



A Comparison of the Characteristics of Centenarians In Urban and Suburban Areas

Won-Jae Kim, M.D.¹, Ki-Hong Kim, M.D. ¹, Hyeng-Kyu Park, M.D.PhD. ¹, Kwangsung Park, M.D.PhD. ^{2,4},
Jeonghwa Lee, M.D.PhD. ^{3,4}, Sang Chul Park, M.D.PhD. ⁴, Jae-Young Han, M.D.PhD. ^{1,4}

Department of Physical and Rehabilitation Medicine, Regional CardioCerebroVascular Center,
Chonnam National University Medical School & Hospital, Gwangju City, Republic of Korea¹

Department of Urology, Chonnam National University Medical School, Gwangju City, Republic of Korea²

Department of Family Environment and Welfare, Chonnam National University, Gwangju City, Republic of Korea³

Advanced Institute of Aging Science, Chonnam National University, Gwangju City, Republic of Korea⁴

BACKGROUND

Changes in lifestyles and medical technology led to increased longevity. The number of centenarians, and interest in healthy aging is growing. But relatively little is known about this oldest old population. In South Korea, most studies about centenarians were conducted in suburban areas, and reports comparing them to urban areas are very rare. This study was designed to compare the characteristics of the centenarians in urban and suburban areas.

METHODS

Inclusion criteria

- Aged 95 or older
- Total 114 participants were enrolled
- Living in eastern and western district of Gwangju
- : **Urban group**
- Living in Hwasun
- : **Suburban group**

Variables and measurement tools

- Demographics**
: sex, body measurements, educational level
- Health-related status**
: smoking and drinking state, number of underlying diseases

- Mental status**

: Self-rated health status, Korean version of the geriatric depression scale (GDS-K), Korean version of the mini mental state examination (K-MMSE), average sleep time

- Physical activities**

- Duration of physical activities
- Activity range

- Korean Modified Barthel Index (K-MBI)**

- Korean Instrumental activities of daily living (K-IADL)**

RESULTS

Table 1. Subjective factors and functional evaluation scores

	Urban group (n = 59)	Suburban group (n = 55)	P-value
Demographics			
Sex (n)			
Male/Female			
14/45			
9/46			
0.327			
Body measurements			
Height (cm)			
Male			
162.3±6.4			
159.3±3.3			
0.396			
Female			
147.2±8.1			
145.8±8.2			
0.645			
Weight (kg)			
Male			
63.0±11.6			
50.6±8.1			
0.05*			
Female			
48.4±11.7			
41.8±6.9			
0.008*			
BMI (kg/m²)			
Male			
23.8±3.5			
19.9±2.9			
0.044*			
Female			
22.0±4.8			
19.9±3.5			
0.02*			
Grip strength (kg)			
Male			
19.8±7.9			
13.4±6.3			
0.191			
Female			
5.6±4.8			
6.2±4.5			
0.585			
Gait speed (steps/second)			
Male			
1.3±0.0			
1.6±0.5			
-			
Female			
1.2±0.3			
1.4±0.3			
0.292			
SBP (mmHg)			
Male			
136.5±24.3			
130.5±6.5			
1			
Female			
149.1±23.5			
142.5±25.5			
0.202			
DBP (mmHg)			
Male			
63.0±22.0			
64.7±9.4			
0.963			
Female			
69.2±17.7			
68.1±9.8			
0.483			
Heart rate (beats/min)			
Male			
67.4±10.5			
80.0±19.5			
0.205			
Female			
76.1±11.3			
75.3±12.5			
0.905			
0.877			
Education level (years)			
Uneducated, n (%)			
27 (57.5)			
33 (62.3)			
Elementary school, n (%)			
9 (19.1)			
12 (22.6)			
Middle school, n (%)			
2 (4.3)			
2 (3.8)			
High school, n (%)			
5 (10.6)			
3 (5.7)			
College, n (%)			
4 (8.5)			
3 (5.7)			
Health-related status			
Smoking state			
Current smoker, n (%)			
2 (4.1)			
10 (20.0)			
Lifelong non-smoker, n (%)			
47 (95.9)			
40 (80.0)			
Drinking state			
Current drinker, n (%)			
9 (18.7)			
9 (18.0)			
Lifelong non-drinker, n (%)			
39 (81.3)			
41 (82.0)			
Number of underlying diseases			
≥ 3, n (%)			
20 (33.9)			
14 (25.5)			
< 3, n (%)			
39 (66.1)			
41 (74.5)			
Mental status			
Self-rated health status			
Good or Very good, n (%)			
36 (61.0)			
34 (61.8)			
Fair, Poor or Very poor, n (%)			
23 (39.0)			
21 (38.2)			
GDS-K			
Normal, n (%)			
28 (82.4)			
28 (77.8)			
Depression, n (%)			
6 (17.6)			
8 (22.2)			
K-MMSE			
Normal, n (%)			
12 (37.5)			
7 (18.9)			
Suspicious for dementia, n (%)			
20 (62.5)			
30 (81.1)			
Average sleep time (hour)			
8.4±2.6			
8.4±2.3			
0.947			

