

**Abstract**

## **Pilot projects for reducing the health disparity in local areas for Samho-dong: Results and support plan**

Kang Yanghwa, Kang Byeonghak,

Division of Chronic Disease Survey, Gyeongnam Regional Center for Disease Control and Prevention, Korea Disease Control and Prevention Agency (KDCA)

Lee Haneul

Ulsan Public Health Policy Institute

Ock Minsu

Department of Preventive Medicine, University of Ulsan College of Medicine

The aim of this pilot study was to analyze the factors contributing to health disparities and to work to reduce these disparities and improve the overall health and well-being of Koreans. Samho-dong, a vulnerable area of Nam-gu, Ulsan was selected for the pilot project and Nowon-gu, Seoul, Namhae-gun, South Gyeongsang Province, and Siheung, Gyeonggi Province were designated as local areas that would benefit from the results of the project. The project was conducted for three years. In the first year (2020), a large-scale survey on the health of local residents and the local healthy environment was conducted in Samho-dong, Ulsan. To figure out the implications of health disparities, the results of the large-scale survey were compared to the results of 2014-2019 community health surveys. Based on the large-scale survey results, 1,518 Samho-dong residents, accounting for about 7.1% of the total population of Nam-gu, were selected to be involved with various community healthcare programs. When considering the importance of the project, designating smoking zones, strengthening mental health services, and operating management programs of chronic disease were considered priorities. The findings of this study support the need for large-scale surveys on the health status of local areas to reduce health disparities and to serve as a foundation to reduce them.

**Keywords:** Health Status Disparities, Small-Area Analysis, Health Surveys

---

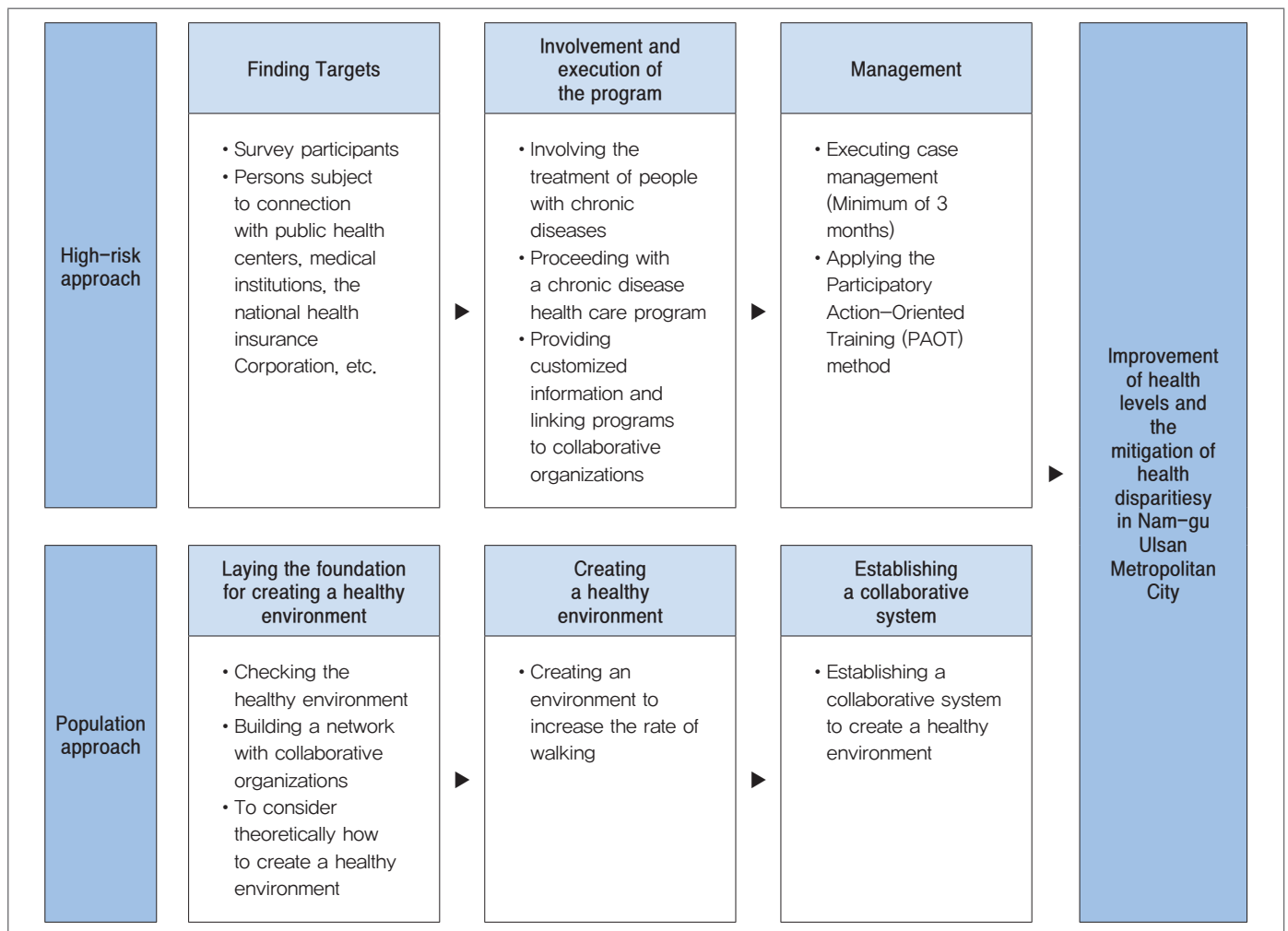


Figure 1. Intervention program model

Table 1. General characteristics of respondents

Unit: N (%)

