Regular Article

Factors associated with mental well-being of homeless people in Japan

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Aim: This study aimed to determine the frequency of low mental well-being and associated factors among homeless people in Japan.

Methods: A community-based cross-sectional study was conducted. Data were collected through in-person interviews of 423 homeless persons living in two areas of Tokyo. Mental well-being was assessed using the Japanese version of the World Health Organization-Five Well-being Index.

Results: The overall sample comprised 392 (92.7%) men and 31 (7.3%) women. Average age was 60.6 ± 11.9 years. The mean score on the World Health Organization-Five Well-being Index for the 396 participants with no missing values was 11.81 ± 5.35. Based on a cut-off criterion of 12/13, the frequency of low mental well-being among the participants was 57.1%. In multiple logistic regression analyses, the

subjective perception of poor health (odds ratio [OR] = 3.88, 95% confidence interval [CI] = 2.32–6.49), lack of perceived emotional social support (OR = 2.77, 95%CI = 1.70–4.49), dwelling without roof (OR = 2.70, 95%CI = 1.47–4.97), and pain (OR = 1.96, 95%CI = 1.12–3.42) were significantly associated with low mental well-being in this population.

Conclusion: The findings suggest that comprehensive intervention programs that provide supportive housing, emotional social support, and health-care services, may be needed to improve the mental well-being of homeless people.

Key words: health-care services, homeless people, mental well-being, social support, supportive housing.

HOMELESSNESS IS A common problem in non-Western as well as Western countries. However, the vast majority of psychiatric research on homeless people has been conducted in Western contexts. We have identified only two studies in Asia – one in South Korea,[1] and one in Japan.[2] Han *et al.*[1] investigated the prevalence of mental disorders among 433 homeless men housed in shelters in two metropolitan cities in South Korea. Lifetime and current prevalence of psychiatric disorders were 60% and 50%,

respectively. Morikawa *et al.*[2] investigated the prevalence of mental disorders among 80 homeless persons living on the street in Tokyo and found an overall prevalence of 62.5%. Both these studies suggest high psychiatric comorbidity among the homeless population.

Homeless people frequently suffer from mental health problems. According to a systematic review regarding the prevalence of mental disorders in homeless people in Western countries,[3] 37.9% had alcohol dependence, 12.7% suffered from psychosis, and 11.4% were subject to major depression. However, it has been suggested that homeless people do not differ from non-homeless poor people in terms of the frequency of the DSM-IV diagnosis of severe mental disorders except for substance abuse; but homeless people do show higher levels of psychological

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distress.[4] Studies on the mental health of the homeless population have mainly focused on mental disorders. However, estimating only the extent of mental disorders may not be sufficient to determine the impact of homelessness on mental health. A conceptual framework is needed for integrating the complexity of the distress these individuals experience.

In recent years, studies have suggested that assessment of the quality of life (QOL) is important when working with the homeless population. Homelessness is associated with low perceived QOL.[5] Salize *et al.*[6] found that non-schizophrenic homeless persons reported lower QOL than non-homeless schizophrenic patients receiving community-care services. Kertesz *et al.*[7] suggested that low mental-health-related QOL is associated with the chronicity of homelessness. In addition, the coexistence of homelessness and mental disorders is associated with even lower mental well-being.[8–10]

QOL is defined in diverse ways by different investigators. Lawton[11] presented a QOL model comprising four sectors: behavioral competence, objective environment, perceived QOL, and psychological well-being; interrelationships among the sectors were suggested. Lawton defined psychological well-being as one's overall evaluation of 'self in environment' and regarded psychological well-being as the major criterion of mental health. Lehman[12] defined QOL as 'a subjective matter reflected in a sense of global well-being' and viewed the experience of global well-being as a product of personal characteristics, objective life indicators, and subjective quality of life indicators. Diener[13] described subjective well-being as the general evaluation of one's QOL, and suggested that it reflects the well-being of societies. Thus, the concept of QOL, particularly subjective mental well-being, offers a broad perspective when investigating mental health problems of the homeless population. Though the need for assessing mental well-being is critical in this population, to our knowledge, no such studies in Japan have been reported. Therefore, we aimed to determine the frequency of low mental well-being and associated factors in this population.

