

경로당 이용과 인구사회학적 요인, 삶의 만족도, 건강상태에 관한 연구

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Senior Citizen Centers Utilization: Role of Socio-Demographic Factors, Life Satisfaction and Health Condition in Korea

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= Abstract =

목적: 한국은 지역사회 기반 통합 돌봄(커뮤니티케어)을 통해 노인들을 위한 보건 및 사회복지 서비스의 확대를 추진하고 있다. 본 연구는 노인의 경로당 이용에 대한 인구사회학적 요인, 삶의 만족도, 건강상태 등이 미치는 영향을 파악하고자 한다.

연구방법: 2017년 노인실태조사 자료를 이용하여, 횡단 분석 연구가 실시하였다. 이용패턴을 파악하기 위해 기술통계를 하였고, 경로당 이용과 관련된 요소들을 결정하기 위해서는 다변량 로지스틱 회귀분석을 실시하였다.

연구결과: 지난 12개월간 노인 1만299명 중 22.7%가 경로당을 이용하였다. 경로당을 이용하는 이유 중 가장 많은 응답은 경로당 동료들과 여가를 보내기 위함이었으며, 대상자의 95% 이상이 제공되는 서비스에 만족하고 있었다. 사회인구학적 특성에 대해서는 여성(AOR=1.20; 95% 신뢰 구간(CI), 1.05-1.38), 80세 이상 노인(AOR= 3.94, 95% CI, 3.30-4.71), 문맹자(AOR=5.27; 95% CI 3.80-7.30), 교육 수준이 낮거나 읍면 지역 출신(AOR=6.42; 95 % CI, 5.72-7.20)이 경로당을 이용할 가능성이 가장 높았다. 생활 만족도 부분에서는 재정적 만족도(AOR=1.21; 95% CI, 1.06-1.37), 문화에 대한 만족도(AOR=1.49; 95% CI, 1.24-1.79) 및 친구들과 사회에 대한 만족도(AOR=4.24; 95% CI, 3.17-5.66)가 높은 사람이 경로당을 더 많이 이용하는 것으로 나타났다. 질병이 없다는 응답자에 비해 만성 질환을 2개 이상 보유한자(AOR= 2.01; 95 % CI, 1.60-2.53)의 경로당 이용률이 2 배 더 높았다.

결론: 정부의 지역사회 기반 통합돌봄 정책 수립을 위하여 경로당 이용에 영향을 미치는 인구사회학적요인, 삶의 만족도, 건강상태와 관련된 요인들을 고려하여, 이용률을 높이고, 건강관리를 위한 통합 돌봄 시설이 될 수 있도록 하여야 할 것이다.

주제어: 경로당, 커뮤니티케어, 건강증진, 삶의 만족도, 만성질환

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BACKGROUND

Korea is moving toward becoming a super-aged society. In 2017, more than 14% of Koreans were aged 65 or older. National survey of older Koreans reported that 57.7% of senior citizens were desirous of living out their remaining years in their own homes [1]. Accordingly, the Korean government has recently created a blueprint for expanding care services to seniors in their homes by 2025. This is being considered an alternative to medical institutions or nursing homes for seniors and dependent persons [2]. The community-based home health care project has shown improved service implementation for older adults [3].

The majority of the elderly evaluate their quality of life on the basis of social contacts, dependency, health, material circumstances, and social comparisons [4]. Health-related quality of life (HRQoL) is an important component of healthy aging. Aging does not have to influence quality of life negatively; rather, a long period of good quality of life in old age is possible. Therefore, quality of life improvement should be promoted in the elderly care program [4]. A previous study found that participants older than 80, males, and those with poor self-rated health were most likely to use primary care services or traditional Korean services [5]. This demonstrates that the elderly prefer community-based services. In addition, as the needs of the elderly population are numerous and complex, well-coordinated health services integrated with social welfare services are recommended [6]. Population aging, changing disease patterns and the increase in the need for chronic disease management have led to an increased interest in the use of

community-based care. According to a study conducted in a British city, understanding the determinants of the use of both statutory and private home care services is important because of the increasing numbers of elderly people in the population and the policy of allowing older people to remain in their own homes [7].

