

OR 1-3 Causal Effect Relationship between Mental, Physical, Social Health and Long-term Care Needs: A Cohort Study

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Introduction: WHO defines health as a state of mental, physical and social wellbeing. However, there have been limited detailed evidences that objectively and systematically assessed the chronological relationships between these three health aspects and long-term care (LTC) needs. This study was conducted to explore such issue.

Method: Among the urban dwelling elderly aged 65 years and over, data were collected through self-reported questionnaire in 2001 and 2004 in Tokyo. Ultimately, 8,126 (3,851 men, 4,311 women) respondents were included in the analysis. Three health-related latent factors were identified by exploratory factor analysis. A structural equation model (SEM) method was used to analyze the causal effect relationship between mental, physical, social health and LTC needs.

Results: By using exploratory factor analysis, 3 factors, named 'mental health', 'physical health', 'social health', were defined as latent variables, respectively. The SEM analysis indicated significant direct but negative correlations between 'physical health 2001' and 'LTC needs 2004', which meant the three-year earlier physical health significantly affected on the current LTC needs (standardized direct coefficient=-0.73). In contrast, 'mental health 2001' and 'social health 2001' had little direct effects on 'LTC needs 2004' (0.04

and 0.05 respectively). Meanwhile, we also observed an indirect effects of 'mental health 2001' on 'LTC needs 2004' through 'physical health 2001'(standardized indirect coefficient=-0.35).

Conclusions: This study illustrates that the LTC needs is mainly confirmed by physical health, followed by mental and social health. It suggests that maintenance of good physical health may be entirely crucial to decrease the LTC needs.

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Table 1 Crosstab on Sex and Age Group of the respondents

	Age 65-69	Age 70-74	Age 75-79	Age 80-84	Age >85	Total
Male	1814	1074	581	281	101	3851
Female	1775	1141	835	401	159	4311
Total	3589	2215	1416	682	260	8162

Table 2 Exploratory factor analysis on the observed variables in survey 2001

	Factor loading		
	Factor 1	Factor 2	Factor 3
Self-rated health 2001	0.794	0.374	0.398
Self-rated health compared with previous year	0.679	0.263	0.352
Satisfaction of life 2001	0.474	0.194	0.372
Number of comorbidity 2001	-0.347	-0.181	-0.135
IADL 2001	0.399	0.854	0.354
ADL 2001	0.179	0.502	0.117
Frequency of going outside 2001	0.284	0.465	0.424
Communication with neighborhood 2001	0.282	0.220	0.652
Hobby activity 2001	0.359	-0.222	0.600
Accumulated attribute rate (%)	25.4	33.4	39.1

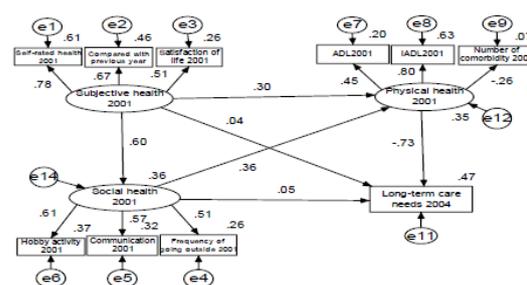


Fig.1 SEM Analysis of the Mental, Physical, Social Health and Long-term Care Needs