METHODS

Participants

The participants were 423 homeless persons, who agreed to participate in the study. The inclusion criteria were as follows: (i) receiving support from non-profit organizations (NPO) offering support programs for homeless people in the survey areas; (ii) being homeless, defined as living and sleeping outside or in any space not designated for shelter (e.g. train stations); or (iii) being marginally homeless, defined as sleeping in a shelter, cheap hotel, motel, or being in a supported housing program during the survey period.

Procedure

Data were collected in a community-based survey of homeless and vulnerably housed people in two areas of Tokyo. The survey period was from 15 December 2010 to 28 February 2011.

Ten staff members of NPO, with experience in working with homeless people and who usually provided the participants with daily support, conducted in-person interviews. The data-collection procedure was supervised by two psychiatrists (the first and second authors of this paper). To ensure confidentiality, the interviews took place at a secure, private location near where the individuals lived.

The study was approved by the Research Ethics Board of Tokyo Metropolitan Institute for Gerontology. Written informed consent was obtained from all participants prior to the interview.

Measures

The questionnaire included items concerning mental well-being, sociodemographic factors, usual living place, and health-related variables.

Mental well-being

Mental well-being was assessed using the Japanese version of the World Health Organization-Five Well-being Index (WHO-5-J);[14,15] a cut-off criterion of 12/13 was used to determine low mental well-being. The WHO-5 is a standardized health-related QOL instrument that has been validated in the context of various mental health problems, including depressive disorders,[16–19] anxiety disorders,[16] psychiatric disorders,[20] and suicidal ideation.[15]

Sociodemographic factors

The sociodemographic factors assessed included age, sex, years of education, marital status, employment status, receipt of public assistance income (welfare

payment or basic pension for those disabled, older, or bereaved), total income per month, and perceived social support. Age was divided into two categories: <65 and ≥65 years. Two categories were used for years of schooling: 0–9 and ≥10, which represented, respectively, compulsory education and beyond compulsory education.

Marital status was ascertained by the question 'Do you have a spouse?' Possible answers were 'yes', 'no', and 'never married'. Those who chose answers other than 'yes' were considered to have no spouse.

Employment status was evaluated based on the response ('yes' or 'no') to the following question: 'Are you working?' Monthly income was divided into above-welfare and below-welfare categories.

Perceived social support (PSS) was evaluated based on 'yes' or 'no' responses to the following five questions: 'Do you have someone to whom you can talk when you are in trouble?' (PSS1); 'Do you have someone to whom you can talk when your physical condition is not good?' (PSS2); 'Do you have someone you feel comfortable being with?' (PSS3); 'Do you have someone who can take care of you when you are ill in bed?' (PSS4); and 'Do you have someone who can take you to the hospital when you do not feel well?' (PSS5). PSS1, PSS2, PSS4, and PSS5 were adopted from a previous study on social support and depression in older adults in a rural community[21] and suicidal-ideation in an older urban population.[22] A strong association was found between negative answers to these items and both depression,[21,23] and suicidal ideation.[22]

Usual living place

Living area and living arrangements over the previous 2 weeks were assessed as 'usual living place'.

The two survey areas were labeled Area 1 and Area 2. Area 1 is located near a main railway terminal and has large parks in the vicinity. Area 2 is one of the most renowned destitute districts in Japan.

Living arrangements (LA) were assessed by the question 'Where was your usual living place over the past 2 weeks?' Possible answers were 'an apartment in a supported housing program' (LA1); 'public shelter' (LA2); 'private shelter' (LA3); 'cheap hotel or motel' (LA4); and 'street, city park, train station, river bank, or any other place not designated for shelter' (LA5). These answers were divided into two categories: dwelling with a roof (LA1–4) and dwelling without a roof (LA5).

Health-related variables

The health-related variables assessed included subjective perception of health, history of mental and physical disorders, pain, visual impairment, hearing impairment, and walking ability.

Subjective perception of health was assessed by the question 'How would you describe your current overall health?' Possible answers were 'excellent', 'very good', 'good', 'not good', and 'bad'. Participants who answered 'not good' or 'bad' were considered to have subjectively perceived poor health.

History of mental disorders was evaluated on the basis of responses ('yes' or 'no') to questions concerning a history of depression, schizophrenia, alcoholism, anxiety disorder, insomnia, dementia, or any other mental disorders. Participants who responded that they had had at least one of the above disorders were considered to have a history of mental disorders.

