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Influencing Factors of Fatigue, Perceived Stress, Self-efficacy and Social Support in the Middle Age on Health Conservation

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ABSTRACT

Background/Objectives: This study is descriptive survey study to factors influencing health conservation among middle age.

Method/Statistical Analysis: The study subjects are 173 middle age who reside in M & C city area, and data-collection was done in period from March 05 to 23, 2018. The collected data was analyzed with Pearson's correlation, multiple linear regression with stepwise method analysis.

Findings: The result showed Health conservation was negatively correlated with fatigue and perceived stress, positively correlated with self-efficacy and social support. The major factors that affect health conservation in middle age were self-efficacy, social support, perceived stress, which explained 31.8% of health conservation.

Improvements/Applications: The findings can provide the basis for the development of nursing interventions to improve health conservation.

Keywords: *Health conservation, Fatigue, Perceived Stress, Self-efficacy, Social support*

Introduction

The middle age is between the young age and the old age, and is usually defined to be in between 40 and 65 years old. Middle-ages, which occupy about one-third of the total population, are heads of household taking adults or caring for children at home and play a role of backbone socially that their weight is greater than expected[1]. Therefore, it is important for middle-aged people to conserve their bodies healthy at this time, and the health in this period can be continued to the old age, so health conservation in this age is also necessary to improve the quality of life in old age.

People are exposed to stress by experiencing various changes such as changes in roles, physiological and psychological changes in middle age[2]. In order to qualitatively improve such middle-aged life, a health-conservation approach that maintains integrated well-being in physical, psychological, psychological and social aspects is required[3]. Health conservation refers to maintaining physical, mental, and social well-being or maintaining a balance between physical, mental, social and psychological integration [3]. In previous studies, health conservation has been influenced by health promoting behavior, wisdom, pain, self-care behaviors, subjective health status and health concern[4].

Fatigue is common in everyday life, but physical symptoms such as fatigue are mixed with medical and psycho-social factors and can be chronicized by interactions of various factors[5]. In particular, middle-aged women are reported that they felt more fatigue than men due to their family responsibilities and physical and physiological changes such as menopause[6,7]. However, middle-aged men are also reported that they feel a decrease in sexual desire, change in mood, fatigue and anger[8] that the demand for fatigue management is considered to be an important issue.

Thomas[9] found that 66% of middle-aged men were exposed to high stress due to physical decline and

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energy loss, family health problems, lack of time for roles and responsibilities, uncertainty about their future, and negative thinking [9]. Such physical change, changes in family system and role are the stresses in middle age, and middle age stress is an important factor affecting all areas of life.

Self-efficacy is a factor that helps in minimizing the impact of actual problems with confidence and enables successful performance of certain tasks[10]. Thus, self-efficacy is an important factor in promoting behavioral change and motivation for middle-aged problems[11]. The results of this study were as follows: First, there was a significant relationship between self-efficacy and perceived self-efficacy, and self-efficacy had a positive effect on health beliefs, choice of health promoting behaviors and is a major determinant of the quality of life [12,13].

Social support is one of the important factors influencing individual health behavior, treatment compliance, and health outcomes[14,15]. Particularly in middle age, which is in a period of various changes in physical and psychological, the social support through social interaction such as family, friends, neighbors is more important. In previous studies, there was a correlation between social support and health promoting practice[16], and it was also found to affect mental health of middle-aged women[17].

Middle-aged women may be able to reduce weight and increase bone density through proper exercise[18], and reduce the severity of menopausal symptoms to alleviate and prevent problems related to menopause and aging[19]. In addition, exercise is also effective in mental health and social aspects, so exercise is needed to conserve middle-aged health.

Health conservation is important for middle-aged people in time of various changes, because it gives meaning to their lives, affects their physical and psychological treatment effects on the disease, and motivates their activities to conserve health [20]. In addition, identifying the fatigue, stress, self - efficacy, social support and exercise that may affect the health conservation of the middle age will be an important factor in promoting health promotion behavior. The purpose of this study is to develop a nursing intervention program that helps maintaining the integrated state of wellbeing by identifying the degree of health conservation in middle age and examining the effects of fatigue, stress, self –efficacy and social support.