A study concluded that there is overreliance on inpatient care and unmet health care needs among long-term care users as a result of weak gatekeeping by primary care and a lack of effective coordination between health care and long-term care in Korea [8]. The prevalence of unmet health care needs in Korean elderly was found to be 17.4%, and people with visual, hearing, or memory impairment were more likely than others to report unmet health care needs [9]. With the rapid growth of the elderly population, it has been recommended that the government utilize existing senior centers for the implementation of the long-term care prevention program.

In Korea, senior citizen centers and senior welfare centers are the main venues for seniors to engage in leisure and cultural activities [1]. In addition, these centers, which are widely known in the community, offer programs and services that promote health and prevent disease [10]. Evidence from previous research involving comparisons with non-users shows that participation in senior center activities influences mental and physical health [10]. To cope with the burden of the health care needs of Korea's aging population, rather than investing in new infrastructure, strengthening existing senior centers might be a cost-effective and sustainable strategy. However, as the utilization of senior citizen centers can be associated with several

factors, this study aimed to assess utilization patterns and the role of socio-demographic variables, life satisfaction, functional ability, and health status using data from the 2017 National Survey of Older Koreans, conducted by the Korea Institute for Health and Social Affairs. The study have revealed what might influence the unitization of senior citizen centers in Korea; therefore it might help the concerned authority to formulate policies and programs for strengthening such centers for better health and welfare of the elderly.

METHODS

1 Study design, area and population

A cross-sectional analytical study was conducted using secondary data from the 2017 National Survey of Older Koreans. The 2017 National Survey of Older Persons was conducted to gather the data necessary to devise policy measures to improve seniors' quality of life and better manage aging population [1]. The survey included all seniors aged 65 or older living in standard residential facilities or premises in 17 metropolitan cities and provinces across Korea. The sampling framework included the lists of apartment areas and non-apartment areas. The total survey areas listed were 934. The survey was conducted from June 12 to August 28, 2017 [1].

2. Data collection methods

The National Survey of Older Persons involved in-person interviews with 10,299 seniors aged 65 or from June 12 to August 28, 2017. The survey was conducted by 60 trained interviewer (divided into 15 teams of four surveyors, each with one supervisor) [1]. Interviewer checked the answered questionnaires

for any omissions and errors and relayed their feedback to the research team. The answered questionnaires, so checked, were digitalized over a 20-day span by an external agency. The digitalized data were verified and checked for input errors, incorrect IDs and categories, and logic and arithmetic errors over two months [1].

3. Measurement of the variables

1) Dependent variable

Utilization was determined by the question "Have you visited a senior citizen center or community center for the elderly in the last one year?" The response "yes" was coded "1" and "no" "0."

2) Independent variables

Socio-demographic variables: Questions on gender, age, marital status, number of family members, residential area, and employment status were asked to determine the socio-demographic situation. Marital status was categorized into currently married, widow/widower and divorced/separated/single. Employment status was measured as it was done in the survey questionnaire. Respondents were categorized as employed if they worked for an hour or longer in the past week for gain or worked for more than 18 hours over a week unpaid for a family-owned business. Number of family members, education and residential areas were grouped as they were presented in the survey data set (Table 1).

Number of diseases present: The questions covered 32 chronic diseases, including the option of "others," that subjects had been suffering from for more than three months after diagnosis. To calculate the prevalence of multiple diseases, all items were summed up and categorized as "no disease", "one disease", "two diseases," and "more than two diseases."

Table 1. Characteristics of the study population (N=10299)

	Variables	Number	Percentage
Gender	Male	4,375	42.5
	Female	5,924	57.5
Age group (in years)	65-69	3,332	32.4
	70-74	2,560	24.9
	75-79	2,176	21.1
	≥80	2,231	21.7
	No. of family members	1	2,426
	2	5,749	55.8
	3	1,247	12.1
	≥4	876	8.5
Employment status	Employed	3,120	30.3
	Unemployed	7,179	69.7
Marital status	Currently married	6,525	63.4
	Widow/widower	3,244	31.5
	Divorced/separated/single	529	5.1
Educational level	No formal education	2,494	24.2
	Elementary school	3,514	34.1
	Middle and high school	3,515	34.1
	University education	775	7.5
Residential area	City (dong)	7,067	68.6
	Rural area (eup, myeon)	3,232	31.4

Life satisfaction: The question “To what extent you are satisfied with the following aspects of your life” was asked. The different aspects included with the question were for health, economic status, relationship with spouse, relationship with children, leisure and cultural activities, and relationships with friends and society. The response options were: 1 = very satisfied, 2 = satisfied, 3 = average, 4 = not satisfied and 5 = not satisfied at all. For analysis, very satisfied, satisfied and average were categorized as satisfied and not satisfied and not satisfied at all into unsatisfied.

