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Original Article

Factors Affecting the Subjective Health Status of Middle-Aged Retirees in Korea

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Abstract

Background: Countries that are becoming aging societies are struggling to establish financial support policies due to their increasing numbers of retired people. In particular, the increase in middle-aged retirees has been reported as unusual and influenced by various factors. This study aimed to identify the subjective health conditions of middle-aged retirees and explore the factors that help provide basic data for developing health-related programs for them.

Methods: This cross-sectional study was conducted among 7,893 people who participated in the 6th Korean Longitudinal Study of Aging in 2016. Among them, the data of 315 participants were analyzed. A theoretical framework guided the use of multiple regression analysis to examine the factors related to the subjective health status of middle-aged retirees.

Results: The significant factors influencing the subjective health status were socioeconomic status (middle/high: β=.14, *P*=.005), number of chronic diseases (β=-.11, *P*=.035; above 2: β=-.38, *P*<.001), depression (β = -.17, *P*<.001), and retirement satisfaction (β=.32, *P*<.001).

Conclusion: This study can help policymakers create effective retirement programs for middle-aged individuals and re-socialize them by enhancing physical and psychological support.

Keywords: Middle age; Retirement; Subjective health; Theoretical model

Introduction

According to the United Nations World Population Prospects 2022 report, the average global life expectancy as of 2021 was 71 years. Except for a temporary decrease in 2020 due to the COVID-19 pandemic, life expectancy has steadily increased due to medical technology and economic development. The average global life expectancy was 72.6 years in 2019, compared to just 46.5 years in 1950. By 2050, it is projected to increase in all regions, reaching a global average of 77.1 years (1). In 2022, Korea ranked 10th in the world, with an average life expectancy of 84.14 yr for men and 87.23 yr for women (1). Koreans' life expectancy has increased the fastest in the world. The average life expectancy was approximately 52 yr in 1960, reflecting a significant increase of 31 yr in around 60 yr (2). The advanced social welfare system, excellent healthcare infrastructure and clean environment have been cited as the secrets to a long life (3). As the average life

expectancy increases, the increase in time after retirement has important implications, such as a change in the individual's social role and the meaning of the transition from middle to old age. Retirees are experiencing social disconnection, economic difficulties, and economic burdens in maintaining health. These lead to a decline in the quality of life (4–6).

The absence of policy on life after retirement may lead to generational conflicts, which can burden the productive population and worsen national competitiveness due to decreased productivity. To improve the quality of life in older people, many countries are working on policies and strategies for extended working lives and appropriate workloads. Since the 2000s, the United Kingdom has had a one-pension-per-person system to prepare for retirement, and the United States has focused on fostering retirement pensions to reduce the financial burden on retirees (7,8). Since 2004, Japan has also implemented a nationwide response to the retirement shock targeting the baby boomer generation (9). Similarly, Korea established in 2019 a middle-age support policy for those aged in their 50s and 60s and actively prepared policies such as job security and re-employment support (10).

Changes in the labor market due to aging and extended life expectancy have caused early retirement, along with various other factors. Early retirement is caused by changes in the workforce and social factors such as family structure (11,12). Policies to support grandparent care for dual-income couples and grandparents' desire for flexible working hours have increased early retirement (13,14). The decline in wages of older adults and the implicit tax on the pension system appeared as a tendency to retire early (15–17). On the other hand, some researchers have analyzed the causes of early retirement based on individuals. Wang and Shultz classified factors related to the retirement process into four categories (18): individual, family, occupational and organizational, and socioeconomic. Among the most relevant predictors are the individual's economic and health-related factors (9,19). Personal health levels can be measured through objective indicators, but they can also be determined through subjective indicators that evaluate themselves (20). In particular, subjective health conditions are useful in assessing health because they are closely related to personal health behaviors such as smoking, drinking, exercising, and eating (21). Furthermore, these are important indicators for predicting the prevalence of diseases and the use of medical services (22).

However, whether subjective health conditions are the best predictor of early retirement in Korea is unknown. This study aimed to provide basic data for the development of health-related programs and the preparation of modern strategies for appropriate retirement time by using data obtained from the 6th Korea Aging Termination Study (KLoSA) to identify subjective health conditions and explore factors affecting middle-aged retirees.

Theoretical framework

Humans essentially want to maintain their existing lifestyle patterns. However, the sense of loss that comes with retirement can reduce the satisfaction of post-retirement life, affecting psychological and physical health. In addition, family members, community support systems, and social relationships become more important, and these factors influence subjective health (10, 23). Therefore, we developed a theoretical framework to analyze the factors affecting the subjective health status of middle-aged retirees. The factors were explored by classifying them into four categories: general characteristics, health-related factors, social interaction factors, and retirement-related factors (Fig. 1).

