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# Research Article

# Effects of Physical Health Status, Social Support, and Depression on Quality of Life in the Korean Community-Dwelling Elderly

# Koung-Oh Chang

Department of Nursing Science, College of Health Science, Youngsan University, Yangsan 50510, Republic of Korea

Correspondence should be addressed to Koung-Oh Chang; chko1015@naver.com

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Background. This study was conducted to determine the effects of physical health status, social support, and depression on the quality of life in the elderly aged 65 and over who visit the senior employment center in G city, Republic of Korea. Methods. This study is a descriptive research targeting 466 elderly people aged 65 and over who lived in G city in Gyeongsangnam-do, Republic of Korea. Results. The subjects had one or more chronic diseases and slightly higher than normal depression, but had a slightly higher quality of life. A lower level of education, a higher number of chronic diseases, and a lower value of social networks was associated with lower quality of life. A higher subjective health status, a higher value of emotional network and a lower level of depression was associated with a higher quality of life. The explanatory power of this model for the quality of life was 31.3%. Conclusions. In order to improve the quality of life in the elderly, it is necessary to manage chronic diseases in old age, to increase the frequency of contact with family, relatives, and friends, to reduce negative emotions and depression and to enhance social support through various social activities. Therefore, it is necessary to develop a program and intervention strategies for individual and customized health care suitable for the characteristics of the elderly in the local community.

#### 1. Introduction

Rapid industrialization and economic growth have improved living standards, and the average lifespan has been extended with the development of medical technology. As a result, the proportion of the elderly population is increasing rapidly [1]. According to a survey by the national statistical office of the Republic of Korea [1], the elderly population aged 65 or over accounted for 16.5% of the population in 2021, and it is expected to reach 20.3% in 2025 and 43.9% in 2060. The population over 60 is increasing faster than all age groups worldwide, at a rate of about 3% per year, and the number of the elderly in the world population is expected to increase to 1.4 billion in 2030 and 3.1 billion in 2001 [2]. Korea [1] is aging the most rapidly, with 7.1% in 2000, 17.6% in 2025, and 30.5% in 2050. Aging is associated with increased demand for health care services along with structural changes in the population [3] and a continuous increase in life expectancy, and may cause various social problems [4]. Quality of life is a

major concern for the aged and a key factor in aging [5]. Physical health status, self-esteem, and social support, which have a major influence on the quality of life in the elderly, are closely related to the level of cognitive function and activities of daily life [6]. The elderly experience mental and psychological changes as their physical and physical functions are weakened, and suffer from difficulties in social life due to poor adaptability to the new social environment [7]. Deterioration of physical functions such as physical aging and chronic diseases, and psychological problems such as role loss, alienation, and depression in daily life have a great influence on overall health, increased mortality and decreased quality of life in the elderly [7]. The elderly gradually increases physical and psychological dependence due to aging, and the possibility of disease is very high due to deterioration of physical function, and various diseases occur in combination [8]. The elderly experience an increase in the number of diseases caused by aging as well as a decrease in physical function and independence due to changes in the musculoskeletal system and the

decline in athletic ability [9]. The physical health status of the elderly is influenced by the social and cultural environment [10], social support, and their mental health status [11]. The most common psychiatric disorder in the elderly is depression [12]. Social support such as continuous exercise or participation in social activities enhances physical function and independence and decreases dependence and depression on daily life. This means that good physical function in the elderly leads to a high quality of life [8]. Social support of the elderly such as the participation of social activities, decreases loneliness, alienation and depression, and increases the vitality and quality of life, which results in improving health [13]. Therefore, if social support is perceived to be high, the evaluation value of health status is high [13]. Active participation in social activities leads to the improvement of physical function and emotional support, and has a positive effect on the mental health of the elderly, which results in the improved quality of life [14]. Other factors which affect the quality of the elderly include, age, income, residence, education, and living environment [15, 16].

Therefore, it is necessary to establish an individual and customized strategy in consideration of various characteristics based on the results of investigation of the factors related to quality of life and interactions between various factors. In addition, strategic nursing interventions that can maintain and enhance physical function, enhance social support, and reduce depression are needed to improve the quality of life of the general community-dwelling elderly. This study was conducted to investigate the physical function, social support, and depression level of the general community-dwelling elderly of 65 or over in Korea, to analyze the effects of these variables on the quality of life in the community-dwelling elderly, and to propose a method to improve the quality of life in the community-dwelling elderly.