4. Data Analysis

Statistical Package for Social Science (SPSS) version 24.0 was used for data analysis. Descriptive statistics were calculated; and the chi-square test and multivariate logistic

regression were conducted at a 5% level of significance. All significant variables from bivariate analysis were included for multiple logistic analysis. However, chronic diseases were not included in the adjusted model due to significant and high correlation with the number of disease. Adjusted odds ratios and 95% confidence intervals were computed. The Hosmer-Lemeshow test was conducted to determine model fit. Model 1 comprised socio-demographic variables while Model 2 consisted of all Model 1 variables along with life satisfaction, functional ability, and number of diseases.

Ethical consideration

Data were collected by the Korea Institute for Health and Social Affairs as part of the 2017 National Survey of Older Koreans. Therefore, independent ethical clearance was not required.

RESULT

A 42.5%, about two-fifth of the study population was male. The proportion of the population that lived alone was 23.6%. Regarding age, 32.4% were in the age group of 65 to 69 years and 21.7% were 80 and above. Of the total population, 30.3% were employed. Regarding marital status, 63.4% were currently married, 31.5% were widows/widowers, and 5.1% were separated, divorced, or had never been married. Regarding the place of residence, 68.6% were from City (dong) and 31.4% from rural area (eup, meon) (Table 1).

Among total participants, 22.7% had used a

senior citizen centers at least once in the last 12 months. The average number of visits in a week was 3.91 (SD ± 2.24). Among those who visited senior citizen centers, the main reason for doing so was a desire for company (63.2%), followed by 25.1% who visited in order to get dinner, and 5.4% who wished to engage in a health promotion activity. Of the total population, 81% were very satisfied or satisfied with the services provided. Only 3.1% of the population was not satisfied. Regarding intention to use the center, 36.0% intended to use these services in the future. Regarding elderly welfare centers, only 9.1% of the subjects used these services in a year (Table 2).

Table 2. Utilization of senior citizen centers by the elderly population

Variables	Number	Percentage/mean (\pm SD)
Senior citizen center use in the last 12 months		
Yes	2,339	22.7
No	7,895	76.7
Missing	64	0.6
Average number of use in a week	2,339	3.91 (± 2.24)
Reason for use (n=2319)		
Friendship	1,466	63.2
Access to dinner	583	25.1
Health promotion program	126	5.4
Hobby/leisure program	93	4.0
Others	51	2.2
Satisfaction level		
Very satisfied	249	10.7
Satisfied	1,630	70.3
Neutral	368	15.9
Not satisfied	72	3.1
Want to use in future		
Yes	3,705	36.0
No	6,369	61.8
Missing	226	2.2
Use of elderly welfare center in last 12 months		
Yes	937	9.1
No	9,297	90.3
Missing	64	0.6
Number of use peer week	937	2.50 (1.57)

Regarding the chronic diseases, 59.1% had been diagnosed with hypertension, which was the main chronic disease. The second, third, and fourth most common chronic diseases were hyperlipidemia, lumbago and sciatica, and diabetes at 29.2%, 23.9%, and 23.3%, respectively. Of the study population, 13.0% were diagnosed as having osteoporosis. Of the total, only 10.3% were disease free and 51.4% population had multiple health problems. Regarding satisfaction, 59.7%, 63.3%, 58.1%, 89.2%, 78.3%, and 86.4% were satisfied with their health, financial status, spouse, children, culture and society, respectively (Table 3).

There was a significant association between gender and senior citizen center utilization among females in contrast to males. Age group, marital status, educational level, residence, number of family members, and number of diseases present were also significantly associated with senior citizen center utilization. Functional ability was also significantly associated with the utilization of the center. Significant associations were observed between life satisfaction variables and community center utilization (Table 4).