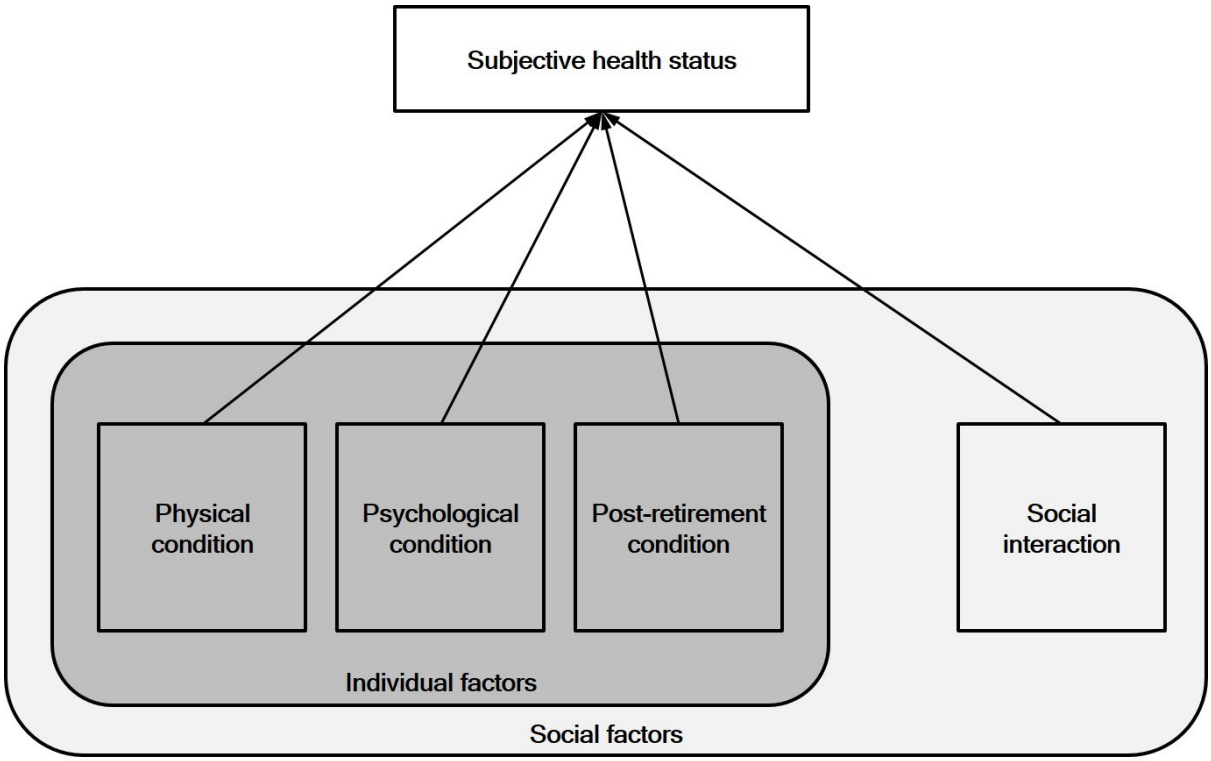

Fig. 1: Theoretical framework

Ecological perspectives emphasize the roles of and interactions between various systems in a given environment, including intrapersonal factors, interpersonal factors, institutional factors, community factors, and public policy (24). Establishing individual factors, social relationships, and support systems is more important during post-retirement than pre-retirement life for a positive impact on life satisfaction and subjective health. In this study, ecological factors include intrapersonal, interpersonal, and community factors that affect subjective health.

Role theory (25) is the most commonly based theory of adaptive theoretical approaches to retirement (23). Middle age in Korea is a turning point in the process of physical aging. At this age, individuals reach peak anxiety levels regarding their retirement. This is because they were previously recognized by their workplace and for their professional expertise, and this recognition is suddenly lost with retirement. Middle-aged people retiring from their jobs are vulnerable to a sense of loss of role, which can lead to psychological distress (4). In contrast, the reduction of social role tension may give them a new role in promoting psychological well-being in the family (26).

Continuity theory (27,28) suggests that humans tend to maintain the lifestyle patterns that exist throughout their lives, such as previous habits and values, even after retirement. Middle-aged people tend to choose their preferred lifestyle for a fulfilling life, but empirically identifying the persistence of lifestyle patterns is difficult. Therefore, continuity theory may not accurately reflect the impact of post-retirement life satisfaction.

