DOI Number: 10.37506/v20/i1/2020/mlu/194599

Difference of Health Consciousness According to Living Environment and Economic Level of the Elderly in the Urban-Rural Complex Area

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Abstract

Background/Objectives: The purpose of this study was to provide the basic data to develop suitable health and welfare services for the elderly living in urban-rural complex area, by investigating their living environment, economic level and health consciousness.

Method/Statistical Analysis: This study was conducted on the elderly living in K city, Gyeonggi-do. The data was collected by using survey method, which was designed to find out the living environment, economic level, and health consciousness of the elderly in the urban-rural complex area. The data were analyzed by using PASW 18.0 statistical program, descriptive statistics analysis was conducted to analyze the frequency and ratio of each item, and chi-square analysis(χ^2) was conducted to find out the difference in health consciousness between living environment and economic level.

Findings: The more they had economic difficulties, the higher they watched TV and listened to radio. and the higher the desire for health and exercise programs. Especially, the elderly living alone had poor living environment and economic level, plus high restriction on health and exercise.

Improvements/Applications: It appears that elderly living alone in urban-rural complex area have a high desire to participate in health and exercise programs, which is thought to require attention and research to remove restrictions on physical activity programs for elderly living alone.

Keywords: *Urban-rural complex areas, Elderly, Living environment, Economic level, Health consciousness.*

Introduction

The health condition of residents of urban area worldwide is much better than that of residents of rural areas. Many positive aspects of urban life, such as high employment rate, high income, better educational opportunities and access to health care, encourage migration from rural to urban. However, recent studies show that the benefits of urban life and health condition can be eroded by the adverse effects of the urban environment - for example - the increase in fat on the diet, and the sedentary lifestyle can be them[1]. Risk factors for cities with health risks include substandard housing, congested living conditions, contaminated food, unclean water, inadequate sanitation, poor solid waste treatment services, air pollution and congested traffic[2].

As the society continuously changes to aging society, more and more elderly will be willing to live

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in urban-rural complex area where the urban areas and rural areas coexist. Further, in order to satisfy their leisure and needs, and the migration to urban-rural complex area will increase, and it will lead to a continuous increase in interest in living environment, economic level and health consciousness in urban-rural complex area. Therefore, the purpose of this study is to present basic data for the provision of health and welfare services suitable for urban-rural complex area by identifying living environment, economic level and health awareness among the urban-rural complex area.

Method

1. Research Subject: This study was conducted to the elderly living in K-city, in Gyeonggi-do, and a survey on living environment, economic level and health awareness was conducted - by distributing 220 questionnaires, consisting of nominal scale. The response to the questionnaire was carried out in a one-on-one manner by the researchers and the auxiliary researchers, and if the study subjects did not respond during the response process, the question was re-asked after explaining the whole process that this survey will be used for statistical purposes. The questionnaire was retrieved through this procedure, but the survey response in Part 11 was excluded as it was not considered appropriate for the analysis by the researchers and the ancillary researchers. In addition, if the answer is avoided again, 'no answer' exists as a blank. The questionnaire used in the study is part 209, with the general characteristics of the study subjects as shown in Table 1.

Table1: Physical Characteristic (M±SD)

Variables	Classification	Frequency	Percentage (%)
Gender	Male	61	29.3
	Female	147	70.7
Age	Under 60	5	2.8
	Under 65	4	2.2
	Under 70	14	7.7
	Under 75	62	34.3
	Under 80	42	23.2
	80 years old or older	54	29.8
Education	Not educated	55	27.1
	Elementary School (School dropout)	65	32.0
	Middle School (School dropout)	37	18.2
	High School (School dropout)	29	14.3
	University	17	8.4
Religion	Christian	93	44.5
	Catholicism	21	10.0
	Buddhism	27	12.9
	Other religion	2	1.0
	Shamanism	66	31.6
Marital Status	Unmarried	16	7.7
	Married	133	63.6
	Divorce	22	10.5
	Remarriage	2	1.0
	Died after marriage	36	17.2