Model 1 included socio-demographic factors and model 2 included model 1, life satisfaction, functional ability and health status. In the adjusted logistic regression model 1, all included variables, being female, increasing age of elderly, no education or lower education, being widow/widowers, being married, having current employment and living in rural area were significantly associated with increased odds of senior citizen center utilization. In model 2 also, all socio-demographic variables were significantly associated with utilization of the center. In model 2, females (AOR, 1.20; 95% CI, 1.05–1.38), older aged 80 or above (AOR, 3.94, 95% CI, 3.30–4.71), illiterate (AOR, 5.27;

95% CI 3.80–7.30), respondents from rural area (AOR, 6.42; 95% CI, 5.72–7.20) were more likely to use senior citizen centers.

Regarding life satisfaction and health status, satisfaction with financial condition, satisfaction with leisure and culture, satisfaction with friends and society, functional ability and presence of multiple diseases were also significantly associated with higher likelihood of senior citizen center utilization. The respondents who experienced financial satisfaction (AOR, 1.21; 95% CI, 1.06–1.37), satisfaction with culture (AOR, 1.49; 95% CI, 1.24–1.79), and satisfaction with friends and society (AOR, 4.24; 95% CI, 3.17–5.66) had the higher odds of senior citizen center utilization. The respondents who did not need help for daily activities were more likely to visit the center (AOR, 1.45; CI, 1.10–1.91). In addition, those who had more than two chronic diseases were twice more likely to report (AOR, 2.01; 95% CI, 1.60–2.53) of visiting the center as compared to those who were disease free. In the crude analysis, most of the chronic conditions had higher odds of visiting the center except being diagnosed with cancer. However, these variables were not included in the adjusted model due to the significant and high correlation with the number of disease. The factors of model 1 and model 2 predicted 32% and 37% of the utilization of the center (Table 5).

DISCUSSION

This study aimed to determine senior citizen center utilization and the associated factors based on data from the 2017 National Survey of Older Koreans. Utilization was found to be relatively low, and the associated factors

were socio-demographic variables, life satisfaction, and health status. Overall, 22.7% had visited a senior citizen centers or community center for the elderly in the last 12 months, with an average of 3.9 visits per week. Regarding social welfare centers, 9.1% had visited at least once in the last 12 months, with an average of 2.5 visits a week.

Table 3. Prevalence of chronic diseases and life satisfaction

Variables	Number	Percentage
<i>Diagnosed Diseases</i>		
Hypertension	6,083	59.1
Osteoarthritis or rheumatoid arthritis	3,415	33.2
Hyperlipidemia	3,009	29.2
Lumbago and sciatica	2,467	23.9
Diabetes	2,395	23.3
Myocardial infarction and other heart diseases	1,398	13.5
Osteoporosis	1,338	13.0
Cataract and glaucoma	990	9.7
Stomach and duodenal ulcers	942	9.2
Prostate enlargement	912	8.9
Stroke	769	7.5
Cancer	391	3.8
Depression	321	3.1
Dementia	244	2.4
Number of diseases present		
0 diseases	1,061	10.3
1 disease	1,688	16.4
2 diseases	2,261	22.0
≥3 diseases	5,289	51.4
<i>Functional ability</i>		
Help needed for daily activities		
No	9,558	92.8
Yes	741	7.2
<i>Life satisfaction</i>		
Health-related		
Satisfied	6,152	59.7
Dissatisfied	3,922	38.1
Missing	226	2.2
Finance-related		
Satisfied	6,521	63.3
Dissatisfied	3,552	34.5
Missing	226	2.2
Relationship with spouse		
Satisfied	5,984	58.1
Dissatisfied	420	4.1
Missing	3,895	37.8
Relation with children		
Satisfied	9,182	89.2
Dissatisfied	657	6.4
Missing	460	4.5
Culture-related		
Satisfied	8,069	78.3
Dissatisfied	2,005	19.5
Missing	226	2.2
Friends and society-related		
Satisfied	8,896	86.4
Dissatisfied	1,177	11.4
Missing	226	2.2

Table 4. Association between senior citizen center utilization and explanatory variables