# 2. Methods

- 2.1. Study Design and Population. A descriptive survey was conducted to investigate the effects physical health status, social support, and depression on quality of life in the community-dwelling elderly of 65 or over in Republic of Korea. The subjects for this study were selected from February 7, 2022 to March 31, 2022 from 513 elderly people aged 65 or over who lived in G city, Republic of Korea. The specific selection criteria for the subjects are as follows:
  - (1) General elderly aged 65 or over visiting the senior employment center located in G city who are able to communicate, have no cognitive problems, and can respond to the questionnaire.
  - (2) General elderly who understand the purpose of this study, agree to participate in the study, and give written consent.
- 2.2. Sample Size Determination. The sample size was calculated using the G\*Power 3.1.9.2 program with a significance level of  $\alpha = 0.05$ , effect size of 0.06, and the power of test,

 $1-\beta = 0.095$ . The number of samples was 466, but considering a 10% dropout rate, the final sample size was 513.

#### 2.3. Research Instruments

- 2.3.1. Physical Health Status. In this study, the tool for physical health status developed by Lee [17] was modified to measure physical health status. Physical health status was measured using variables considering both subjective and objective evaluations. Subjective physical health status was measured on a 5-point Likert scale of one question about the subjective health status of the elderly. Objective physical health status was measured by the number of current diseases for eight chronic diseases (hypertension, diabetes, stroke, cancer, arthritis, alcoholism, heart disease, and chronic respiratory disease) that occur frequently in the elderly. A large number of occurred diseases means that the physical health status is not good. As a result of factor analysis of the validity of each item, the Kaiser-Meyer-Olkin was 0.86 (p<0.00), the total variance explanatory power was 79.9%, and Cronbach's  $\alpha$  = 0.71.
- 2.3.2. Social Support. Social support is for the evaluation of various aspects of social support, such as emotional support (respect and affection), cognitive support (information and knowledge), and economic or material support received from the informal support system including the family, relatives, friends, and neighbors of subjects. The Social Support Instrument (ESSD) developed by Enhancing Recovery in Coronary Heart Disease Patients (ENRICHD), the American social support scale, was used to evaluate. This tool consisted of six items of social support including emotional support, information support, and economic or material support, and each item could be selected between "yes" or "no". The "yes" for each item was given 1 point, and the total score was added up to calculated the social support score. The lowest score was 0 and the highest score was 6. A high score indicated a high degree of social support.
- 2.3.3. Depression. The depression tool used was Geriatric Depression Scale Short Form, Korea Version (GDSSSF-K), developed by Sheikh and Yesavage [18] and modified by Kee [19] to suit the Korean situation. For each item, "yes" was 1 point and "no" was zero, and the scale ranged from 0 to 15. Inverse items were converted inversely, and a higher score indicated a higher degree of depression. In the study of Kee [19], Cronbach's  $\alpha = 0.848$  and in this study, Cronbach's  $\alpha = 0.786$ .
- 2.3.4. Quality of Life. The tool used to measure quality of life was the Korean version of the European quality of life-five dimension (KEQ-5D), which was developed by EuroQol Group [20], and translated into Korean by Shin et al. [21]. KEQ-5D is a tool of multidimensional preference based on the health-related quality of life measure and consists of five items (exercise ability, self-management, daily activity, pain/discomfort, and anxiety/depression) to determine the current health status. For each item, "no problem at all" was 1 point, "somewhat no problem" was 2 points, and "a lot of problem" was 3 points. Scores ranged from 5 to 15, and a lower score indicated a higher quality of life. In the study of

Characteristics	Categories	N (%)
Gender	Male	91 (19.5)
Gender	Female	375 (80.5)
	65–69 years old	141 (30.3)
	70–74 years old	69 (14.8)
Age	75–79 years old	111 (23.8)
	80–84 years old	104 (22.3)
	85–89 years old	41 (8.8)
	Average age	$75.27 \pm 6.60$
	No formal education	303 (65.0)
Educational level	Primary-school diploma	98 (21.0)
Educational level	Middle-school diploma	40 (8.6)
	High-school diploma	26 (5.4)
	Single	5 (1.1)
Marital status	Married	174 (37.3)
wiaritai status	Bereavement	281 (60.3)
	Divorce	6 (1.3)
	Elderly couple	130 (27.9)
	Living with child's family	106 (22.7)
Family type	Living with grandchildren	8 (1.7)
	Living alone	169 (36.3)
	Others	53 (11.4)
	1–3	382 (82.0)
Number of family members	4–6	70 (15.0)
	7<	14 (3.0)
	Detached house	340 (73.0)
Davidan as trus	Apartment	99 (21.2)
Residence type	Row house	12 (2.6)
	Multiplex house	15 (3.2)

Shin [12], Cronbach's  $\alpha = 0.820$  and in the study, Cronbach's  $\alpha = 0.827$ .