Materials and Methods

Design and participants

This cross-sectional study was conducted to identify the determining factors of subjective health status for middle-aged retirees, using data procured from the 6th KLoSA. The KLoSA survey has been conducted biennially since 2006 by the Korea Employment Information Service. It ran-

domly collects nationwide data on individuals aged 45 yr and over to accumulate a basic database for the formation of social and economic policies related to older people. The survey was conducted on 7,893 people who participated in 2016 in the 6th KLoSA. Overall, 2,066 individuals were below the age of 65 yr. Of the total, 315 individuals were no longer working and not involved in any economic activity after their retirement.

Measures

The data were obtained using a computer-assisted personal interviewing method. The dependent variable, subjective health status, was evaluated through self-report using a five-point Likert scale. The participants responded to assess their subjective health conditions by self-reporting their perceptions of their health. (29). In our study, we studied five aspects as independent variables based on the theoretical framework: general characteristics, individual factors (physical condition, psychological condition, and post-retirement condition), and social interaction factors. The general characteristics consisted of gender, age, marital status, and socioeconomic status. Marital status was classified as single or not (married) based on their current status. Socioeconomic status (self-reported) was classified as low, moderate, or high. Physical condition consisted of the number of chronic diseases, activities of daily living (ADLs), and instrumental activities of daily living (IADLs). Psychological conditions consisted of diagnosed psychiatric disease and depression (assessed using the Center for Epidemiologic Studies Depression scale; CES-D10). The number of chronic diseases was classified as none, one, or two, and psychiatric disease was categorized according to whether a diagnosis existed. Additionally, ADL, IADL, and CES-D10 scores were used. Social interaction factors were assessed for the frequency of social interaction and religion. Post-retirement condition was measured using satisfaction with retirement, which was self-reported by the participants, with responses rated on a five-point Likert scale. Concerning the social interaction factor, the frequency of social interaction was divided into four categories: none, once a month, once a week, and more than twice a week.

Statistical analysis

The data were analyzed using STATA 16.0. The descriptive statistics of the study were the general characteristics, social interaction factors, health-related factors, and retirement-related factors of the participants. Additionally, hierarchical linear regressions were performed to identify which factors were related to subjective health status based on the theoretical framework. We developed four models based on the theoretical framework as follows. First, we established a baseline model including all general characteristics and physical condition factors. Second, we generated Model 2, which included all the factors of Model 1 and psychological condition factors. In Model 3, we included all the factors of Model 2 and post-retirement condition factors. Finally, we developed the Model 4, which included all the factors of Model 3 and social-interaction factors.

Ethical consideration

The KLoSA data for this study were obtained after acquiring approval from Statistics Korea and consent from the Korea Employment Information Service. We obtained approval for an exempt review from the Institutional Review Board (1044396-201912-HR-208-01).

Results

General characteristics of middle-aged retirees

The majority of the middle-aged retirees were female (72.1%), and the mean age was 60.86 yr. In the survey, 264 individuals (83.8%) were married, 162 (62.2%) were middle-class according to the socioeconomic strata, and 110 (34.9%) had a chronic disease. The mean ADL was 0.10, and the mean IADL was 0.37. In the survey, 291 individuals (93.4%) had no experience of psychiatric disease diagnosis. The mean depression score (CES-D10) was 2.57. Of the retirees, 117 (37.1%)

had more than two social interactions per week, and 169 (53.7%) were non-religious. Their mean retirement satisfaction was 2.62, and their subjective health status was 2.98.

Differences existed in subjective health status in relation to the general characteristics of all variables except age and religion (Table 1).

Table 1: Differences in subjective health status according to general characteristics (N = 315)

Variable	*Category*	*Mean±SD*	*t/F/ r*	*P*
Sex	Male	2.80±1.10	-2.27	.002
	Female	3.06±0.84		
Age			-0.08	.142
Marital status	Single	2.61±0.92	-3.22	.001
	Other	3.06±0.91		
Socioeconomic status	Low[a]	2.48±0.96	30.51	<.001
	Middle[b]	3.22±0.79		a<b, c†
	High[c]	3.67±0.65		
Number of chronic diseases	None[a]	3.44±0.65	38.16	<.001
	1[b]	3.04±0.90		a<b, c, b<c†
	Above 2[c]	2.42±0.93		
ADL			-0.27	<.001
IADL			-0.32	<.001
Diagnosis of psychiatric disease	No	3.04±0.90	3.90	<.001
	Yes	2.29±0.95		
Depression (CES-D)			-0.38	<.001
Frequency of social interaction	None[a]	2.28±1.00	9.54	<.001
	1–2/month[b]	3.07±0.86		a<b, c, d†
	1/week[c]	3.01±0.98		
	Above 2/week[d]	3.14±0.81		
Religion	None	3.06±0.93	1.55	.121
	Yes	2.90±0.92		
Satisfaction of retirement			0.50	<.001