*Sum total can not 209

2. **Research Tool:** This study was to find out how the living environment and economic level of the elderly in urban-rural complex area affect the difference in health consciousness among the elderly in the region. In this regard, it was reorganized around the questionnaires of the Seoul Senior Welfare Center and the W General Social Welfare Center, which were consisted of a nominal scale among the survey questionnaire for the needs of local residents. The first content adequacy test was conducted by researchers, ancillary researchers and social workers, and questions that were not suitable for the purpose of this study were excluded. The secondary content adequacy level was constructed based on the advice of a group of experts (the director of the senior welfare center, the professor of physical education and economics). The factors in the response questionnaire consist of total 28 questions, with 11 questions for living conditions, 7 questions for economic level, and 10 questions for health awareness.

3. **Data Processing Method:** All data processing was analyzed using the PASW 18.0 Statistical Program. A technical statistical analysis was conducted to analyze the frequency and percentage of each question, and a chi-square analysis(χ^2) was conducted to find out the differences between living conditions and economic standards in terms of health consciousness. The significance level was set to $\alpha = 0.5$.

Result and Discussion

1. **Living Environment:** The results of the analysis of living conditions in this study are summarized as follows. The living conditions of senior citizens in urban-rural complex area are as shown in Table 2. 46.6% of them were living in a monthly renting places, and only 36.1% of them were actually living in the house of their own or their spouses. As for economic conditions, 92.8% of the respondents were beneficiaries of national basic livelihood. As for the current residence period, 74.6% for living there for less than 10 years, 14.4 percent for less than 20 years and 4.8% for more than 40 years. As for cohabitation, the ratio of elderly living alone was significantly higher- 63.2% were living by themselves, and 26.8% were living with their spouses. When seeing the aspect 'The frequency of contact with children', 42.3% contacted with their children more than 1-2 times a month, and 29.1% only met their children during holidays/ family events. As for heating in winter, 63.2% used urban gas, and 19.1% just used electric pads. 43.4% of them used less than 100,000 won, and 28.5% answered that administrating cost and housing cost were way too expensive, and 26.4% answered that their house rental fees were high. 33.8% replied that they cleaned their toilet 1-3 times a week, and the satisfaction level of residence was high with 7-8 out of 10 points, 36.4%.

   In order to improve the living environment of the elderly, it is necessary to prepare various activation plans and infrastructure to improve the living environment for the elderly in order to design the future of old age, not to be satisfied with the present.

2. **Health consciousness according to living environment and economic level:** The results of the analysis on health consciousness according to living environment and economic level of this study are as follows. Table 2 shows the result of a chi-square analysis of health consciousness according to the living conditions and economic standards of the elderly in the urban-rural complex area.21.6% answered that they are 'not quite healthy', and 'paying monthly rent for their house', 15.7% answered 'in a bad physical condition', and 'paying monthly rent for their house', and their $\chi 2$ was $p = .889$. 83.9% of the respondents said that they were 'receiving basic living allowances' and 'taking treatment and medication', and $\chi 2$ was $p = .576$. 40.5% answered that they were alone, and had neurological disorder, and 15.0% replied 'living alone' and 'had internal diseases'. 6.5% of people answered that they were 'receiving less than 500,000 won a month', and 'not that healthy' - $\chi 2$ was found out to be $p = .060$. Regarding the way making their living and serious health problems, 56.8% answered that they were living basic living allowances from government, and had neurological disorders. Then 24.6% followed that they were having internal diseases. Their participants answered and their $\chi 2$ was $p = .001$. Regarding the living expenses and activity of daily living, 22.0% answered that 'mainly pays for administrative fees' and 'managing daily living in a fairly good way'($p = .051$). 27.0% of the respondents said that they were having economic difficulties and health activity difficulties, and the main reason of that was their economic burden. ($\chi 2$ $p = .001$) In response to health and leisure