Variables	Senior citizen center utilization		Chi-square value	P value
	Yes	No		
<i>Socio-demographic variables</i>				
Gender				
Male	798 (18.3)	3,557 (81.7)	88.289	<0.001
Female	1,541 (26.2)	4,338 (69.6)		
Age group (in years)				
65-69	440 (13.2)	2,885 (86.8)	384.879	<0.001
70-74	517 (20.2)	2,039 (79.8)		
75-79	660 (30.4)	1,509 (69.6)		
≥80	723 (33.1)	1,462 (66.9)		
Educational status				
No formal education	955 (38.9)	1,499 (61.1)	715.215	<0.001
Elementary school	904 (25.8)	2,596 (74.2)		
Middle and high school	429 (12.2)	3,077 (87.8)		
University education	52 (6.7)	723 (93.3)		
Marital status				
Married	1,298 (20.0)	5,204 (80.0)	198.655	<0.001
Widow/widower	989 (30.9)	2,214 (69.1)		
Divorced/separated/single	52 (9.8)	477 (90.2)		
Number of family members				
1	736 (30.3)	1,690 (69.7)	123.35	<0.001
2	1,251 (21.8)	4,475 (78.2)		
3	197 (16.1)	1,027 (83.9)		
≥4	155 (18.0)	704 (82.0)		
Place of residence				
City (dong-bu)	800 (11.4)	6,225 (88.6)	1671.464	<0.001
Rural area (eup, myeon)	1,540 (48.0)	1,671 (52.0)		
<i>Life satisfaction</i>				
Health-related				
Satisfied	1,365 (22.2)	4,787 (77.8)	6.16	0.013
Dissatisfied	954 (24.3)	2,968 (75.7)		
Finance-related				
Satisfied	1,582 (24.3)	4,939 (75.7)	15.99	<0.001
Dissatisfied	737 (20.7)	2,815 (79.3)		
Relationship with spouse				
Satisfied	1,197 (20.0)	4,787 (80.0)	1.66	0.197
Dissatisfied	95 (22.6)	325 (77.4)		
Relationship with children				
Satisfied	2,191 (23.9)	6,990 (76.1)	25.64	<0.001
Dissatisfied	100 (15.2)	557 (84.8)		
Culture-related				
Satisfied	2,032 (25.2)	6,037 (74.8)	107.05	<0.001
Dissatisfied	287 (14.3)	1,718 (85.7)		
Friends and society-related				
Satisfied	2,245 (25.2)	6,651 (74.8)	210.60	<0.001
Dissatisfied	74 (6.3)	1,103 (93.7)		
<i>Functional Ability</i>				
Help needed in daily activities				
No	2,225 (23.3)	7,329 (76.7)	15.46	<0.001
Yes	114 (16.7)	567 (83.3)		
<i>Health status</i>				
Number of diseases				
0	142 (13.4)	918 (86.6)	94.49	<0.001
1	338 (20.1)	1,342 (79.9)		
2	488 (21.7)	1,757 (78.3)		
≥3	1,372 (26.1)	3,878 (73.9)		