History of physical disorders was evaluated on the basis of responses ('yes' or 'no') to questions concerning a history of stroke, heart disease, hypertension, kidney disease, diabetes mellitus, hyperlipidemia, liver disease, cholelithiasis or cholecystitis, gastric or duodenal ulcer, tuberculosis, pneumonia, bronchial asthma, cancer, arthritis, osteoporosis, lumbar pain, or any other physical disorders. Participants who responded that they had had at least one of the above conditions were considered to have a history of physical disorders.

Pain within the previous 4 weeks was assessed by the question 'Have you had any pain over the past 4 weeks? If so, how intense was the pain?' Possible answers were 'no pain', 'very mild pain', 'mild pain', 'moderate pain', 'severe pain', and 'very severe pain'. Participants who reported moderate to very severe pain were considered as suffering from pain.

Visual impairment was assessed by the question 'Do you feel that you cannot see well?' Possible answers were 'no', 'yes, I have some problems seeing', 'yes, I have a big problem seeing' and 'yes, I cannot see at all'. Those who chose answers other than 'no' were considered to have visual impairment.

Hearing impairment was assessed by the question 'Do you feel that you cannot hear well?' Possible answers were 'no', 'yes, I cannot hear clearly', 'yes, I have a big problem hearing' and 'yes, I cannot hear at all'. Those who chose answers other than 'no' were considered to have hearing impairment.

Walking ability was assessed by the question 'How far can you walk?' Possible answers were 'no

limitation', 'need to rest after walking more than 2 km', '1–2 km', 'less than 1 km', and 'cannot walk at all'. Participants who chose an answer other than 'no limitation' were considered to have gait disturbance.

Statistical analysis

Statistical analyses were performed using PASW Statistics version 18 for Windows (SPSS, Chicago, IL, USA). Baseline characteristics for the 423 study participants were compared using the Student's t-test for continuous variables and χ^2-test for categorical variables.

The association between mental well-being and each variable was assessed on the basis of the odds ratio (OR) and 95% confidence intervals (CI). Forward stepwise multiple logistic regression analyses were performed by entering factors significantly associated with low mental well-being in univariate analyses as independent variables.

The significance level was set at $P < 0.05$.

RESULTS

Demographic characteristics

The demographic characteristics of the 423 participants are shown in Table 1. The average age ± SD was 60.6 ± 11.9 years (range = 20–95, median = 62.0).

The overall sample comprised 392 (92.7%) men and 31 (7.3%) women. The proportion of those who had no more than compulsory education was 59.1%. During the survey period, 95.7% had no spouse, 74.0% were unemployed, 61.1% had less income than welfare level, and 20.3% were living and sleeping in roofless dwellings. There were some differences between the two survey areas. Participants from Area 1 were younger, had a lower income level, and more often lived and slept in roofless dwellings than those from Area 2.

Distribution of mental well-being scores

Investigation of the distribution of mental well-being scores on the WHO-5-J was restricted to the 396 (93.6%) participants with no missing values. The distribution of the total score of WHO-5-J is shown in Figure 1. The mean score ± SD was 11.81 ± 5.35. When a cut-off criterion of 12/13 was used, the frequency of low mental well-being was 57.1%.

Factors associated with mental well-being

Univariate analysis identified the following as being significantly associated with low mental well-being (Tables 2, 3): higher age; being unemployed; lack of perceived emotional social support (PSS1, PSS2,