Research Method

Research Design: This study is a descriptive research study to identify fatigue, perceived stress, self - efficacy, social support and exercise, which are factors affecting middle - aged health conservation.

Subjects of Research: The subjects of this study were 173 middle-aged people aged 40 to 64 living in two regions. The size of the study sample was calculated using the G * POWER 3.1 program. The number of predictors needed for multiple regression analysis was16, medium effect size: .15, significance level: .05, and power: .80. Therefore, finally, 173 subjects were selected as subjects and the required number of samples was met.

Research Tools

Fatigue: Fatigue was measured using the Multidimensional of Assessment Fatigue (MAF) developed by Tack[21]. This scale is composed of sub-concepts of degree of fatigue and fatigue effect. Ten points were assigned to each question, and the higher the score on the Likert scale, the higher the fatigue. Cronbach's αin this study = .940 in this study.

Perceived Stress: Perceived stress was developed and modified by Cohen et al.[22]. This scale means the degree to which an individual's life has been unpredictable, uncontrollable, and burdensome over the last month. This tool was composed of 5 points for each question and a Likert scale. In this study, Cronbach's α= .719.

Self-Efficacy: Self-efficacy was measured by the general self-efficacy scale developed by Chen, Gully, and Eden[23]. The tool consists of 8 questions, with 5 points assigned to each question. The higher Likert scale means higher self-efficacy. In this study, Cronbach's α= .908.

Health Conservation: The health conservation scale was developed by Sung[3]. This tool consists of 37 questions, 14 questions on personal unity, 8 questions on energy conservation, 8 questions on structural integrity, and 7 questions on social integrity. Four points were assigned to each question, and the higher the score of the Likert scale, the higher the degree of health conservation. Cronbach's α= .880 in this study.

Exercise: Exercise was measured by four questions corresponding to exercise in sub-domains in the Health Promotion lifestyle Profile (HPLP), a tool developed by Walker, Sechrist and Pender[24]. The higher the score, the higher the exercise level. Cronbach's α= .948 in this study.

Data Analysis

Data was analyzed using SPSS/WIN 22.0. The general characteristics of the subjects were calculated using descriptive statistics, real number, percentage, mean and standard deviation. The differences in health conservation according to general characteristics of the subjects were analyzed by t-test and ANOVA. Pearson correlation coefficient was used for the relationship between fatigue, perceived stress self-efficacy and health conservation. Multiple linear regression with stepwise method was used to analyze factors affecting health conservation.

Results

Health Conservation according to Characteristics of Subjects: The degree of health conservation according to general characteristics was statistically determined according to the monthly income (F = 3.045, p = .019), economic condition (F = 7.518, p = .001) and pain intensity (F = 4.974, p = .002) showing a significant difference in statistics as shown in table 1.

Table 1: Health conservation according to characteristics of subjects

Characteristics	Categories	N (%)	M ± SD	t/F(p)
Gender	Male	58(33.5)	2.99 ± .33	.009 (.494)
	Female	115(66.5)	2.85 ± .30	
Age(year)	40-49	58(33.5)	2.86 ± .29	.247 (.964)
	50-64	115(66.5)	2.92 ± .33	
Marital status	Married	148(85.5)	2.90 ± .31	1.780(.153)
	Unmarried	12(6.9)	2.90 ± .35	
	divorced	7(4.0)	2.65 ± .23	
	Bereavement	6(3.5)	3.00 ± .35	
Education	Primary School	11(6.4)	2.69 ± .40	1.851(.140)
	Middle School	20(11.6)	2.94 ± .30	
	High School	64(37.0)	2.90 ± .29	
	College or above	78(45.1)	2.92 ± .33	
Occupation	Worker	23(13.3)	2.90 ± .23	.748 (.632)
	Engineer	17(9.8)	2.93 ± .40	
	Profession	38(22.0)	2.30 ± .36	
	Business	21(12.1)	2.90 ± .33	
	Agriculture	9(5.2)	2.82 ± .33	
	Day labor	30(17.3)	2.86 ± .31	
	Inoccupation	15(8.7)	2.81 ± .35	
	Other	20(11.6)	2.86 ± .21	
Religion	Buddhism	57(32.9)	2.91 ± .32	.634 (.639)
	Christianity	63(36.4)	2.93 ± .33	
	Catholic	7(4.0)	2.80 ± .21	
	irreligion	42(24.3)	2.85 ± .32	
	Other	4(2.3)	2.92 ± .27	
Inmate	Spouse	34(19.7)	2.89 ± .33	.651 (.627)
	Children	9(5.2)	2.75 ± .34	
	Spouse&Children	113(65.3)	2.91 ± .31	
	None	10(5.8)	2.86 ± .36	
	Other	7(4.0)	2.97 ± .37	
Monthly income	Less than one million won	25(14.5)	2.75 ± .27	3.045 (.019)
	More than one million won - Less than two million won	41(23.7)	2.83 ± .29	
	More than two million won - Less than three million won	38(22.0)	2.95 ± .30	
	More than three million won	52(30.1)	2.97 ± .35	
	Non fixed income	17(9.8)	2.94 ± .28	

