

Effects of marital intimacy, social support, and health status of middle-aged women on healthy aging

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Abstract: The purpose of this study is to identify the factors affecting healthy aging among middle-aged women, focusing on marital intimacy, social support, and health status. The study participants were middle-aged women aged 40-59 residing in D city, Chungnam, and C city, Chungbuk, and 180 questionnaires were collected and analyzed. The study found that health status ($\beta=-.273$, $p<.001$), social support ($\beta=.262$, $p<.001$), lack of hobbies ($\beta=-.199$, $p=.002$), dissatisfaction with life ($\beta=-.173$, $p=.006$), having one chronic disease ($\beta=.141$, $p=.020$), and moderate life satisfaction ($\beta=-.124$, $p=.050$) were significant factors influencing healthy aging. Therefore, to promote healthy aging in middle-aged women, it is necessary to develop and apply health programs that include maintaining good health from middle age, strengthening social support, enjoying hobbies, increasing life satisfaction, and managing chronic diseases.

Keywords: Health Status, Healthy Aging, Marital Intimacy, Middle-aged Women, Social Support.

1. Introduction

In 2022, the total population of Korea was 51,692,000, with 25,857,000 middle-aged and elderly women, accounting for 15.4% of those aged 40-49 and 16.5% of those aged 50-59, making the proportion of middle-aged women aged 40-59 the highest at 31.9%. Additionally, the median age of the female population was 46.6 years, an increase of 4.4 years from 42.4 years in 2015 and 1.0 year from 45.6 years in 2020, showing a continuous upward trend [1]. The elderly population is also increasing, expected to rise from 25.2% in 2022 to 67.0% in 2042, a 2.7-fold increase [2].

With the increase in middle-aged and elderly women, the life expectancy of women is 86.6 years, 6.0 years longer than that of men, and has increased by 3.0 years compared to 2010. However, when looking at healthy life expectancy, women live 67.2 years, which is 1.6 years longer than men's 65.6 years, indicating that women experience more years of illness despite having a longer life expectancy [3]. Moreover, the smoking and drinking rates among women are increasing, and the rate of aerobic physical activity and subjective health awareness are lower in women than in men [3].

Middle age is a period of significant physical, mental, and social changes. Particularly, middle-aged women in their 50s experience hormonal changes due to menopause, retirement, children's independence, changes in roles, depression, anxiety, and a sense of worthlessness [4]. As age increases, the likelihood of chronic adult diseases such as hypercholesterolemia, obesity, hypertension, and diabetes also rises [5]. Thus, the old age of middle-aged women is prolonged, their health behaviors and life expectancy are lower than those of men, and they undergo numerous physical, mental, and social changes.

Healthy aging is a lifelong process used to optimize opportunities for health, physical, social, and psychological well-being, independence, quality of life, and successful transition to a rewarding life [6]. Each stage of human development and growth is influenced by previous stages and impacts subsequent

stages, so the life of the elderly is affected by the lifestyle of middle-aged adults, necessitating preparation and establishment for old age [7]. Therefore, an integrated approach considering physical, mental, and social aspects is needed for the healthy aging of middle-aged women, and it is necessary to identify the factors affecting healthy aging to seek nursing intervention measures.

For middle-aged women, a spouse is a crucial emotional support who exerts the most direct influence in overcoming difficulties [8]. A close relationship with a spouse is suggested as an important factor for overall quality of life, including the reduction of menopausal symptoms and mental health [9]. Previous studies targeting middle-aged women also reported marital intimacy as the most significant factor influencing health-promoting behaviors [10]. Therefore, it is important to clarify the relationship between marital intimacy and healthy aging in middle-aged women, but research identifying this relationship is lacking, thus necessitating further investigation.

Social support positively affects successful life and health in old age, providing various types of help through relationships with family, friends, and significant others [11]. For middle-aged women experiencing physical, mental, and social changes, social support helps form positive relationships with those around them, indicating that higher social support contributes to successful aging [12]. Therefore, social support must be prepared from middle age, and research on the relationship between social support and healthy aging is necessary.

Maintaining physical health is considered the most crucial factor for the future old age life by many middle-aged adults. However, considering that the decline in health due to chronic diseases or cancer is an inevitable part of the aging process, health status significantly influences the maintenance of healthy habits such as physical activity and dietary habits [13]. Therefore, it is necessary to confirm how physical health status affects healthy aging. This study aims to clarify the relationship between marital intimacy, social support, health status, and healthy aging among married middle-aged women.