Table 1. Demographic data of participants				
	Total	Area 1	Area 2	Inter-area comparison
n	423	84	339	
Age	60.6 ± 11.9	55.5 ± 10.1	61.9 ± 12.0	$t = -4.52$
(range, median)	(20–95, 62.0)	(29–75, 58.0)	(20–95, 63.0)	$P < 0.001$
≥65 years (%)	39.1%	16.7%	45.0%	
Male/female proportion	392/31	81/3	311/28	$\chi^2 = 2.54$
Male (%)	(92.7%)	(96.4%)	(91.7%)	$P = 0.11$
No more than compulsory education	243	42	201	$\chi^2 = 1.78$
	(59.1%)	(52.5%)	(60.7%)	$P = 0.18$
No spouse	396	78	318	$\chi^2 = 0.10$
	(95.7%)	(96.3%)	(95.5%)	$P = 1.00$
Unemployed	311	57	254	$\chi^2 = 2.02$
	(74.0%)	(67.9%)	(75.6%)	$P = 0.16$
Income below that of welfare payments	218	73	145	$\chi^2 = 53.7$
	(61.1%)	(93.6%)	(52.0%)	$P < 0.001$
Roofless dwelling	86	62	24	$\chi^2 = 157.22$
	(20.3%)	(73.8%)	(7.1%)	$P < 0.001$
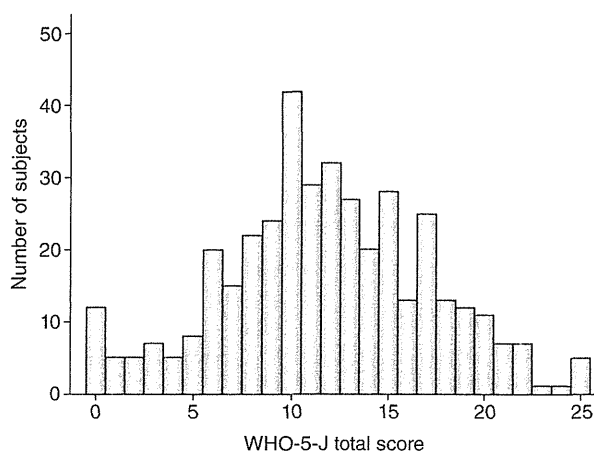
Figure 1. The mean score ± SD of the World Health Organization-Five Well-being Index (WHO-5-J) for the 396 participants who had no missing values was 11.81 ± 5.35. Based on a cut-off criterion of 12/13, the frequency of low mental well-being among the participants was 57.1%.

PSS3); lack of perceived instrumental social support (PSS4, PSS5); living in a roofless dwelling; and subjective perception of poor health, pain, and gait disturbance. Forward stepwise multiple logistic regression analyses were performed by entering the following as independent variables: age; employment status; PSS3 as perceived emotional social support; PSS5 as perceived instrumental social support; living arrangement; and subjective perception of health, pain, and gait disturbance.

The results with the multivariate model showed that the following were significantly associated with low mental well-being (Table 4): subjective perception of poor health (OR = 3.88; 95%CI = 2.32–6.49), lack of perceived emotional social support (PSS3; OR = 2.77; 95%CI = 1.70–4.49), living in roofless dwelling (OR = 2.70; 95%CI = 1.47–4.97), and pain (OR = 1.96; 95%CI = 1.12–3.42).

DISCUSSION

In a national survey of homeless people conducted by the Ministry of Health, Labour and Welfare in Japan, being homeless was defined as living and sleeping outside or in any space not designated for shelter (e.g. city park, river bank, street, train station). The definition of homelessness varies from country to country, and among institutions within the same country. The general definition of homelessness provided by the US Department of Housing and Urban Development[24] includes not only homeless individuals in the literal sense of being without a roof over their heads, but also refers to those who are more likely to be threatened with the loss of, or are unable to continue with, their current accommodation. In the present study, we employed this broader definition of homelessness and included marginally homeless people as participants.

The frequency of low mental well-being among homeless people in the present study was 57.1%. That is almost twice the frequency previously found among community-dwelling older adults in Japan.[25] Although there is a difference in the age distribution between that study and the present investigation, the indications point to a high level of low mental well-being among the homeless population.

The present investigation identified four factors associated with low mental well-being among the study population: (i) subjective perception of poor health; (ii) lack of emotional social support; (iii) living in a dwelling without a roof; and (iv) pain. There are points of similarity between the homeless population and the general older population. In a previous study of ours,[25] factors associated with the low mental well-being of community-dwelling older adults were lack of social support and poor health status. The findings of the present study are consistent with that result, but this study recognizes the importance of the dwelling among the homeless population. Indeed, other studies have found similarities between the needs of the homeless and older adults. It has been suggested that homeless men resemble men in the general population who are 10–20 years older.[26] Other researchers have shown that health problems and the social isolation of homeless persons over age 50 are similar to those of people in the general population who are 65 years or older.[27] It is clear that the problems encountered by homeless people are not unique to them. Thus, the present findings have implications for the development of effective interventions to address the needs not just of the homeless population, but also those of the globally aging general public.