† Bonferroni

ADL, Activities of Daily Living; IADL, Instrumental Activities of Daily Living; CES-D10, Center for Epidemiologic Studies – Depression scale

Factors affecting subjective health status of middle-aged retirees

The findings of the hierarchical multiple regression analysis, based on the theoretical framework, are presented in Table 2. Models 1, 2, 3, and 4 explained 38%, 45%, 52%, and 52% (adjusted R^2) of the variance in the relationship between subjective health status and individual and social factors, respectively.

In Model 1, the statistically significant factors were socioeconomic status (middle/high: β = 0.27, *P*<.001), number of chronic diseases (β =-0.13, *P* = .024; above 2: β =-0.45, *P*<.001), and IADL (β = -0.16, *P* = .038). In Model 2, the statistically significant factors were socioeconomic status (middle/high: β=0.22, *P*<.001), number of chronic diseases (β=-0.13, *P*= .012; above 2: β= -0.42, *P*< .001), and depression (β = -0.27, *P*<.001).

Table 2: Factors affecting the subjective health status of middle-aged retirees (N = 315)

Variable	*Category*	*Model 1*					*Model 2*					*Model 3*					*Model 4*				
		B	S. E	β	t	*P*	B	S. E	β	t	*P*	B	S. E	β	t	*P*	B	S. E	β	t	*P*
(Constant)		2.86	0.16	-	17.66	<.001	3.25	0.17	-	19.15	<.001	2.43	0.20	-	12.28	<.001	2.39	0.24	.	10.05	<.001
Sex	Male			-					-					-					-		
	Female	0.08	0.11	.04	0.74	.459	0.06	0.10	.03	0.59	.554	0.01	0.09	.01	0.15	.882	0.00	0.09	.00	0.05	.960
Marital status	Single			-					-					-					-		
	Other	0.13	0.13	.05	1.02	.309	0.06	0.12	.02	0.45	.651	0.07	0.11	.03	0.70	.484	0.08	0.11	.03	0.71	.476
Socioeconomic status	Low			-					-					-					-		
	Middle/high	0.54	0.11	.27	5.01	<.001	0.44	0.10	.22	4.22	<.001	0.28	0.10	.14	2.82	.005	0.28	0.10	.14	2.83	.005
Number of chronic diseases	None			-					-					-					-		
	1	-0.26	0.11	-.13	-2.48	.014	-0.26	0.10	-.13	-2.53	.012	-0.22	0.10	-.11	-2.21	.028	-0.21	0.10	-.11	-2.12	.035
	Above 2	-0.89	0.11	-.45	-7.82	<.001	-0.85	0.10	-.42	-8.33	<.001	-0.76	0.09	-.38	-8.65	<.001	-0.76	0.09	-.38	-8.63	<.001
ADL		-0.07	0.09	-.06	-0.82	.415	-0.06	0.08	-.05	-0.74	.461	-0.04	0.07	-.03	-0.56	.577	-0.04	0.08	-.03	-0.56	.573
IADL		-0.09	0.04	-.16	-2.09	.038	-0.07	0.04	-.12	-1.57	.118	-0.06	0.04	-.10	-1.41	.159	-0.06	0.04	-.10	-1.31	.193
Diagnosis of psychiatric disease	None								-					-					-		
	Yes						-0.12	0.20	-.03	-0.58	.563	-0.16	0.17	-.04	-0.94	.347	-0.15	0.17	-.04	-0.87	.382
Depression (CES-D)							-0.10	0.02	-.27	-5.61	<.001	-0.06	0.02	-.17	-3.95	<.001	-0.06	0.02	-.17	-3.71	<.001
Satisfaction of retirement												0.31	0.05	.32	5.85	<.001	0.30	0.05	.31	5.85	<.001
Frequency of social interaction	None																		-		
	Yes																0.06	0.15	.02	0.39	.699
		F = 25.35, *P*<.001, R^2= 0.39, Adj. R^2 = 0.38					F = 25.50, *P* < .001, R^2 = 0.46, Adj. R^2 = 0.45					F = 29.85, *P* < .001, R^2 = 0.54, Adj. R^2 = 0.52					F = 27.76, *P* < .001, R^2 = 0.54, Adj. R^2 = 0.52				