2.4. Data Collection. Data collection for this study was conducted on the elderly, 65 years or over who visited the senior employment center in G city, Gyeongsangnam-do, Korea from February 7, 2022 to March 31, 2022. The study purpose and method were fully explained to elderly participants who visited the senior employment center and voluntarily consented to participate in the study. In addition, the researcher explained that if the elderly aged 65 or over did not want to participate in the study, they were free to withdraw at any time, and that there was no disadvantage, whatsoever.

The researcher explained that the confidentiality of personal information and survey data in the collected questionnaire was guaranteed. The questionnaire and consent form for participation in the study were self-completed by the research participants. The completed questionnaire and consent form were submitted by individuals to the senior employment center. For participants who found it difficult to fill out the questionnaire, the researcher and three research assistants read and marked the structured questionnaire through the phone after obtaining consent. A total of 513 surveys were completed, 466 of them were used for the study, and 47 excluded because of insufficient responses and participant's decision not to participate in the study. The questionnaire

consisted of items to investigate the sociodemographic characteristics (eight items), physical health status (three items), social support (six items), depression (15 items), and quality of life (five items).

2.5. Data Analysis. The data collected for this study were analyzed using the SPSS 24.0 statistical program. The general characteristics of the subjects were analyzed by frequency and percentage, and physical health status, social support, depression, and quality of life were analyzed using mean and standard deviation. Differences in depression and quality of life according to general characteristics were analyzed by *t*-test and ANOVA, and the post hoc test was analyzed by Scheffe's test. The validity of the tool for physical health status was verified by factor analysis, the correlation between variables was analyzed by Pearson's correlation coefficients, and the effect on quality of life was analyzed by multiple regression analysis. To verify the reliability of the measurement tool, value of Cronbach's  $\alpha$  was calculated, and all statistical analyzes were verified under the significance level of 5% (p<0.05).

#### 3. Results

3.1. General Characteristics. The results of the general characteristics of the subjects are shown in Table 1. The number of participants in this study was 375 females (80.5%), and the

Table 2: Physical health status and social support of the Korean community-dwelling elderly.

Variables	Categories	(N)	%	$M \pm SD$
Physical health status				
	0	75	16.1	
Number of chronic diseases	1	203	43.6	$1.35 \pm 0.88$
Number of chronic diseases	2	137	29.4	1.33 ± 0.88
	3	51	10.9	
	0	219	47.0	
	1	9	1.9	
Functional status	2	12	2.6	$1.97\pm.1.93$
	3	17	3.6	
	4	209	44.8	
	Very good	7	1.5	
	Good	51	10.9	
Subjective health status	Average	205	44.0	$\boldsymbol{3.36 \pm 0.82}$
	Poor	172	36.9	
	Very poor	31	6.7	
Social support				
	0-1	13	2.8	
Emotional network (times/month)	2-4	12	2.6	$\boldsymbol{5.73 \pm 1.09}$
	5-6	441	94.6	
Social network				
	0	51	10.9	
Delating and the formula of this section of the	1	80	17.2	2.15   1.12
Relative contact frequency (times/month	2-4	45	9.7	$3.15\pm1.13$
	5<	290	62.2	
	0	11	2.4	_
	1	124	26.6	2.22   0.07
Friend contact frequency (times/month)	2-4	46	9.9	$3.22 \pm 0.97$
	5<	285	61.2	
	0	162	34.8	
C:-1	1-2	110	23.6	1.00   1.01
Social participation (times/month)	3	51	10.9	$1.88 \pm 1.01$
	4<	143	30.7	

average age was 75.27 years old with 141 (30.3%) belonging to 65–69 age group. Participants with no formal education, 303 (65.0%) and those who were bereaved, 281 (60.3%), were the majority. As for the family type, 169 people (36.3%) were living alone, and the number of family members was 382 (82.0%) with 1–3 people. As for the residence type, detached house was the most at 340 (73.0%).