Table 5. Factors associated with senior citizen center utilization

Variables	Univariate analysis			Model 1		Model 2	
	COR	P value	AOR	P value	AOR	P value	
Sociodemographic variables							
Gender (ref: male)	1.58 (1.43-1.74)	<0.001	1.30 (1.14-1.48)	<0.001	1.20 (1.05-1.38)	0.008	
Age group (ref: 65-69 years)							
70-74	1.66 (1.44-1.91)	<0.001	1.83 (1.56-2.142)	<0.001	1.84 (1.56-2.16)	<0.001	
75-79	2.86 (2.50-3.28)	<0.001	2.92 (2.49-3.42)	<0.001	2.95 (2.50-3.48)	<0.001	
≥80	3.24 (2.83-3.70)	<0.001	3.39 (2.86-4.01)	<0.001	3.94 (3.30-4.71)	<0.001	
Educational status (ref: university education)							
No formal education	8.91 (6.64-11.96)	<0.001	4.32 (3.14-5.94)	<0.001	5.27 (3.80-7.30)	<0.001	
Elementary school	4.87 (3.63-6.52)	<0.001	3.05 (2.23-4.15)	<0.001	3.40 (2.48-4.67)	<0.001	
Middle and high school	1.95 (1.44-2.63)	<0.001	1.684 (1.22-2.30)	0.001	1.80 (1.30-2.47)	<0.001	
Marital status (ref: other*)							
Married	2.27 (1.70-3.04)	<0.001	1.69 (1.23-2.327)	<0.001	1.37 (0.96-1.94)	0.080	
Widow/widower	4.07 (3.03-5.47)	<0.001	2.02 (1.46-2.81)	<0.001	1.61 (1.12-2.32)	0.009	
Employment (ref: no)	2.01 (1.82-2.21)	<0.001	2.09 (1.85-2.36)	<0.001	1.97 (1.73-2.23)	<0.001	
Place of residence (reference: City (dong))	7.17 (6.48-7.93)	<0.001	6.19 (5.54-6.90)	<0.001	6.42 (5.72-7.20)	<0.001	
Life satisfaction (ref: dissatisfied)							
Health satisfaction	0.88 (0.80-0.91)	0.013			0.99 (0.87-1.13)	0.980	
Financial satisfaction	1.22 (1.10-1.35)	<0.001			1.21 (1.06-1.37)	0.003	
Satisfaction with relationship with children	1.74 (1.40-2.17)	<0.001			1.23 (0.95-1.60)	0.112	
Cultural satisfaction	2.01 (1.76-2.30)	<0.001			1.49 (1.24-1.79)	<0.001	
Satisfaction with friends and society	5.00 (3.94-6.36)	<0.001			4.24 (3.17-5.66)	<0.001	
Functional ability							
Help needed for daily activities (ref: no)	0.66 (0.53-0.81)	<0.001			1.45 (1.10-1.91)	0.007	
Health status*							
Number of diseases present (ref: 0)							
1	1.62 (1.31-2.01)	<0.001			1.55 (1.21-1.99)	<0.001	
2	1.79 (1.46-2.20)	<0.001			1.60 (1.26-2.03)	<0.001	
>2	2.28 (1.89-2.76)	<0.0001			2.01 (1.60-2.53)	<0.001	
Hypertension (ref: no)	1.29 (1.17-1.42)	<0.0001					
Osteoarthritis or rheumatoid arthritis (ref: no)	1.58 (1.43-1.73)	<0.0001					
Osteoporosis (ref: no)	1.71 (1.51-1.94)	<0.0001					
Lumbago, sciatica (ref: no)	1.72 (1.55-1.90)	<0.001					
Cancer (ref: no)	0.75 (0.58-0.98)	0.037					
Stomach and duodenal ulcers (ref: no)	1.29 (1.11-1.50)	0.001					
Nagelkerke R Square			0.320		0.375		
Hosmer-Lemeshow test (P value)			0.061		0.627		

AOR: Adjusted Odds Ratio; COR: Crude Odds Ratio; CI: Confidence Interval; ref: reference group

* common chronic diseases were not included in the multiple logistics regression because of high correlation with the "number of disease".

In Korea, senior citizen centers and senior welfare centers are the main venues where seniors engage in leisure and cultural activities [1]. This shows underutilization of such centers, which could be the basic platform to screen health services and promote healthy life style among seniors. The senior citizens visited such centers due to different reasons; and the most common was getting friends and company. A previous study has also reported that individuals who lack companionship may perceive centers as a resource for boosting their social engagement [11]. Another most important reason was for the food, it means such centers have also role for food security. However, a small proportion of the participants visited it for health programs (5.4%). Thus, expanding the scope of senior citizen centers to ensure better health, welfare and social security might have a positive impact on the health of senior citizens. This might be reason that, strengthening senior citizen centers is one of the eight components of Happy Senior Citizens Comprehensive Welfare Program of Seoul Metropolitan [12].

Senior citizen center utilization was significantly associated with socio-demographic variables such as gender, age group, educational level, residential place, marital status, and employment status. There was a significant association between gender and senior citizen centers utilization, with females more likely to visit them. Another study conducted among older adults in Korea also found a significantly higher number of females to be using senior citizen centers [13]. Regarding education, there was a reverse association with the center utilization: the higher their level of education, the less likely

subjects were to visit senior citizen centers. In contrast to the present results, a study by Kim et al. (2012) found a positive association between education and senior center utilization among older adults in Korea [13]. The present study also revealed that seniors involved in some type of employment had higher odds of the center utilization. It seems that those who are active and intent for some social support and companions visit the centers.