Category		Samho-dong		The rest of Nam-gu*		Total	
		N	%	N	%	N	%
Gender	Male	760	50.1	265	51.2	1,025	50.3
	Female	758	49.9	253	48.8	1,011	49.7
Age	19-29	290	19.1	96	18.5	386	19.0
	30-39	231	15.2	89	17.2	320	15.7
	40-49	304	20.0	101	19.5	405	19.9
	50-59	401	26.4	116	22.4	517	25.4
	≤60	292	19.2	116	22.4	408	20.0
Occupation	Independent business owner	166	10.9	47	9.1	213	10.5
	Technical position/ laborer/ service industry position	499	32.9	153	29.5	652	32.0
	White-collar worker/ managerial position	273	18.0	112	21.6	385	18.9
	Homemaker	335	22.1	128	24.7	463	22.7
	Student	96	6.3	32	6.2	128	6.3
	Unemployed/ Retired/Others	149	9.8	46	8.9	195	9.6
Level of education	Below middle school level	164	10.8	47	9.1	211	10.4
	High school graduate	588	38.7	200	38.6	788	38.7
	Undergraduate degree or higher	761	50.1	270	52.1	1,031	50.6
	Non-response	5	0.3	1	0.2	6	0.3
Average Annual Income	Below 30 million won	313	20.6	83	16.0	396	19.4
	In the range of 30~39.99 million won	254	16.7	85	16.4	339	16.7
	In the range of 40~49.99 million won	332	21.9	100	19.3	432	21.2
	In the range of 50~59.99 million won	112	7.4	47	9.1	159	7.8
	In the range of 60~69.99 million won	216	14.2	106	20.5	322	15.8
	70 million won or higher	176	11.6	86	16.6	262	12.9
	Non-response	115	7.6	11	2.1	126	6.2
Household type	One generational household	510	33.6	187	36.1	697	34.2
	Two generational household	982	64.7	325	62.7	1,307	64.2
	Three generational household	26	1.7	6	1.2	32	1.6
Total		1,518	100.0	518	100.0	2,036	100.0

\*Sinjeong 1-dong, Sinjeong 2-dong, Sinjeong 3-dong, Sinjeong 4-dong, Sinjeong 5-dong, Dal-dong, Samsan-dong, Mugeo-dong, Ok-dong, Yaeum Jangsaengpo-dong, Daehyeon-dong, Suam-dong, Seonam-dong

Table 2. Comparison of the survey on the health status of Samho-dong residents and the rest of Nam-gu area residents

Unit: N (%)

Category	Indicator	Samho-dong		The rest of Nam-gu*		p-value
		N	%	N	%	
Smoking	Current smoking rate	343	22.6	118	22.8	0.931
	Current smoking rate of males	326	42.9	110	41.5	0.694
	The Percentage of those who have attempted to stop smoking within one month	9	2.6	4	3.4	0.747
	The exposure rate to secondhand smoke at home	67	68.4	14	77.8	0.424
	The exposure rate of secondhand smoke in indoor working areas	171	26.0	24.9	24.9	0.748
	The exposure rate of secondhand smoke in public areas	761	64.8	203	50.8	<0.001
	Current smoking rate of heated tobacco products	38	2.5	20	3.9	0.109
	The percentage of those who have attempted to quit smoking within one month of using heated tobacco products	4	10.5	0	0.0	0.288
	The percentage of those who use electronic Cigarettes	20	1.3	11	2.1	0.196
	The awareness rate of non-smoking areas	1,380	90.9	427	82.4	<0.001
	Current smokers' smoking experience rate in non-smoking areas	55	30.4	16	55.2	0.009
	Recognition rate of laws related to non-smoking areas	1,089	78.9	322	75.4	0.126
Drinking	Monthly drinking rate	846	55.7	281	54.2	0.557
	High-risk drinking rate	209	13.8	66	12.7	0.555
	Annual alcohol cut-down/abstinence attempt rate	85	8.4	16	5.0	0.043
	Experience rate recommending annual abstaining	219	21.5	72	22.3	0.774
Physical activity	Walking rate	725	47.8	177	34.2	<0.001
Dietary life	Rate of adding salt/soy sauce to food	213	14.0	58	11.2	0.101
	Proportion of adding soy sauce to pancake/fried food	987	65.0	381	73.6	<0.001
	Experience rate of low-salt practice efforts	1,020	67.2	300	57.9	<0.001
	Regular eating experience rate	953	62.8	325	62.7	0.987
Obesity and Weight control	Subjective obesity awareness rate	359	23.6	96	18.5	0.016
	Annual weight control attempt rate	1,104	72.7	329	63.5	<0.001
Mental health	The proportion of people with high mental stress	378	24.9	95	18.3	0.002
	Mental counseling rates due to stress	32	8.5	8	8.4	0.989
	Experience rate of depression	59	3.9	19	3.7	0.823
	Mental counseling rates due to depression	12	20.3	4	21.1	1.000
	Prevalence of suicidal thoughts	27	1.8	4	0.8	0.106
	Mental counseling rates due to suicidal thoughts	6	22.2	1	25.0	1.000