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3.2. Physical Health Status and Social Support. The average number of chronic diseases in physical health status was  $1.35\pm0.88$  which showed that the Korean community-dwelling elderly had one or more chronic diseases. The average score of functional status was  $1.97\pm1.93$  which was a moderate degree of functional damage, and the average score of subjective health status was  $3.36\pm0.82$  which was slightly higher than normal (Table 2). In social support, the average score of emotional network was  $5.73\pm1.09$ , and in social network, the average frequency of contact with relatives for 1 month was  $3.15\pm1.13$ , the average frequency of contact

Table 3: Depression and quality of life in the Korean community-dwelling elderly.

Variables	Range	$M \pm SD$
Depression	0–15	$8.47 \pm 3.48$
Quality of life	5–15	$7.38 \pm 1.97$

with friends was  $3.22 \pm 0.9$ , and the average score of social participation was  $1.88 \pm 1.01$  (Table 2).

- 3.3. Depression and Quality of Life. Depression ranged from 0 to 15, with an average score of  $8.47 \pm 3.48$ , and quality of life ranged from the lowest 5 to the highest 15, with an average score of  $7.38 \pm 1.97$  (Table 3).
- 3.4. Depression and Quality of Life According to the General Characteristics. The results of analyzing the depression and quality of life according to the general characteristics of the subjects are shown in Table 4. Depression according to the

Table 4: Depression and quality of life according to the general characteristics of the Korean community-dwelling elderly.

Chamantonistics	Catagorias	Depression		Quality of life	
Characteristics	Categories	$M\pm SD$	<i>t/F</i> ( <i>p</i> )	$M\pm SD$	t/F(p)
Gender	Male	$9.31 \pm 3.63$	6.57	$6.79 \pm 2.07$	10.14
Gender	Female	$8.27 \pm 3.42$	(0.011)	$7.52 \pm 1.92$	(0.002)
	65–69 years old	$\textbf{8.34} \pm \textbf{3.28}$		$7.63 \pm 1.85$	
	70–74 years old	$8.67 \pm 3.45$	1.22	$7.17 \pm 2.11$	1.18
Age	75–79 years old	$8.24 \pm 3.55$	(0.303)	$7.31 \pm 1.91$	(0.317)
	80–84 years old	$8.36 \pm 3.47$	(0.303)	$7.39 \pm 1.91$	(0.317)
	85–89 years old	$9.54 \pm 3.98$		$\boldsymbol{7.00 \pm 2.18}$	
	No formal education	$8.20 \pm 3.42$	4.57	$\textbf{7.82} \pm \textbf{1.99}$	19.32
Educational level	Primary-school diploma	$8.38 \pm 3.57$	(0.004)	$6.91 \pm 1.64$	(<0.001)
Educational level	Middle-school diploma	$9.83 \pm 3.10$	(0.004) a < c	$5.98 \pm 1.53$	a < b, c, c
	High-school diploma	$10.08 \pm 3.64$	a < c	$6.08 \pm 1.58$	a < v, c, c
	Single <sup>a</sup>	$6.60 \pm 6.80$		$8.00 \pm 1.41$	7.76
Marital status	Married <sup>b</sup>	$9.03 \pm 3.36$	3.97	$6.83 \pm 1.97$	(0.001)
Maritai status	Bereavement <sup>c</sup>	$8.23 \pm 3.42$	2 $(0.008)$ $7.71 \pm 1.92$		,
	Divorce <sup>d</sup>	$5.50 \pm 4.09$		$6.84 \pm 1.17$	b > c
	Elderly couple <sup>a</sup>	$8.95 \pm 3.35$		$6.93 \pm 1.88$	
	Living with child's family <sup>b</sup>	$9.15 \pm 3.11$	4.02	$7.20\pm1.91$	4.23
Family type	Living with grandchildren <sup>c</sup>	$\boldsymbol{9.75 \pm 2.49}$	(0.003)	$7.50 \pm 1.20$	(0.002)
	Living alone <sup>d</sup>	$7.73 \pm 3.67$	b > d	$7.83 \pm 1.97$	a > d
	Others <sup>e</sup>	$8.13 \pm 3.57$		$\textbf{7.36} \pm \textbf{2.17}$	
Number of family members	1–3	$8.37 \pm 3.52$	2.10	$7.47 \pm 1.98$	2.31
	4–6	$\boldsymbol{9.20 \pm 3.10}$		$7.00 \pm 2.00$	
	7≤	$7.64 \pm 3.93$	(0.124)	$\boldsymbol{6.79 \pm 1.31}$	(0.100)
	Detached house	$8.45 \pm 3.50$		$7.51 \pm 2.00$	
Danidan as true	Apartment	$\boldsymbol{8.77 \pm 3.31}$	1.59	$7.09 \pm 1.82$	2.38
Residence type	Row house	$9.00 \pm 3.41$	(0.190)	$6.50 \pm 2.20$	(0.069)
	Multiplex house	$6.73 \pm 3.79$		$\boldsymbol{6.87 \pm 1.92}$	