2. Materials and Methods

2.1 Designing of Study

This descriptive survey study aims to identify the factors affecting healthy aging, focusing on marital intimacy, social support, and health status among married middle-aged women.

2.2. Subjects

Data collection for this study was conducted using a random sampling method targeting married middle-aged women aged 40-59 residing in D city, Chungnam, and C city, Chungbuk, living in apartment complexes and attending classes at academies (excluding those divorced or widowed). After explaining the study's purpose and methods and obtaining permission for data collection from the apartment managers and academy directors, middle-aged women who agreed to participate and signed the questionnaire were included. The sample size was determined using the G*Power 3.1.9.7 program, considering a significance level of .05, an effect size of .15, a power of 0.80, and 11 predictor variables, requiring 123 participants. Considering the dropout rate, 200 participants were randomly sampled, and 180 questionnaires were used for the final analysis

2.3. Study Tool

2.3.1. Healthy Aging

Healthy aging was measured using a tool developed by Go [14]. It consists of 20 items on a 5-point Likert scale, with higher scores indicating higher levels of healthy aging. The reliability in Go's study [14] was Cronbach's $\alpha = .89$, and in this study, it was Cronbach's $\alpha = .78$.

2.3.2. Marital Intimacy

Marital intimacy was measured using a tool developed by Jung [15] and modified and supplemented by Jeong [16] in their study on Korean marital satisfaction. It consists of 16 items on a 5-

point Likert scale, with higher scores indicating higher levels of marital intimacy. The reliability in Jeong's study [16] was Cronbach's $\alpha = .97$, and in this study, it was Cronbach's $\alpha = .97$.

2.3.3. Social Support

Social support was measured using a tool developed by Park [17] and revised by Kim [18]. Each item is rated on a 5-point Likert scale, with higher scores indicating higher levels of social support. The reliability in Kim's study [17] was Cronbach's $\alpha = .97$, and in this study, it was Cronbach's $\alpha = .87$.

2.3.4. Health Status

Health status was measured using the Korean version of the THI (Todai Health Index) health survey modified and supplemented by Lim [19]. Each item is rated on a 5-point Likert scale, with higher scores indicating poorer health status. The reliability in Lim's study [19] was Cronbach's $\alpha = .80$ for physical domain, Cronbach's $\alpha = .84$ for mental domain, Cronbach's $\alpha = .77$ for spiritual domain, and Cronbach's $\alpha = .76$ for social domain. In this study, it was Cronbach's $\alpha = .74$.

2.4. Collection of Data and Ethical Consideration

Data for this study were collected by the researcher and two research assistants using a structured questionnaire. Data collection was conducted from March 11 to April 19, 2024, with the questionnaire taking about 30 minutes to complete. A total of 160 questionnaires were distributed, and 150 were returned, with 141 being used for the final analysis after excluding 9 that were difficult to analyze. Participants were informed about the study's purpose, methods, and processes, and they were told they could withdraw from participation at any time. They were asked to sign a consent form voluntarily. Collected data were used solely for research purposes and safely discarded after the study ended. The researcher provided personal contact information for any questions or concerns.

3. Results and Discussion

3.1. Differences in Healthy Aging According to General Characteristics

The analysis of differences in healthy aging according to the general characteristics of the study participants is shown in Table 2. The results showed significant differences in age ($F=3.27$, $p=.023$), life satisfaction ($F=13.88$, $p<.001$), and hobbies ($t=4.54$, $p<.001$). Post hoc analysis revealed that participants aged 45-49 had significantly higher healthy aging scores than those aged 40-44, and those satisfied with life had significantly higher scores than those with moderate or low life satisfaction. Additionally, the number of chronic diseases ($F=3.06$, $p=.030$) showed significant differences, with participants having one chronic disease scoring higher than those with three or more. There were no significant differences in healthy aging according to religion, occupation, education level, or menstrual status.