Conted…

Economic status	Upper	9(5.2)	3.11 ± .54	7.518 (.001)
	Middle	133(76.9)	2.92 ± .29	
	Lower	31(17.9)	2.73 ± .27	
Payer	The person himself	126(72.8)	2.92 ± .33	1.805 (.181)
	Family	47(27.2)	2.84 ± .27	
Smoking	Yes	14(8.1)	2.86 ± .38	.187 (.666)
	No	159(91.9)	2.90 ± .31	
Alcohol	Yes	42(24.3)	2.91 ± .32	.043 (.836)
	No	131(75.7)	2.90 ± .32	
Pain area	Neck	13(7.5)	2.93 ± .28	2.034 (.076)
	Shoulder	39(22.5)	2.89 ± .26	
	Low back	68(39.3)	2.97 ± .34	
	arm, leg	29(16.8)	2.76 ± .27	
	Knees	20(11.6)	2.87 ± .37	
	Other	4(2.3)	2.79 ± .32	
Treatment Period	Less than 6 months	69(39.9)	2.90 ± .29	.114 (.736)
	More than 6 months	104(60.1)	2.90 ± .34	
Pain intensity	none	10(5.8)	3.12 ± .26	4.974 (.002)
	mild	76(43.9)	2.95 ± .30	
	moderate	70(40.5)	2.80 ± .33	
	severe	17(9.8)	2.92 ± .26	

Relations between Fatigue, Perceived Stress, Self-efficacy, Social Support and Health Conservation: The relationship between fatigue, perceived stress, self-efficacy, social support, and health conservation was as follows. The health conservation and fatigue (r=-.129, p=.001), perceived stress (r=-.634, p=.001) showed to have negative correlation, and the health conservation and self-efficacy (r=.598, p=.001) and social support (r=.516, p=.001) and exercise (r=.357, p=.001) showed to have positive correlation. In other words, the less the fatigue, less stress, higher self-efficacy, more social support, more exercise, the higher health conservation degree is shown in table 2.

Table 2: Correlations of fatigue, perceived stress, self-efficacy, social support, exercise and health conservation (N = 173)

	Fatigue	**Perceived stress**	**Self-efficacy**	**Social support**	**Exercise**	**Health conservation**
Fatigue	1					
Perceived stress	0.500** (<.001)	1				
Self-efficacy	-0.352** (<.001)	-0.625** (<.001)	1			
Socialsupport	-0.246** (<.001)	-0.383** (<.001)	0.539** (<.001)	1		
Exercise	-0.239** (.002)	-0.312** (<.001)	0.360** (<.001)	0.308** (<.001)	1	
Health conservation	-0.429** (<.001)	-0.643** (<.001)	0.598** (<.001)	0.516** (<.001)	0.357** (<.001)	1

Impact Factors on Health conservation of Subjects: In order to identify the factors affecting the subject's health conservation, the regression model was analyzed (F = 37.559, p <.001). The perceived stress (β = -. 360, p = .001), social support (β = .220, p = .001) and self-efficacy (F = .190, p = (Table 3) were appeared to be the factors affecting health conservation of the subjects. In addition, these variables were descriptive (51.7%) for health conservation.

