cohesion were extracted. Each question is answered by 5-point Liker scale from "Strongly disagree (1 point)" to "Strongly agree(5 points)". Higher points refer to higher degree of family cohesion. Reliability of tool in Song's study was Chronbach's α =.85[26], and it is .84 in this study.

Health Conservation

The tool developed by Sung, 'health conservation of institutionalized elderly [6] was used. It is composed for 37 questions from 4 sub categories, 14 individual integrity, 8 energy preservation, 8 structural integrity, 7 social integrity questions. Each question is answered by 4-point Likert scale from "Strongly disagree (1 point)" to "Strongly agree (4 points)". The higher point refers to higher level of health conservation. The reliability of tool at the point of development was Chronbach's α =.94, while it was .90 in Chang's study [5], and .87 in this study.

Ethical considerations and data collection

The data collection period for this study was from February 1 to June 30, 2017. It was approved by biomedical research ethics committee of K university regarding its contents and method (KNU_ IRB_2017-01). The subjects are elderly women over age 65 living in D, C city and K region who understood the purpose of this study and agreed to participate in the study. The study subjects were explained with the necessity, purpose, method of the study. Also, they were explained that there is no direct benefit from participation, but that they are contributing to providing data helpful for health conservation of elderly women. Also, the confidentiality of subjects were explained according to study ethics and proceed to survey.

Data analysis

The collected data was processed through IBM SPSS/WIN 20.0 Program for analysis. Frequency, percentage, average, standard deviation of general characteristics, wisdom, self-transcendence, perceived health condition, family cohesion and health conservation were measured, and in order to compare the difference of health conservation in accordance with general characteristics of elderly women, the study used t-test, ANOVA, and conducted post-hoc test with Scheffe's test. As for the correlation among wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of elderly women, the study used Pearson's Correlation Coefficients. And to apprehend the influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of elderly women, the study used stepwise multiple regression.

RESULTS

General characteristics of the subjects

The general characteristics of study subject are as Table 1. The most common characteristic of subject was age between 65-70(94, 62.7%), with religion (92, 61.3%), married (108, 72.0%), high school graduate (47, 31.3%), living with spouse (95, 63.3%), no occupation (95, 63.3%), average economic status (117, 78.0%), with 1~2 disease (69, 46.0%), and occasional exercise (94, 62.7%).

Table 1: General characteristics of subjects N=150

Variables	Categories	No(%)	Mean±SD
Age	65~70	94(62.7)	70.51± 6.230
	70~75	26(17.3)	
	75~80	17(11.3)	
	Over 85	13(8.7)	
Religion	Yes	92(61.3)	
	No	58(38.7)	
Marital status	Married	108(72.0)	
	Bereaved	26(17.3)	
	Single	3(2.0)	

	Others	13(8.7)	
Academic level	N/A	9(6.0)	
	Elementary graduate	44(29.3)	
	Middle school graduate	37(24.7)	
	High school graduate	47(31.3)	
	College education or higher	13(8.7)	
Cohabitant	Solitude	30(20.0)	
	Spouse	95(63.3)	
	Single children	6(4.0)	
	Married son's family	6(4.0)	
	Married daughter's family	6(4.0)	
	Grandchildren	1(0.7)	
	Others	6(4.0)	
Occupation	Yes	55(36.7)	
	No	95(63.3)	
Economic status	Bad	20(13.3)	
	Average	117(78.0)	
	Good	13(8.7)	
Disease	No	40(26.7)	
	1~2	69(46.0)	
	3 or more	41(27.3)	
Exercise	Never	28(18.7)	
	Occasional	94(62.7)	
	Regularly	28(18.7)	

Table 2: Degree of wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of urban elderly women

N=150

Variables	**Categories**	**Mean±SD**	**Range**
wisdom		78.73± 8.05	27-108
	Empathic emotion	3.01± 0.32	1-4
	self-introspection	2.90± 0.35	1-4
	life overcoming	2.78± 0.39	1-4
Self-transcendence		3.06± 0.65	1-5
Perceived health condition		2.97± 0.87	1-5
Family cohesion		3.48± 0 .54	1-5
Health conservation		90.31± 9.70	37-148
	individual integrity	2.68± 0.25	1-4
	energy preservation	2.67± 0.33	1-4
	structural integrity	2.63± 0.43	1-4
	Social integrity	2.63± 0.43	1-4

Degree of wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of urban elderly women

The degree of wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of elderly women is as table 2. As for the wisdom, the subjects showed above average level of wisdom (78.73 out of 108), among which the empathic emotion (3.01 out of 4) was the highest subcategory. Self-transcendence was 3.06 out of 5, perceived health condition was 2.97 out of 5, family cohesion was 3.48 out of 5 which were all above average. The health conservation was 90.31 out of 148 which is above average. The highest subcategory was individual integrity (2.68) in scale from 1 to 4 followed by energy preservation (2.67), structural integrity(2.63), social integrity(2.63)