\*Sinjeong 1-dong, Sinjeong 2-dong, Sinjeong 3-dong, Sinjeong 4-dong, Sinjeong 5-dong, Dal-dong, Samsan-dong, Mugeo-dong, Ok-dong, Yaeum Jangsaengpo-dong, Daehyeon-dong, Suam-dong, Seonam-dong

Table 2. (Continued) Comparison of the survey on the health status of Samho-dong residents and the rest of Nam-gu area residents

Unit: N (%)

Category	Indicator	Samho-dong		The rest of Nam-gu*		p-value
		N	%	N	%	
Examination	Health medical examination rate	736	48.5	252	48.6	0.949
	Cancer screening rate	499	32.9	153	29.5	0.160
Contraction of a disease	The awareness rates of one's own blood pressure level	680	44.8	164	31.7	<0.001
	Rate of experience diagnosed with hypertension ( $\geq 30$ )	240	19.5	58	13.7	0.008
	The treatment rate for hypertension ( $\geq 30$ )	217	90.4	45	77.6	0.012
	The awareness rates of one's own blood sugar level	263	17.3	86	16.6	0.706
	Rate of experience diagnosed with diabetes mellitus ( $\geq 30$ )	96	7.8	32	7.6	0.876
	The treatment rate for diabetes mellitus ( $\geq 30$ )	75	78.1	25	78.1	1.000
Health knowledge	Awareness rate of early symptoms of stroke	714	47.0	189	36.5	<0.001
	Awareness rate of early symptoms of myocardial Infarction	535	35.2	148	28.6	0.005
Quality of life	Self - rated health status	1,087	71.6	409	79.0	0.001
Medical institutions use	Annual proportion of unmet needs	42	2.8	4	0.8	<0.001
Use of health institutions	Annual utilization rate of public health centers	124	8.2	34	6.6	0.238
Social and physical environment	'People in my neighborhood can believe and trust each other'	1,234	81.3	438	84.6	0.094
	'People in my neighborhood give and receive help during congratulatory and condolatory moments'	814	53.6	286	55.2	0.531
	'I am satisfied with the overall level of safety in my neighborhood'	1,321	87.0	428	82.6	0.013
	'I am satisfied with the natural environment in my neighborhood'	1,336	88.0	412	79.5	<0.001
	'I am satisfied with the living environment in my neighborhood'	1,270	83.7	435	84.0	0.867
	'I am satisfied with the public transportation conditions in my neighborhood'	1,098	72.3	376	72.6	0.911
	'I am satisfied with the medical service conditions in my neighborhood'	1,137	74.9	411	79.3	0.041
	'My neighborhood is great for the children to live'	1,206	79.4	382	73.7	0.007
	'I can buy fresh vegetables and fruits at low prices in my neighborhood'	1,018	67.1	328	63.3	0.120
	'My neighborhood has no problems with cigarettes'	1,214	80.0	443	85.5	0.005
	'My neighborhood doesn't have any problems related to alcohol'	1,289	84.9	441	85.1	0.903

\*Sinjeong 1-dong, Sinjeong 2-dong, Sinjeong 3-dong, Sinjeong 4-dong, Sinjeong 5-dong, Dal-dong, Samsan-dong, Mugeo-dong, Ok-dong, Yaeum Jangsaengpo-dong, Daehyeon-dong, Suam-dong, Seonam-dong

Table 3. Comparison of health behavior indicators of Samho-dong residents and the rest of the Nam-gu area residents

Unit: %

Category	Health behavior indicators	Community health survey*		2020 Large-scale survey on the health status	
		Samho-dong	Nam-gu <sup>†</sup>	Samho-dong	Nam-gu <sup>‡</sup>
Chronic disease	The awareness rates of one's own blood pressure level	59.9	54.2	44.8	41.5
	Rate of experience diagnosed with hypertension ( $\geq 30$ )	24.1	19.3	19.5	18.1
	The treatment rate for hypertension ( $\geq 30$ )	84.0	85.5	90.4	87.9
	The awareness rates of one's own blood sugar level	23.4	16.7	17.3	17.1
	Rate of experience diagnosed with diabetes mellitus ( $\geq 30$ )	11.5	8.3	7.8	7.8
	The treatment rate for diabetes mellitus ( $\geq 30$ )	92.9	86.9	78.1	78.1

\*Community Health Survey, 2014–2019

<sup>†</sup> Average outcome indicators for Nam-gu area from Community Health Survey, 2014–2019<sup>‡</sup> Outcome indicators for Nam-gu area from 2020 survey on the health status