Table 3: Influencing factors of health conservation according to fatigue, perceived stress, self-efficacy, social support, health conservation (N = 173)

Variables	B	SE	β	t	p	Adjus-ted R^2	F	p	Dubin-watson
Constant	2.779	.213		13.072	.001	.517	37.559	<.001	1.947
Fatigue	-.025	.014	-.109	-1.759	.080				
Perceived stress	-.219	.045	-.360	-4.877	.001				
Self-efficacy	.093	.037	.190	2.509	.013				
Social support	.101	.029	.220	3.444	.001				
Health conservation	.022	.016	.079	1.359	.176				

Discussion

This study attempted to understand the degree of middle-aged health conservation and to identify the factors that affect health conservation. Based on this, the researcher would like to provide basic data for the development of a nursing intervention program to help the middle-aged maintain an integrated well-being status.

According to general characteristics, health conservation showed significant differences according to monthly income, economic status, and intensity of pain. In previous studies for elderly people, there was significant relationship between pocket money and economic status [25], gender, age, and disease[26]. Although most of the studies are for elderly people, it is difficult to compare them, but it is confirmed that economic condition and pain are factors affecting health conservation. In the middle ages, it is necessary to activate occupational health services and education in order to promote health conservation behavior because the middle age is the age where the activity related to income and labor is the most active while physiological and psychological change occurs such as menopause. Such that, the occupational health service and education for health conservation behavior promotion need to be activated for the middle-aged.

As a result of analyzing the correlation between fatigue, perceived stress, self-efficacy, social support, exercise and health conservation, the health conservation, fatigue and perceived stress showed to have negative correlation while self-efficacy, social support and exercise showed to have positive correlation with health conservation. That is, the less the fatigue, the lower the stress, the higher the self-efficacy, the more the social support, the more exercise, the higher the degree of health conservation is. The middle ages are exposed to a lot of fatigue and stress due to complex roles and physical changes such as job life and changes in roles within the family, and the prevalence of chronic diseases is also rapidly increasing. Therefore, interest and approach are needed to maintain physical, psychological, mental and social well-being for middle-aged health conservation. Social support, in turn, affects mental health conservation[27], such as reducing stress and forming self-esteem and trust[28]. The higher the self-efficacy, the more likely the health behaviors of middle-aged[16] are supported. Therefore, for middle-aged adults, physical, psychological and mental health conservation will motivate integrated health conservation activities to maintain health.

Finally, factors affecting health conservation were self-efficacy, social support, and perceived stress. In previous studies, social support has influenced the quality of life in middle age[29], protecting health from stress and leading health behaviors[30]. Therefore, in order to practice health conservation activities, personal and social environment should be supported[16]. It is necessary to maintain effective and continuous interactions with others, such as forming positive interpersonal relationships and utilizing community resources.

Self-efficacy is a factor influencing health promotion behavior[16], and is a major factor influencing health-

related behaviors as well as health-related behaviors [31]. Therefore, the self-efficacy of middle-aged adults is an important index for health maintenance. Also, they may confirm the importance of motivation with the belief that middle-aged can do appropriate actions for health conservation. This suggests that a positive awareness of self leads to self-confidence, which leads to motivation for health conservation behavior.

The most important thing for middle-aged health conservation is positive awareness, belief and support for oneself. Therefore, this study is meaningful in that it suggests the direction of nursing intervention development for middle-aged health conservation. In order to improve the efficiency of intervention, it is necessary to consider the influential factors in this study.

Conclusion and Suggestion

This study is a descriptive research to identify the degree of health conservation in middle-aged adults and to identify factors affecting it. The results showed that social support, perceived stress and self-efficacy were the factors affecting the health conservation of middle-aged adults. This study is significant in that it suggests the direction of nursing intervention for middle-aged health conservation. Based on the above results, the researcher proposes a study on concrete implementation plan for health conservation of middle-aged adults.

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