Difference of health conservation in accordance with general characteristics of urban elderly women

As for the difference of health conservation in accordance with general characteristics of elderly women, it is as table 3. Regarding economic status, it showed significant difference between 'good (94.38)' and 'bad (85.75)' (F=3.537, p=.032). As for the number of disease, it showed statistically significant difference between 'no (92.40)' and '3 or more (87.22)' (F=3.243, p=.042). As for the exercise, , it showed statistically significant difference between 'regular exercise (95.68)' and 'never (86.57)', 'occasionally (89.82)' (F=7.010, p=.001).

Table 3: Difference of health conservation in accordance with general characteristics of urban elderly women

N=150

Variables	Categories	N	Health conservation	
			Mean±SD	t or F(p)
Economic status	Bad	20	85.75± 8.45	3.537(.032) a<c
	Average	117	90.63± 9.18	
	Good	13	94.38± 13.67	
Number of disease	No	40	92.40± 11.81	3.243(.042) a>c
	1~2	69	90.93± 8.78	
	3 or more	41	87.22± 8.29	
Exercise	Never	28	86.57± 8.38	7.010(.001) a,b<c
	Occasional	94	89.82± 8.75	
	Regularly	28	95.68± 11.84	

Relationship between wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of urban elderly women

The relationship between wisdom, self-transcendence, perceived health condition, family cohesion and health conservation of elderly women is as table 4. Wisdom (r=.370, p<.001), perceived health condition (r=.408, p<.001), family cohesion (r=.445, p<.001) had positive relationship with health conservation. Self-transcendence did not have direct correlation with health conservation, but there was positive correlation with perceived health condition (r=.192, p=.018) and family cohesion (r=.240, p=.003) In other words, the higher the elderly women's self-transcendence is, the higher the perceived health condition and family cohesion is. Also, higher wisdom, perceived health condition and family cohesion led to higher level of health conservation.

Table 4: Relationship between wisdom, self-transcendence, perceived health condition, family cohesion with health conservation of urban elderly women

N=150

Variables	Wisdom r(p)	Self-transcendence r(p)	Perceived health condition r(p)	Family cohesion r(p)	Health conservation r(p)
Wisdom	1				
Self-transcendence	.326(<.001)	1			
Perceived health condition	.308(<.001)	.192(.018)	1		
Family cohesion	.476(<.001)	.240(.003)	.230(.005)	1	
Health conservation	.370(<.001)	.042(.607)	.408(<.001)	.445(<.001)	1

Influential factors to health conservation of elderly women

The influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of elderly women is as Table 5. Before conducting regression analysis, the study tested multicollinearity, independence, homoscedasticity and normality condition to satisfy entire hypothesis of regression. Tolerance of multicollinearity was between 0.941~0.990 which was over 0.1, and VIF was between 1.010~1.062 which did not exceed 10 confirming no problem in multicollinearity. Also, as for the independence, the statistics of Durbin Watson was close to 2 with 1.848, confirming no correlation. As the result, family cohesion of elderly women had 19.8% (β=.362, p<.001) of explanation

power, followed by perceived health condition with 9.9% (β=.306 p<.001) and regular exercise with 4.7% (β=.217 p=.002) which explained total 34.4% of health conservation. Thus, it was confirmed that the stronger family cohesion, higher perceived health condition and regular exercise affects health conservation of elderly women.

Table 5: Influencing factors to health conservation of urban elderly women

N=150

Variables	B	SE	β	R^2	Adj. R^2	t	p
Constant	1.666						
Family cohesion	.190	.036	.362	.198	.193	5.243	<.001
Perceived health condition	.100	.023	.306	.297	.288	4.424	<.001
Exercise (regular)	.158	.049	.217	.344	.330	3.214	.002

R^2=.344, Adj. R^2=.330, F=25.467

DISCUSSION

This study has confirmed the influence of wisdom, self-transcendence, perceived health condition, family cohesion to health conservation of elderly women and the major results are as follows.