a,b,c,d,eScheffe's test.

Table 5: Correlation between depression and quality of life in the Korean community-dwelling elderly.

Variables	1	2	3	4	5	6
1. Gender	1					
2. Educational level	- 0.280**	1				
3. Marital status	0.450**	- 0.301**	1			
4. Family type	0.201**	- 0.199**	0.540**	1		
5. Depression	- 0.118*	0.157**	-0.111*	- 0.151**	1	
6. Quality of life	0.146**	- 0.323**	$0.174^{**}$	0.157**	- 0.402**	1

\*\**p*<0.01, \**p*<0.05.

general characteristics of the subjects showed a statistically significant difference in gender (t = 6.57, p = 0.011), educational level (F = 4.57, p = 0.004), marital status (F = 3.97, p = 0.008), and family type (F = 4.02, p = 0.003). Post hoc test showed that depression was lower among participants with no formal education compared to their counterparts with middle school diploma level of educational. In addition, participants living with their child's family had a lower depression compared to those living alone. Quality of life analysis showed a statistically significant difference in gender (t = 10.14, p = 0.002), educational level (F = 19.32, p < 0.001), married status (F = 7.76, p = 0.001), and family type (F = 4.23, p = 0.002). Post hoc test showed that quality of life was lower in case of no formal education than in case of primary-school diploma, middle-school diploma, and high-school diploma. Quality of

life was higher among elderly couple compared to their counterparts who lived alone.

3.5. Correlation between Depression and Quality of Life. Quality of life showed a statistically significant positive correlation with gender (r=0.146, p=0.002), marital status (r=0.174, p<0.001), and family type (r=0.157, p<0.001), but showed a statistically significant negative correlation with educational level (r=-0.323, p<0.001) and depression (r=-0.402, p<0.001) (Table 5).

3.6. Factors Affecting the Quality of Life. The factors affecting the quality of life of the subjects are shown in Table 6. In this study, physical functional status, social support, and depression were included in the analysis to identify factors affecting

Table 6: Factors affecting the quality of life in the Korean community-dwelling elderly.

Predictors	В	SE	β	t	р	Collinearity	
						Tolerance	VIP
Constant	8.138	0.758		10.742	< 0.001	_	_
Gender	0.099	0.220	0.020	0.450	0.653	0.752	1.331
Educational level	-0.439	0.096	-0.192	-4.554	< 0.001	0.829	1.206
Marital status	0.167	0.188	0.045	0.885	0.377	0.570	1.754
Family type	0.004	0.063	0.003	0.059	0.953	0.683	1.463
Physical health status							
Number of chronic diseases	0.374	0.092	0.167	4.065	< 0.001	0.879	1.138
Functional status	0.004	0.041	0.004	0.094	0.925	0.923	1.084
Subjective health status	0.186	0.094	0.078	1.979	0.045	0.962	1.040
Social support							
Emotional network	0.204	0.074	0.113	2.761	0.006	0.888	1.126
Social network	-0.191	0.032	-0.248	-5.958	< 0.001	0.853	1.172
Depression	-0.170	0.024	-0.300	-7.177	< 0.001	0.845	1.184

Durbin–Watson = 1.666, F = 22.169, p < 0.001,  $R^2 = 0.328$ , Adj  $R^2 = 0.313$ .