Table 1.
Differences in healthy aging according to general characteristics

Characteristics	Classification	n(%)	M±SD	t or F	P (scheffe)
Age	40~44 ^a	29(16.1)	3.19±.42	3.27	0.023 a<b
	45~49 ^b	50(27.8)	3.58±.60		
	50~54 ^c	57(31.7)	3.48±.49		
	55~59 ^d	44(24.4)	3.55±.65		
Religion	Yes	109(60.6)	3.50±.54	0.74	0.456
	No	71(39.4)	3.44±.60		
Occupation	Yes	157(87.2)	3.49±.58	0.59	0.551
	No	23(12.8)	3.41±.47		

Education	High school graduate	67(37.3)	3.37±.48	2.22	.111
	College graduate	89(49.4)	3.56±.61		
	Graduate school graduate	24(13.3)	3.44±.59		
Life satisfaction	Satisfaction ^a	65(36.1)	3.73±.55	13.88	<.001 a>b,c
	Common ^b	102(56.7)	3.37±.52		
	Dissatisfaction ^c	13(7.2)	3.02±.44		
Hobbies	Yes	76(42.2)	3.69±.48	4.54	<.001
	No	104(57.8)	3.32±.58		
Number of chronic diseases	0	81(45.0)	3.48±.52	2.71	.046
	1	64(35.6)	3.58±.63		
	2	18(10.0)	3.40±.37		
	3 over	17(9.4)	3.15±.61		
Menstrual status	Hysterectomy	17(9.4)	3.68±.70	.85	.465
	Regular	68(37.8)	3.47±.61		
	Irregular	22(12.2)	3.41±.41		
	Stop	73(40.6)	3.48±.57		

3.2. Correlation between Marital Intimacy, Social Support, Health Status and Healthy Aging of Middle-aged Women

The correlations between marital intimacy, social support, health status, and healthy aging of middle-aged women are shown in Table. Marital intimacy ($r=.31$, $p<.001$) and social support ($r=.35$, $p<.001$) showed positive correlations with healthy aging, while health status ($r=-.21$, $p=.003$) showed a negative correlation with healthy aging.

Table 2.

Correlation between marital intimacy, social support, health status and healthy aging of middle-aged women.

Variables	Marital Intimacy $r(p)$	Social support $r(p)$	Health status $r(p)$	Healthy aging $r(p)$
Marital intimacy	1			
Social support	0.352**(<.001)	1		
Health status	-0.218**(.003)	-0.282**(<.001)	1	
Healthy aging	0.316**(<.001)	0.416**(<.001)	-0.449**(<.001)	1

3.3. Factors Affecting the Health Aging of Middle-Aged Women

Multiple regression analysis was conducted to identify the factors affecting healthy aging among married middle-aged women, as shown in Table 3. The assumptions of regression analysis were verified by checking for multicollinearity and the independence and homoscedasticity of residuals. Multicollinearity was diagnosed by examining the variance inflation factor (VIF), which ranged from 1.023 to 1.167, indicating no multicollinearity among the independent variables. The independence of residuals was confirmed with a Durbin-Watson value of 1.949, indicating satisfied residual independence.

The analysis revealed that the factors explaining healthy aging were health status, social support,

hobbies, life satisfaction, and the number of chronic diseases, accounting for 37.0% of the variance in healthy aging. The regression model was statistically significant ($F=44.94, p<.001$). Specific influencing factors were health status ($\beta=-.273, p<.001$), social support ($\beta=.262, p<.001$), lack of hobbies ($\beta=-.199, p=.002$), dissatisfaction with life ($\beta=-.173, p=.006$), having one chronic disease ($\beta=.141, p=.020$), and moderate life satisfaction ($\beta=-.124, p=.050$).

Table 3.
Factors affecting the health aging of middle-aged women.

Variables	Category	B	β	SE	t	p	Adj R ²	F	p
Constant		3.290		0.311	10.58	<0.001		44.94	<0.001
Health status		-0.244	-0.273	0.057	-4.26	<0.001	0.197		
Social support		0.253	0.262	0.062	4.08	<0.001	0.284		
Hobbis	No	-0.229	-0.199	0.071	-3.21	0.002	0.325		
Llfe satisfactor	Dissatisfaction	-0.306	-0.173	0.111	-2.75	0.006	0.344		
Number of chronic diseases	1	0.168	0.141	0.071	2.34	0.020	0.359		
Llfe satisfactor	Common	-0.142	-0.124	0.072	-1.97	0.050	0.370		

4. Discussion

This study aimed to identify the factors affecting healthy aging by examining the degree of marital intimacy, social support, and health status among married middle-aged women and to provide a basis for developing programs to prepare for a healthy old age.