First, the wisdom of elderly women was above average with 78.73(±8.05) out of 108, among which the empathic emotion (3.01±.32 out of 4) was the highest subcategory. This is similar to Sung's study [6] which the wisdom was 75.68 point, and empathic emotion was the highest. As for the self-transcendence, it was about average with 3.06(±.65) out of 5. As it showed different result with study targeting elderly women over age 65 living in rural area [22] which showed 1.34 point, it requires need for repetitive study. As for the perceived health condition, it was 2.97(±.87) out of 5, which indicated that subjects are aware of their health more than average, and the result of a study[27] targeting home care elderly over age 65 supports it. The family cohesion was 3.48(±.54) out of 5 which was similar to the result of a study [18] targeting home care elderly over age 60. The health conservation was 90.31(±9.70) out of 148. This was 100.91 lower than the result of Oh and Kim's study [3] which is presumed to be the age difference between two studies. The subject of this study is elderly women over age 65 while Oh and Kim's study targeted elderly over age 60. As for the sub categories of health conservation, individual integrity was the highest with 2.68(±.25) out of 4 while structural integrity and social integrity showed lower point of 2.63(±.43). As studies [3,5,6] showed difference in subcategories of health conservation, it indicates necessity of repetitive research, and there is a need to focus on improvement measures for structural and social integrity. Structural integrity refers to recovery, maintenance of physical structure, prevention of body destruction and improved healing, while social integrity refers to interacting with subject who is significant within cultural, ethical, religious, family relation [5]. Thus, the result indicate social effort such as developing various exercise program to help elderly preserve their functions as much as possible with social network to support them.

Second, as for the difference of health conservation in accordance with general characteristics of elderly women, economic status, number of diseases, exercise showed significant difference. Elderly women with good economic status showed significantly high degree of health conservation compared to those with bad economic status. Sung's study [6] also supported that good or average economic status led to higher level of perceived health conservation, which is assumed that the economic status is related to level of health management and ultimately affects perceived health condition [27]. As for the number of disease, elderly women with no disease had significantly high result of health conservation compared to those with 3 or more disease. This is supported by Chang's study [5] which the lower number of disease is related to higher level of health conservation. It seems quite obvious as health conservation is a concept including not only mental and social, but also the physical condition. As for the exercise, elderly women who exercise regularly showed significantly higher level of health conservation compared to those who never or occasional exercise. Seo and Chung's study [28] also confirmed that elderly who do regular exercise or have motivation or intention to exercise have higher level of perceived health condition compared to those who have no intention to exercise, which indicates consistent exercise behavior is closely related to the health of elderly.

Third, wisdom(r=0.370, p<.001), perceived health condition(r=0.408, p<.001), family cohesion(r=0.445, p<.001) showed significant correlation with health conservation of elderly women. In other words, the higher the wisdom, perceived health condition, family cohesion is, the higher the degree of health conservation is. According to Sung's study [6], wisdom and health conservation is in positive correlation, and elderly with good perceived health condition had higher level of health conservation compared to those who aren't. Also, those who have spouse, living with spouse or married children had higher level of health conservation than those who live alone or other housemate, which supports this study result. Chang's study [5] also confirmed that the higher level of perceived health condition is positively related to higher level of health conservation, which accords to the study result. Wisdom of elderly not only accepts positive but also negative

aspect of reality [9], which let elderly form positive attitude toward inconvenient reality due to aging. Such attitude is expected to contribute to improve perceived health condition of elderly. Also, relationship with spouse or children of elderly is core standard of satisfactory living of elderly and the condition for comfortable living [15], which makes family cohesion an essential element of health conservation of elderly. Thus, it indicates a necessity to develop a social system to replace family function that has been weakened.

Fourth, this study has confirmed that the most influential element to health conservation of elderly women is family cohesion (β=.362), followed by perceived health condition (β=.306) and regular exercise (β=.217). Due to insufficient amount of previous studies about family cohesion, it is hard to compare, but Chang's study [5] confirmed that perceived health condition and spousal condition affects health conservation, and Oh and Kim's study [3] confirmed that spousal condition and loneliness affects health conservation, which indicates family function is significant to health conservation of elderly. Thus, the study apprehended that in order to improve the degree of health conservation of elderly women, family cohesion, perceived health condition and regular exercise must be considered. On the contrary, this study did not prove explanation power of wisdom to health conservation, but Sung's study [6] confirmed 36% of explanation power of wisdom to health conservation. However, as this study confirmed correlation between wisdom and health conservation, it indicates wisdom is not separated from health conservation of elderly. Follow-up research regarding this point must be conducted in the future.

CONCLUSION

In conclusion, as our society faces increase of elderly women population and especially the increase of single household of elderly women in accordance with entering the super aged society, this study is significant as it confirmed that the family cohesion is the most affective element to health conservation of elderly women. Especially, for health conservation of elderly women with stronger family-oriented tendency [5] compared to elderly men, it requires study to develop measures to enhance family cohesion. Furthermore, as our society has reached realistic limitation on depending on role of family due to nuclearization of family and increase of single elderly household, there is a need to prepare for system backed by policy and systems such as social network building to replace family function.

This study has generalized the results and its interpretation of study targeting subjects of certain region which is the limitation of this study. Thus, we hereby propose follow-up studies including various variables affecting health conservation of elderly women in the future.

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