activities, TV/radio watching and listening was the highest(24.0%),and the main reason was also their economic difficulties.(p = .152). In addition, the respondents who answered that they were very difficult in economic condition were the highest, with 17.6% of respondents saying that they needed health and leisure programs such as health classes (p = .147). It is shown that the more economically difficult it is, the higher people had the desire for a health class. However, it is believed that they were replacing leisure time with TV and radio listening due to economic difficulties. The frequency of meeting with children and their ability to perform daily activities were very good at meetings at family or family gatherings, which was 10.6%, and others showed the same frequency(p = .071). TV/Radio watching and listening was 34.1%, using city gas for winter heating method, health and leisure activities, and TV/radio watching and listening were relatively high at 8.7% using electric blanket(P = .716). In terms of residential satisfaction and difficulties in health activities, the ratio of residential satisfaction of 7-8 points and economic burden to health life was 19.4% and $\chi 2$ was p = .078. In addition, if the residential satisfaction level is 7-8, 16.0% was required for the health class(yoga, dan jeon breathing, Qigong exercise) and $\chi 2$ was p = .078. The minimum wage and the degree of health were 6.5%, except for other opinions, when the minimum wage was less than 500,000 won and not healthy, it was high, and $\chi 2$ was p = .060. In terms of monthly income, treatment and medication, imports of less than 600,000 won, treatment and medication were 48.3% and $\chi 2$ was p = .016.

According to the elderly statistics[3], more than half of the average daily leisure time of people aged 65 or older was spent on watching TV or other media in 2014, and was reported to be spending leisure time outside of media viewing(i.e. social activities, religious, cultural and sports activities). It is also known that demographic characteristics such as age, gender, marital status, education level, economic level, residential area and employment status affect the quality of health-related life for the elderly.

Table 2: Health consciousness statistics

Variables		**Classification Frequency (%)**					χ^2
		Not very healthy	**Not healthy**	**Normal**	**Healthy**	**Very healthy**	
Home Ownership/ Health level	Self Spouse	19(9.3)	31(15.2)	13(6.4)	11(5.4)	0(0)	.889
	Children	3(1.5)	3(1.5)	0(0)	0(0)	0(0)	
	Chonsei rent	2(1.0)	2(1.0)	1(.5)	1(.5)	0(0)	
	Monthly rent	32(15.7)	44(21.6)	12(5.9)	7(3.4)	1(.5)	
	Other	8(3.9)	8(3.9)	2(1.0)	4(2.0)	0(0)	
Economic situation/ Treatment & medications intake		Yes	No				
	National Basic Livelihood Security	171(83.9)	19(9.3)				.576
	Near poor group	3(1.5)	0(0)				
	Normal	9(4.4)	2(1.0)				
Cohabitation/ disease		**Nerve**	**Internal**	**Sensory**	**Mental**	**Other**	
	Elderly alone	81(40.5)	30(15.0)	1(.5)	2(1.0)	14(7.0)	.102
	Married Couples	27(13.5)	17(8.5)	2(1.0)	2(1.0)	3(1.5)	
	Children Generations	2(1.0)	1(.5)	0(0)	0(0)	1(.5)	
	Children + young children generational	2(1.0)	0(0)	0(0)	1(.5)	0(0)	
	Other	8(4.0)	6(3.0)	0(0)	0(0)	0(0)	
Meeting frequency with child/Activities of Daily Living		**Very fine**	**Fine**	**Normal**	**It's not okay**	**Not very fine**	
	Everyday	4(2.6)	5(3.3)	1(.7)	1(.7)	1(.7)	.071
	1-2 times a month	4(2.6)	11(7.3)	9(6.0)	6(4.0)	3(2.0)	
	Holiday /family	16(10.6)	9(6.0)	10(6.6)	8(5.3)	1(.7)	
	Do not meet	13(8.6)	5(3.3)	2(1.3)	7(4.6)	3(2.0)	
	Other	16(10.6)	10(6.6)	4(2.6)	1(.7)	1(.7)	