Abbreviation; BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; GDS-K, Korean version of global depression scale; K-MMSE; Korean version of mini mental status examination
* P values were determined by Chi-squared test, Fisher's exact test, T-test, and Mann-Whitney U test

Table 2. Physical activities, K-MBI and K-IADL

		Urban group (n = 59)	Suburban group (n = 55)	P-value
Physical activities				
Duration of physical activities				
	≤ 30 min, n (%)	31 (63.3)	21 (39.6)	0.017*
	> 30 min, n (%)	18 (36.7)	32 (60.4)	
Activity range				
	Within the room, n (%)	16 (31.4)	4 (7.5)	<0.001*
	Within the house, n (%)	16 (31.4)	20 (37.7)	
	Close neighborhood, n (%)	13 (25.5)	5 (9.4)	
	Far away in a town, n (%)	1 (2.0)	11 (20.7)	
	Outside the town, n (%)	4 (7.8)	11 (20.7)	
	Other cities, n (%)	1 (2.0)	2 (3.8)	
K-MBI				
Eating				
	Independent, n (%)	6 (12.0)	7 (14.3)	0.736
	Dependent, n (%)	44 (88.0)	42 (85.7)	
Personal hygiene				
	Independent, n (%)	17 (34.7)	24 (51.1)	0.105
	Dependent, n (%)	32 (65.3)	23 (48.9)	
Dressing				
	Independent, n (%)	17 (34.0)	26 (56.5)	0.027*
	Dependent, n (%)	33 (66.0)	20 (43.5)	
Bathing				
	Independent, n (%)	8 (16.0)	11 (22.4)	0.415
	Dependent, n (%)	42 (84.0)	38 (77.6)	
Ambulation				
	Independent, n (%)	4 (9.8)	6 (14.0)	0.739
	Dependent, n (%)	37 (90.2)	37 (86.0)	
Wheelchair ambulation				
	Independent, n (%)	0 (0.0)	0 (0.0)	-
	Dependent, n (%)	9 (100.0)	5 (100.0)	
K-IADL				
Shopping				
	Independent, n (%)	6 (12.2)	6 (12.2)	1
	Dependent, n (%)	43 (87.8)	43 (87.8)	
Transportation				
	Independent, n (%)	4 (8.2)	5 (10.2)	1
	Dependent, n (%)	45 (91.8)	44 (89.8)	
Money management				
	Independent, n (%)	21 (42.9)	15 (30.6)	0.209
	Dependent, n (%)	28 (57.1)	34 (69.4)	
Housework				
	Independent, n (%)	5 (10.4)	9 (18.8)	0.247
	Dependent, n (%)	43 (89.6)	39 (81.3)	
Preparing meal				
	Independent, n (%)	1 (2.1)	4 (8.2)	0.362
	Dependent, n (%)	46 (97.9)	45 (91.8)	
Using phones				
	Independent, n (%)	22 (44.9)	9 (18.4)	0.005*
	Dependent, n (%)	27 (55.1)	40 (81.6)	