Family support and family relations appeared to be important factors affecting senior citizen center utilization. In Model 1, all married people including widows/widowers more likely to visit senior citizen centers than the unmarried. After adjusting the model with all explanatory variables in Model 2, the odds of visiting senior citizen centers were significantly higher among widows/widowers than the never married/separated/divorced. It was also evident that senior citizens with higher family and social support were more likely to visit senior citizen centers. Senior citizen center utilization in Korea is affected by support from family and friends [13]. A previous study also suggests that older adults with little social support may not perceive senior centers as places to gain desired support [11].

People usually wish to be at home near death. Living alone, a lack of visits by relatives or acquaintances, dissatisfaction with the place of residence, and being fully dependent in daily activities were determined to be factors that increased the level of loneliness. Elderly people who are alone and dependent in activities of daily living should be monitored closely [14]. A survey conducted among adults in Alberta revealed that majority of the participants preferred to be at home near death, only few wished to be in a

hospital and in a nursing home [15]. The evidence also suggests that the home health care program is economical [16]. Now, home care nursing intervention programs customized to patients' family function and daily activities are required [17]. In this context, senior citizen centers might be very useful provision between the community and institutionalized services which can be well promoted to provide health promoting programs, screening services and other welfare activities for elderly.

The ultimate goal of the government long term care insurance policy is to provide home- and facility-based support to seniors with geriatric diseases and dementia, as well as to reduce the support burden on other family members [18]. Good financial condition was highly associated with successful aging. The study suggests that the advancement of the public health system could help control the progression of non-communicable diseases among old people and thus promote successful aging [19]. Satisfaction with long term care services was higher among those at home than those in nursing homes among low-income Korean elderly adults [20]. Clustering of healthy lifestyles, especially among older males, supports the potential benefits of a multiple behavior change approach. Health promotion efforts should target the socially disadvantaged and functionally compromised segment of the older population [21]. Thus, community-based integrated care for the health and welfare of senior citizens can be provided through such center linking with primary health care centers which may reduce government spending on hospital-based care and improve the quality of life of the elderly in Korea.

As the study included data from the 2017 national survey among older Koreans, the findings may well represent the Korean

population, however it has some limitations. First, due the unique socio-cultural context of Korean elderly population, the findings may not be applicable in other study settings where senior citizens centers are not conceptualized as they were in South Korea. Second, as the study was cross-sectional, causal inferential could not be made.

CONCLUSION

This study revealed that 22.7% of the elderly had visited a senior citizen center in the last 12 months and that more than 95% were satisfied with the services they had received. Among socio-demographic factors, being female, increasing age of elderly, no education or lower education, being widow/widowers, having current employment and living in rural area were significantly associated with increased odds of senior citizen center utilization. Regarding life satisfaction and health status, satisfaction with financial condition, satisfaction with leisure and culture, satisfaction with friends and society, functional ability and presence of multiple diseases were also significantly associated with higher likelihood of senior citizen center utilization. Socio-demographic factors, life satisfaction, and health status affect community center utilization. Therefore, the governmental strategy of providing community-based care should take these factors into consideration.

Declaration

Ethical approval and consent to participate

The data used in this study were collected by the Korea Institute for Health and Social

Affairs as a part of the 2017 National Survey of Older Koreans. Therefore, independent ethical clearance for this study was not required. Consent for the use of data was obtained from Ministry of Health and Welfare.

Consent to publish

Not applicable

Availability of data and materials

The study used secondary data from the 2017 National Survey of Older Koreans. The data were accessed from Health and Welfare Data Portal of Korean government (https://data.kihasa.re.kr/micro/subject_view.jsp?WT.ac=favor_data&grp_seq=&project_seq=673)

Competing Interest

Authors declare no competing interest.

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Authors' contributions

GS managed the data, conceptualized and designed the study and contributed to revise and interpret of the result. BS did data analysis and prepared draft manuscript. EN involved in the study design and critically revised the manuscript. All authors read and approved the manuscript.

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