Variables		Classification Frequency (%)					χ^2
		No activity	**TV & Radio**	**Janggi, Buduk, Hwatu play**	**Music & Art**	**Newspaper & Books**	**Physical activity**
Winter heating method/Health & Leisure activity	City Gas	16(7.7)	71(34.1)	5(2.4)	17(8.2)	6(2.9)	.716
	Oil boiler	7(3.4)	14(6.7)	1(.5)	1(.5)	1(.5)	1(.5)
	Briquette	2(1.0)	3(1.4)	0(0)	0(0)	0(0)	0(0)
	LPG	1(.5)	0(0)	0(0)	0(0)	0(0)	0(0)
	Electric carpet	10(4.8)	18(8.7)	2(1.0)	0(0)	3(1.4)	7(3.4)
	Blanket	0(0)	1(.5)	0(0)	0(0)	0(0)	0(0)
	Other	1(.5)	2(1.0)	0(0)	0(0)	0(0)	1(.5)
Resident Satisfaction/ Health activity difficulties		**Economic burden**	**Lack of time**	**Lack of facilities**	**Health problems**	**Other**	
	1-2 points	10(5.0)	0(0)	1(.5)	5(2.5)	2(1.0)	.078
	3-4 points	5(2.5)	0(0)	0(0)	5(2.5)	1(.5)	
	5-6 points	13(6.5)	0(0)	1(.5)	15(7.5)	1(.5)	
	7-8 points	39(19.4)	1(.5)	2(1.0)	24(11.9)	8(4.0)	
	9-10 points	15(7.5)	1(.5)	1(.5)	34(16.9)	17(8.5)	
Resident Satisfaction/ Health and Leisure Needs Program		**Health Class**	**Learning Class**	**Hobby classes**	**Information class**	**Janggi, Buduk**	
	1-2 points	3(1.9)	1(.6)	3(1.9)	1(.6)	2(1.3)	.223
	3-4 points	0(0)	1(.6)	2(1.3)	0(0)	0(0)	
	5-6 points	11(7.1)	2(1.3)	4(2.6)	1(.6)	0(0)	
	7-8 points	25(16.0)	13(8.3)	11(7.1)	8(5.1)	6(3.8)	
	9-10 points	18(11.5)	19(12.2)	18(11.5)	4(2.6)	3(1.9)	
Minimum wage/ Health level		**Not very healthy**	**Not healthy**	**Normal**	**Healthy**	**Very healthy**	
	Less than 200,000 won	2(1.3)	2(1.3)	1(.6)	0(0)	0(0)	.060
	Less than 300,000 won	5(3.2)	5(3.2)	3(1.9)	2(1.3)	0(0)	
	Less than 500,000 won	4(2.6)	10(6.5)	11(7.1)	3(1.9)	0(0)	
	Pay-free	3(1.9)	4(2.6)	1(.6)	4(2.6)	0(0)	
	Other	32(20.8)	45(29.2)	8(5.2)	8(5.2)	1(.6)	
Monthly income/ Treatment & medications intake		**Yes**	**No**				
	Less than 200,000 won	5(2.5)	0(0)				.016
	Less than 400,000 won	53(26.1)	5(2.5)				
	Less than 600,000 won	98(48.3)	6(3.0)				
	Less than 800,000 won	14(6.9)	4(2.0)				
	Over 800,000 won	13(6.4)	5(2.5)				
Cost-of-living/disease		**Nerve**	**Internal**	**Sensory**	**Mental**	**Other**	
	A child's allowance	3(1.5)	3(1.5)	0(0)	0(0)	1(.5)	.001
	Earned income	1(.5)	1(.5)	0(0)	0(0)	0(0)	
	Living expenses/Pension	113(56.8)	49(24.6)	3(1.5)	3(1.5)	16(8.0)	
	Spouses income	1(.5)	1(.5)	0(0)	0(0)	0(0)	
	Other	2(1.0)	0(0)	0(0)	2(1.0)	0(0)	
Cost-of-living Where to use/ Activities of Daily Living		**Very fine**	**Fine**	**Normal**	**It's not okay**	**Not very fine**	
	principal food & Corrosion Cost	14(6.7)	7(3.3)	10(4.8)	6(2.9)	3(1.4)	.051
	Residence cost	38(18.2)	46(22.0)	25(12.0)	21(10.0)	7(3.3)	
	Hospital & Drug Cost	2(1.0)	10(4.8)	3(1.4)	4(1.9)	2(1.0)	
	Hobby life/Social activity expense	4(1.9)	0(0)	0(0)	0(0)	0(0)	
	Other	5(2.4)	0(0)	1(.5)	1(.5)	0(0)	
Degree of economic difficulty/Health activity difficulties		**Economic burden**	**Lack of time**	**Lack of facilities**	**Health problems**	**Other**	
	Very difficult	55(27.0)	0(0)	0(0)	31(15.2)	4(2.0)	.001
	Slightly hard	21(10.3)	1(.5)	3(1.5)	28(13.7)	8(3.9)	
	Average	5(2.5)	0(0)	1(.5)	20(9.8)	12(5.9)	
	Not very difficult	1(.5)	0(0)	1(.5)	5(2.5)	4(2.0)	
	Not difficult at all	2(1.0)	1(.5)	0(0)	0(0)	1(.5)	