The degree of healthy aging among married middle-aged women was 2.72 points (0-4 points). There are no previous domestic studies directly comparing this result, making direct comparisons difficult. However, aging refers to a state where physical, cognitive, and social functions are high without disabilities, and terms such as successful aging, optimal aging, productive aging, and well-aging are used [20]. Therefore, healthy aging is focused on "aging well," which will be compared to successful aging. A previous study targeting late middle-aged adults [22] reported a successful aging score of 73.2 points (20-100 points). The degree of successful aging was higher than that of the married middle-aged women in this study. Considering that the average age of the study participants was 50 years and the average age of late middle-aged women in the previous study [22] was 59 years, it can be seen that the degree of healthy aging is higher in later middle age. This is because as age increases, negative health changes such as frailty, disease, and functional decline due to biological aging occur [23].

Differences in healthy aging according to general characteristics showed significant differences in age, life satisfaction, hobbies, and the number of chronic diseases. Previous studies [24] reported that the absence of chronic diseases, life satisfaction, and enjoyment of life through hobbies are important strategies for healthy aging in middle age, consistent with the results of this study. Additionally, a study by Cho et al. [25] targeting middle-aged women showed that health-promoting behaviors increase with age and higher life satisfaction, partially aligning with this study's results.

The correlations between marital intimacy, social support, health status, and healthy aging showed positive correlations with marital intimacy and social support and a negative correlation with health status. Maintaining middle-aged health is crucial for enjoying a healthy old age, and those with healthy lifestyles can better cope with health changes due to aging [26]. Social support is essential throughout an individual's life and efforts should be made to expand social support from middle age to prevent loneliness in old age [26]. Maintaining close family relationships is considered crucial from a middle-aged perspective, with family support being an essential support element for the elderly.

Factors affecting healthy aging among married middle-aged women were identified as health status, social support, hobbies, life satisfaction, and the number of chronic diseases. The most influential factor

on healthy aging was health status. Maintaining middle-aged health is crucial for enjoying a healthy old age. Additionally, individuals with healthy lifestyles can better cope with health changes due to aging [26]. Therefore, the most critical preparation for healthy aging is to strengthen healthy habits. Most studies related to health status have mainly identified subjective health status. This study, however, included objective aspects of physical, emotional, psychological, and social parts, providing a comprehensive understanding of the health status of middle-aged women. As aging progresses, declines in health status due to chronic diseases or cancer occur, and maintaining healthy habits such as physical activity and diet is crucial [27]. Therefore, it is meaningful to explore the relationship between health status and healthy aging as a process that progresses throughout life, starting from middle age.

Another influential factor on healthy aging among married middle-aged women was social support. Efforts should be made to expand the scope of communication from middle age to prevent loneliness in old age. Loneliness and isolation due to aging pose serious obstacles to healthy aging [24], necessitating efforts to establish and maintain close relationships with friends and children.

Hobbies, identified as a factor affecting healthy aging, are not a significant element for middle-aged adults [27]. However, hobbies and leisure activities significantly impact vitality [27], emphasizing planning for daily and leisure activities due to aging [26]. Moreover, Lamont et al. [29] also identified the absence of chronic diseases, life satisfaction, and leisure due to hobbies as significant factors for healthy aging in middle age. Considering aging as a continuous life cycle process, preparing for healthy aging is particularly necessary for middle-aged adults. Middle-aged women tend to have a more negative view of aging than men, so overcoming negative stereotypes about aging through middle-aged behavioral interventions can aid in healthy aging [30].

This study has limitations as there are not many prior studies identifying factors related to healthy aging specifically targeting middle-aged women, so the results must be interpreted cautiously. Also, excluding divorced or widowed middle-aged women during participant recruitment limits the representation of all middle-aged women. Nevertheless, this study's significance lies in identifying factors affecting healthy aging among middle-aged women, providing a basis for developing programs to prepare for a healthy old age. Further research on healthy aging among middle-aged women is necessary, considering the increasing number of middle-aged and elderly women. Repeated studies are suggested to validate the influence of marital intimacy on healthy aging, as this factor was not proven influential in this study.

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