the quality of life. In addition, gender, educational level, marital status, and family type, which showed differences in quality of life among the general characteristics were also included in the analysis. Durbin-Watson statistics to analyze whether there is autocorrelation between error items before analysis was 1.656, indicating that there was no autocorrelation. Multicollinearity analysis between the independent variables a tolerance of 0.569-0.975, a value greater than 0.01, and the variation inflation factor (VIP) was 1.026-1.758, which was less than 10. These results mean that there is no multicollinearity. In order to test the basic assumptions of regression analysis for independent variables, normality, linearity, equal variance, and multicollinearity of the residual were analyzed. The results of analyzing the histogram and the normal P-P table of the regression standardized residual were also close to a 45° straight line of residual, the normal distribution of errors, and the assumption of equal variance were satisfied, so the regression model was valid. In the results of multiple regression analysis, educational level ( $\beta = -0.167$ , p < 0.001), number of chronic diseases ( $\beta = 0.167$ , p < 0.001), and subjective health status ( $\beta = 0.078$ , p = 0.045), in the physical health status, emotional network ( $\beta = 0.113$ , p =0.006), and social network ( $\beta = -0.248$ , p < 0.001), and depression ( $\beta = -0.300$ , p < 0.001) were statistically significant. That is, the quality of life of the elderly in the Korean community-dwelling low among the elderly with lower educational level, the elderly with large number of chronic diseases, and the and the elderly with lower social network, but the quality of life of subjects with high subjective health status, high emotional network and low depression was high. The coefficient of determination  $(R^2)$  representing explanatory power in the model for quality of life, was 0.313, and the explanatory power of this model was 31.3%.

#### 4. Discussion

This study is a descriptive research to analyze the effects of physical health status, social support, and depression on the quality of life of the elderly aged 65 years and over who visited the senior employment center in G city, Republic of Korea. In this study, the average number of chronic diseases among the subjects in terms of physical health status was 1.35. This means that the subjects had one or more chronic diseases. The average score of functional status was 1.97, which indicates that the subjects have moderate degree of functional damage, and the average score of subjective health status was 3.36, which is slightly higher than normal (Table 2). The 2020 survey on the elderly of Korea [22] reported that 88% of the elderly population had one or more chronic diseases. Lee [17] also reported that the number of chronic diseases was 1.64, the average score of functional status of 1.14, and an above average subjective health score in his study on the factors affecting depression in the elderly. These results were similar to the results of this study. The health status of the elderly is an essential factor in living an active old age, and in particular, maintaining physical health status is very important for maintaining an independent life of the elderly [14]. Therefore, individual and customized health care strategies according to the physical health status of the elderly are needed. In the area of social support, the average score of emotional network was 5.73, and the average score of relative contact frequency for 1 month was 3.15, friend contact frequency was 3.22, and social participation was 1.88 (Table 2). In the study of Lee et al. [23] targeting middle-aged women, the support from friends and colleagues was 3.64 and the support from family was 4.38, and these results were different from this study. For emotionally stable life in old age, a neighbor or friend who can share joy and difficulties with a harmonious family is essential as a psychological supporter [24]. The support from friends and colleagues play a very beneficial role in successful aging [23]. Therefore, social support by emotional and social networks in old age is very important. In this study, the average score of depression was 8.47 (score range 0-15), which was slightly higher than normal (Table 3). A study by Ratanasiripong et al. [25] on the elderly in Thailand also had an average score of 8.3 for depression, and this result

was similar to that of this study. However, Yu et al. [26] targeting Asia community elderly showed a low average score of depression of 5.9, and Kim et al. [27] targeting Chinese and Korean immigrants aged 65 or over living in Los Angeles showed a low average score of depression of 6.9. These results were different from the results of this study.