ADL, Activities of Daily Living; IADL, Instrumental Activities of Daily Living; CES-D10, Center for Epidemiologic Studies – Depression scale

In Model 3, the statistically significant factors were socioeconomic status (middle/high: β=0.14, *P*=.005), number of chronic diseases (β = -0.11, *P* =.028; above 2: β= -0.38, *P*< .001), depression (β = -0.17, *P*<.001), and retirement satisfaction (β = 0.32, *P* < .001). In Model 4, the statistically significant factors were socioeconomic status (middle/high: β = 0.14, *P* = .005), number of chronic diseases (β = -0.11, *P*=.035; above 2: β = -0.38, *P*< .001), depression (β =-0.17, *P*<.001), and retirement satisfaction (β = 0.32, *P*<.001).

Discussion

Middle age is an important phase in a person's life because it is the time to prepare for old age. The health condition in this period determines how the health of a person will be in old age. Previous studies have shown that health status in old age after retirement is correlated with various factors (4-16).

The first finding of this study is that the results can be used as basic data for future studies. In this study, the proportion of women was 72.1%, around three times higher than that of men. This trend has also been observed in previous studies (1,4), women's retirement age is lower than that of men. Therefore, we must consider the gender characteristics of middle-aged retirees when developing programs for early retirees. The view that retirement provides a valuable time to focus on oneself and one's spouse has been traditional, but as the concept of retirement has diverse influences on individuals (30), the effect of a person's marital status on their life also varies. This study found that the subjective health status was better among married early retirees compared to their single peers. Further research using longitudinal studies is needed to gauge the effects of

marriage on the health of retirees due to changing times. In a previous study, ADLs and depression were meaningful variables to identify the effect of retirement on health (31). The findings of this previous research coincide with those of the present study. In this study, the subjective health status was higher with no social interaction compared to a high frequency of social interaction. The relationship between frequency of social interaction and health may be related to the personality of retirees, and further research will thus be needed on this (32).

A secondary finding is the application of a theoretical framework to identify the factors associated with the subjective health status of middle-aged retirees. Based on the theoretical framework, the related factors were divided into individual and social factors so we could find what we needed to prepare and support at the individual and social levels, respectively. The significant determinants were socioeconomic status (middle/high: β = .14, *P*= .005), number of chronic diseases (β= -.11, *P*= .035; above 2: β= -.38, *P*< .001), depression (β= -.17, *P*<.001), and retirement satisfaction (β=.32, *P*<.001). No significant social factor variables existed. Socioeconomic status is a major predictor of health and is an important factor for retirees whose post-retirement income is predicted to decline. A previous study of senior retirees showed that differences in socioeconomic levels could lead to differences in health (33). Therefore, reducing differences in socioeconomic levels by strengthening the social security system is necessary. This study also showed that the higher the number of chronic diseases, the worse the subjective health condition, like a previous multi-national study in Europe, which showed that the number of chronic diseases affected the health index (34). Recently, the proportion of people with multimorbidity has been increasing, which increases the burden of healthcare expenditure at home and in society (35). With incomes declining after retirement, the increase in the burden of healthcare expenditure continues to cause economic difficulties at home. In turn, this deteriorates health conditions and causes a vicious cycle. Early retirees may experience severe depression due to the loss of their jobs, even though previous studies show that early retirees experience less depression (36). Subjective health must be improved by seeking strategies to reduce depression through systematically planning and adapting early retirees' lives after retirement. The results of a previous study on the relationship between the retirement satisfaction and health of early retirees were consistent (37). A program should be developed to improve the subjective health status of early retirees and enhance their retirement satisfaction level.

Limitations

This study has some limitations. First, since it was conducted on middle-aged people in Korea, generalizing it to the middle-aged population around the world is difficult. Second, this study could analyze the influential factors only at a specific point in time, as in the cross-sectional study. If this research were carried out as a longitudinal study, analyzing the subjective health effects of middle-aged retirees across life stages would likely be possible. Therefore, we propose an effective intervention program to improve the subjective health of middle-aged retirees, reflecting the results of this study.

Conclusion

Countries are focusing on preparing aging policies. Middle-aged and older adults who retire early are marginalized from those who can receive support after retirement. In addition, no communication window exists to express the difficulties caused by age restrictions in physical and psychological support programs. A plan should be prepared to expand the resources concentrated on middle-aged and older adults. This is required to classify related disease groups that can predict early retirement and develop re-socialization and support programs such as systematic health care, employment training, and re-employment according to the type and process of retirement.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Conflict of interest

The authors declare that there is no conflict of interests.

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