Variables		Classification Frequency (%)					χ^2
		No activity	**TV & Radio**	**Janggi, Buduk, Hwatu play**	**Music & Art**	**Newspaper & Books**	**Physical activity**
Degree of economic difficulty/ Health & Leisure activity	Very difficult	20(9.6)	50(24.0)	2(1.0)	7(3.4)	4(1.9)	7(3.4)
	Slightly hard	10(4.8)	31(14.9)	4(1.9)	4(1.9)	4(1.9)	9(4.3)
	Average	5(2.4)	19(9.1)	0(0)	3(1.4)	2(1.0)	10(4.8)
	Not very difficult	2(1.0)	6(2.9)	2(1.0)	3(1.4)	0(0)	0(0)
	Not difficult at all	0(0)	3(1.4)	0(0)	1(.5)	0(0)	0(0)
Degree of economic difficulty/Health and Leisure Needs Program		**Health Class**	**Learning Class**	**Hobby classes**	**Information class**	**Janggi, Buduk**	
	Very difficult	28(17.6)	10(6.3)	20(12.6)	8(5.0)	4(2.5)	.147
	Slightly hard	13(8.2)	13(8.2)	6(3.8)	5(3.1)	3(1.9)	
	Average	8(5.0)	13(8.2)	9(5.7)	1(.6)	4(2.5)	
	Not very difficult	6(3.8)	0(0)	4(2.5)	0(0)	0(0)	
	Not difficult at all	2(1.3)	1(.6)	1(.6)	0(0)	0(0)	

Conclusion

The purpose of this study was to examine the living environment, economic level, and health consciousness of the elderly in urban-rural complex area. The 220 questionnaires for senior citizens in K City, Gyeonggi Province, were interviewed in a one-on-one manner and 11 questions were excluded due to lack of response during the interview. In the case of the answer questionnaire, non-response questions were included. The retrieved questionnaire presented the results through technical statistics and a chi-square analysis. Through this process, the following conclusions were reached.

First, the percentage of 'monthly rent in housing' was high among living conditions, and the proportion of people who were provided with basic living allowance was high. In particular, the percentage of elderly people living alone was relatively high, and the frequency of meetings with their children was only being made during holiday seasons and family event days. Regarding residence heating during winter season, the number of elderly people who spend the winter with electric blankets was found to be relatively high, and excessive housing management costs and high rents were found to be the difficulties of living environment.

Second, they were not having good 'health consciousness' considering living environment and economic level. The ratio of the elderly living on a monthly rent was the highest, and especially the recipients of the National Basic Livelihood Security showed more disease and medication. Also, the elderly living alone had more diseases. The higher the economic difficulties, the more restricted the health activities, while the desire for health-related programs was high.

Urban-rural complex area are being developed from rural areas to urban areas, and elderly people often do not respond to the changing environment rapidly. In addition, the elderly living alone are exposed to many social problems, and in this study, the elderly living alone have relatively higher rate of economic and environmental difficulties. Especially, the more economic difficulties, the higher the desire to participate in health and exercise programs, which is considered to be more highlighted in health and physical education field for future development and solution making. Through this study, it is necessary to focus on the elderly living alone and to take care of the field that eliminates the constraints participating in the exercise program related to health and follow-up research is necessary.

Ethical Clearance: Not required

Source of Funding: Self

Conflict of Interest: Nil

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