The results of this study indicate a need for interventions that target housing, the lack of emotional social support, and physical health problems. Simply obtaining housing is insufficient to improve the mental well-being of homeless people.[28,29] Previous studies have suggested the need for various services

Table 2. Association between low mental well-being and sociodemographic variables and living arrangement (univariate analysis)

Variables		n	Number of subjects with low mental well-being (WHO-5-J < 13)	OR	95%CI	P
Sociodemographic factors						
Age	<65	227	143	1.00		
	≥65	148	73	1.75	1.15–2.66	0.009
Sex	Male	367	209	1.00		
	Female	29	17	1.07	0.50–2.31	0.861
Years of education	More than compulsory education	156	84	1.00		
	Compulsory education	229	135	1.23	0.82–1.86	0.321
Marital status	Have spouse	17	7	1.00		
	Have no spouse	373	215	1.94	0.72–5.22	0.187
Employment status	Working	104	50	1.00		
	Not working	290	176	1.67	1.06–2.62	0.026
Receipt of public assistance income (welfare payment, pension)	Yes	260	144	1.00		
	No	125	74	1.18	0.77–1.82	0.455
Monthly income	Above welfare	126	69	1.00		
	Below welfare	209	126	1.25	0.80–1.96	0.321
Perceived emotional social support						
PPS1	Yes	230	116	1.00		
	No	165	109	1.91	1.27–2.89	0.002
PSS2	Yes	252	143	1.00		
	No	127	98	2.14	1.39–3.30	0.001
PSS3	Yes	216	103	1.00		
	No	179	122	2.35	1.55–3.55	<0.001
Perceived instrumental social support						
PSS4	Yes	124	61	1.00		
	No	268	163	1.60	1.04–2.46	0.031
PSS5	Yes	182	89	1.00		
	No	210	135	1.88	1.25–2.82	0.002
Usual living place						
Living arrangement	Dwelling with a roof	311	165	1.00		
	Dwelling without a roof	79	57	2.38	1.39–4.07	0.002

Univariate OR and 95%CI were calculated using logistic regression analysis.
Perceived social support was evaluated by the following questions: 'Do you have someone to whom you can talk if you are in trouble?' (PSS1); 'Do you have someone to whom you can talk if your physical condition is not good?' (PSS2); 'Do you have someone you feel comfortable being with?' (PSS3); 'Do you have someone who can take care of you if you are ill in bed?' (PSS4); and 'Do you have someone who can take you to hospital if you do not feel well?' (PSS5). 95%CI, 95% confidence interval; OR, odds ratio; WHO-5-J, Japanese version of the World Health Organization-Five Well-being Index.

offered in an integrated manner.[30-32] Those services may range from case management to providing meals and could be effective in improving health, housing status, and access to health care.[30] Priebe *et al.* suggested that collaboration and coordination among different services could improve mental health care for homeless people in addition to other socially marginalized groups.[33] The present study indicates that comprehensive interventions, including secure housing, emotional social support, and health-care

Table 3. Association between low mental well-being and health-related variables (univariate analysis)

Variables		n	Number of subjects with low mental well-being (WHO-5-J < 13)	OR	95%CI	P
Subjective perception of	Good	229	100	1.00		
health	Poor	158	122	4.37	2.78–6.89	<0.001
History of mental	Present	222	131	1.00		
disorders	Absent	102	63	0.89	0.55–1.44	0.638
History of physical	Present	87	54	1.00		
disorders	Absent	237	140	1.13	0.69–1.88	0.626
Pain	Present	119	87	1.00		
	Absent	273	138	2.66	1.66–4.25	<0.001
Visual impairment	Absent	160	99	1.00		
	Present	234	125	1.42	0.94–2.13	0.097
Hearing impairment	Absent	87	55	1.00		
	Present	309	171	1.39	0.85–2.26	0.191
Gait disturbance	Absent	155	104	1.00		
	Present	240	121	2.01	1.32–3.05	0.001

Univariate OR and 95%CI were calculated using logistic regression analysis.
95%CI, 95% confidence interval; OR, odds ratio; WHO-5-J, Japanese version of the World Health Organization-Five Well-being Index.

services, may improve the mental well-being of the homeless population.