In this study, the number of elderly living alone was the highest with 169 (36.3%) (Table 1), and the average score of depression was also high. The elderly living alone, accounting for 36.3% of the total 466 subjects, felt more alienated and isolated due to limited social activities by COVID-19, and as a result, the estimated score for depression was high. Depression in the elderly is associated with a high mortality rate and status of dependence, decreased physical health, and decreased quality of life [28]. Thus, it is necessary to enhance social support through emotional and social networks of the elderly and to help them lead a stable life in old age. The average score for quality of life in this study was rather high at 7.38 (score range 5-15, Table 3) and Ratanasiripong et al. [25] also reported that the average score was rather high at 71.8 (score range 30-103), similar to the results of this study. But, study of Bayu and Rarasak [9] targeting Indonesian elderly had a very low quality of life at 47.7 (score range 30-103), which was different from the results of this study. Quality of life is defined as an individual perception of their physical health status, psychological and social relationships, and the environment, as well as their goal, expectations, and interests within the culture and value systems in which they live [29]. Therefore, it is necessary to enhance the physical, psychological, and mental health status and improve the social relationships in order to improve the quality of life perceived by elderly themselves. In this study, depression according to the general characteristics of the subjects was lower among participants with no formal education compared to those with middle-school diploma, and lower among elderly people living with child's family compared to those living alone (Table 4). Jeong and Park [30] reported that the degree of depression increased among older people with low educational level, and among those living alone. These results are similar to the result of this study. Payne et al. [31] reported that the depression increased with increasing age in a study on elderly with arthritis, and this result is similar to the findings of this study. Therefore, depression can be reduced by having a pleasant life with encouragement, support of each other through communication with family, relatives, and neighbors. Careful observation and appropriate nursing intervention are required to prevent depression of the general community-dwelling elderly. On the other hand, Han et al. [32] reported that single women had a higher quality of life than married, separated, and divorced women. Han et al. [33] reported that participants with poor health status had lower quality of life compared to participants with normal health status, and which was different from the results of this study. The quality of life in old age is very important, and in order to improve the quality of life, chronic diseases should be continuously managed, and elderly themselves should try to improve their quality of life through living without depression and loneliness while finding and enjoying pleasure. Ratanasiripong et al. [25] reported that

quality of life showed a significant positive correlation with family economic status, frequent exercise, social status, and a significant negative correlation with age. Jeong and Park [30] reported a positive correlation with sports, visits, and communication in social activities, appreciation, and exhibition in culture, travel, shopping, and driving in go out, and radio listening and internet use in information and communication, these results were different from the results of this study. In this study, factors affecting the quality of life in subjects were education, the number of chronic diseases and physical health status, emotional and social network, and depression. In other words, the lower education level, the higher the number of chronic diseases, the lower social network had the lower quality of life. The higher physical health status and emotional network, and the lower levels of depression had the higher quality of life. In this study, the explanatory power of the regression model was 31.3%. Ratanasiripong et al. [25] reported that the factors affecting the quality of life were age, family economic support, exercise, and stress in the first stage of the hierarchical regression, and explanatory power was 6.0%. This is in contrast to the results of this study. However, the explanatory power of adding social support and resilience in step 2 was 35%, and the higher social support and resilience had the higher quality of life [25]. Therefore, these results were partially similar to the results of this study. Han et al. [33] reported that the quality of life in elderly with chronic disease was significantly lower in their study of elderly Chinese over 100 years of age. Woźniak [34] found that healthy elderly was more satisfied with their life and the quality of life, and life satisfaction of the elderly was improved through active participation in social activities, and their report showed similar results to this study.

Therefore, in order to improve the quality of life in the community-dwelling elderly, chronic diseases should be continuously managed, and social support should be enhanced through the use of active emotional and social networks. In addition, in order to reduce anxiety and depression, an appropriate management and various programs at the community and government level should be consistently provided to the elderly. This study was conducted in one city in Gyeongsangnam-do, Republic of Korea, and the results may be biased and difficult to generalize. Therefore, research on the elderly in more local communities is needed to ensure reliability. It is also necessary to study on the quality of life considering various psychological and social variables in the rural and urban community-dwelling elderly.

#### 5. Conclusion

This study was conducted to determine the effects of physical health status, social support, and depression on the quality of life in the elderly aged 65 years and over who visit the senior employment center in G city, Republic of Korea. The subjects had one or more chronic diseases, slightly higher depression and somewhat higher quality of life. Factors affecting quality of life were educational level, number of chronic diseases, subjective health, social support, and depression. In order to improve the quality of life in the elderly, it is necessary

to manage chronic diseases in old age, to increase the frequency of contact with family, relatives, and friends, to reduce negative emotions and depression and to enhance social support through various social activities. Therefore, it is necessary to develop a program and intervention strategies for individual and customized health care suitable for the characteristics of the elderly in the local community.

# **Data Availability**

The datasets analyzed during the current study are available from the corresponding author upon reasonable request.

# **Ethical Approval**

This study was approved by the Ethics Committee (YSUIRB-202112-HR-051-01) of Youngsan University.

#### **Consent**

Written informed consent was obtained from all participants and individuals who were unable to provide consent were excluded.

#### **Conflicts of Interest**

The author declares that there is no conflicts of interest.

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