Our study has some limitations. It was conducted in two areas in Tokyo. Therefore, cautions should be exercised in generalizing the findings to the homeless population as a whole. Furthermore, the cross-sectional design of this study limits inferences about cause-and-effect correlations between mental well-being and the factors examined. The use of self-reported data is a further limitation; however, it represents a practical way of obtaining much of the information reported. Another limitation is the lack of a structured interview to identify mental disorders and a medical check-up to diagnose physical disorders.

Table 4. Factors associated with low mental well-being (multivariate analysis)

	Step 1			Step 2			Step 3			Step 4		
	OR	95%CI	P	OR	95%CI	P	OR	95%CI	P	OR	95%CI	P
Subjective perception of poor health	4.27	2.65–6.89	<0.001	4.32	2.65–7.04	<0.001	4.55	2.75–7.50	<0.001	3.88	2.32–6.49	<0.001
Lack of perceived emotional social support (PSS3)				2.51	1.57–4.00	<0.001	2.65	1.64–4.28	<0.001	2.77	1.70–4.49	<0.001
Dwelling without a roof							2.75	1.51–5.01	0.001	2.70	1.47–4.97	0.001
Pain										1.96	1.12–3.42	0.018

Forward stepwise multiple logistic regression analyses were performed by entering factors significantly associated with low mental well-being in univariate analyses as independent variables.
Perceived social support was evaluated by the following question: 'Do you have someone you feel comfortable being with?' (PSS3).
95%CI, 95% confidence interval; OR, odds ratio.

Our study identified four factors associated with the low mental well-being of homeless persons: (i) inadequate dwelling; (ii) lack of emotional social support; (iii) subjective perception of poor health; and (iv) pain. Comprehensive interventions that work to ameliorate these issues may improve the mental well-being in this population. Further research is needed to determine the impact of comprehensive intervention programs that provide supportive housing, emotional social support, and health-care services among highly disadvantaged populations.

ACKNOWLEDGMENTS

REFERENCES

1. Han OS, Lee HB, Ahn JH *et al.* Lifetime and current prevalence of mental disorders among homeless men in Korea. *J. Nerv. Ment. Dis.* 2003; 191: 272–275.
2. Morikawa S, Uehara R, Okuda K, Shimizu H, Nakamura Y. Prevalence of psychiatric disorders among homeless people in one area of Tokyo. *Nihon Koshu Eisei Zasshi* 2011; 58: 331–339 (in Japanese).
3. Fazel S, Khosla V, Doll H, Geddes J. The prevalence of mental disorders among the homeless in western countries: Systematic review and meta-regression analysis. *PLoS Med.* 2008; 5: e225.
4. Toro PA, Bellavia CW, Daeschler CV *et al.* Distinguishing homelessness from poverty: A comparative study. *J. Consult. Clin. Psychol.* 1995; 63: 280–289.
5. Steiner RP, Looney SW, Hall LR, Wright KM. Quality of life and functional status among homeless men attending a day shelter in Louisville, Kentucky. *J. Ky Med. Assoc.* 1995; 93: 188–195.
6. Salize HJ, Horst A, Dillmann-Lange C *et al.* How do mentally ill homeless persons evaluate their quality of life. *Psychiatr. Prax.* 2001; 28: 75–80 (in German).
7. Kertesz SG, Larson MJ, Horton NJ *et al.* Homeless chronicity and health-related quality of life trajectories among adults with addictions. *Med. Care* 2005; 43: 574–585.
8. Lehman AF, Kernan E, DeForge BR, Dixon L. Effects of homelessness on the quality of life of persons with severe mental illness. *Psychiatr. Serv.* 1995; 46: 922–926.
9. Sullivan G, Burnam A, Koegel P, Hollenberg J. Quality of life of homeless persons with mental illness: Results from the course-of-homelessness study. *Psychiatr. Serv.* 2000; 51: 1135–1141.
10. Sun S, Irestig R, Burstrom B, Beijer U, Burstrom K. Health-related quality of life (EQ-5D) among homeless persons compared to a general population sample in Stockholm County, 2006. *Scand. J. Public Health* 2012; 40: 115–125.
11. Lawton MP. Environment and other determinants of well-being in older people. *Gerontologist* 1983; 23: 349–357.
12. Lehman AF. The well-being of chronic mental patients. *Arch. Gen. Psychiatry* 1983; 40: 369–373.
13. Diener ED. Subjective well-being. In: Diener ED (ed.). *The Science of Well-Being*. Springer, Dordrecht-Heidelberg-London-New York, 2009; 11–58.
14. Bech P, Olsen LR. Measuring well-being rather than the absence of distress symptoms: A comparison of the SF-36 Mental Health subscale and the WHO-Five Well-Being Scale. *Int. J. Methods Psychiatr. Res.* 2003; 12: 85–91.
15. Awata S, Bech P, Koizumi Y *et al.* Validity and utility of the Japanese version of the WHO-Five Well-Being Index in the context of detecting suicidal ideation in elderly community residents. *Int. Psychogeriatr.* 2007; 19: 77–88.
16. Bonsignore M, Barkow K, Jessen F, Heun R. Validity of the five-item WHO Well-Being Index (WHO-5) in an elderly population. *Eur. Arch. Psychiatry Clin. Neurosci.* 2001; 251 (Suppl. 2): II27–II31.
17. Henkel V, Mergl R, Kohnen R *et al.* Identifying depression in primary care: A comparison of different methods in a prospective cohort study. *BMJ* 2003; 326: 200–201.
18. Henkel V, Mergl R, Coyne JC *et al.* Screening for depression in primary care: Will one or two items suffice? *Eur. Arch. Psychiatry Clin. Neurosci.* 2004; 254: 215–223.
19. Lowe B, Spitzer RL, Grafe K *et al.* Comparative validity of three screening questionnaires for DSM-IV depressive disorders and physicians' diagnoses. *J. Affect. Disord.* 2004; 78: 131–140.
20. Heun R, Burkart M, Maier W, Bech P. Internal and external validity of the WHO Well-Being Scale in the elderly general population. *Acta Psychiatr. Scand.* 1999; 99: 171–178.
21. Koizumi Y, Awata S, Seki T *et al.* Association between social support and depression in the elderly Japanese population. *Nihon Ronen Igakkai Zasshi* 2004; 41: 426–433 (in Japanese).
22. Awata S, Seki T, Koizumi Y *et al.* Factors associated with suicidal ideation in an elderly urban Japanese population: A community-based, cross-sectional study. *Psychiatry Clin. Neurosci.* 2005; 59: 327–336.
23. Muraoka Y, Oiji A, Ihara K. The physical, psychological and social background factors of elderly depression in the community. *Jpn. J. Geriatr. Psychiatry.* 1996; 7: 397–407 (in Japanese).
24. United States Department of Housing and Urban Development. Homeless Emergency Assistance and Rapid

Transition to Housing: Defining 'Homeless'. *Federal Resister.* 2011; **76**: 75994–76019.

25. Ito K, Inagaki H, Okamura T, Shimokado K, Awata S. Factors associated with mental health well-being of urban community-dwelling elders in Japan: Comparison between subjects with and without long-term care insurance certification. *Nihon Ronen Igakkai Zasshi.* 2012; **49**: 82–89 (in Japanese).

26. Cohen CI, Teresi J, Holmes D, Roth E. Survival strategies of older homeless men. *Gerontologist* 1988; **28**: 58–65.

27. Gelberg L, Linn LS, Mayer-Oakes SA. Differences in health status between older and younger homeless adults. *J. Am. Geriatr. Soc.* 1990; **38**: 1220–1229.

28. Wolf J, Burnam A, Koegel P, Sullivan G, Morton S. Changes in subjective quality of life among homeless adults who obtain housing: A prospective examination. *Soc. Psychiatry Psychiatr. Epidemiol.* 2001; **36**: 391–398.

29. Hwang SW, Gogosis E, Chambers C *et al.* Health status, quality of life, residential stability, substance use, and health care utilization among adults applying to a supportive housing program. *J. Urban Health* 2011; **88**: 1076–1090.

30. Fitzpatrick-Lewis D, Ganann R, Krishnaratne S *et al.* Effectiveness of interventions to improve the health and housing status of homeless people: A rapid systematic review. *BMC Public Health* 2011; **11**: 638–638.

31. Hwang SW, Wong SY, Bargh GJ. Dyspepsia in homeless adults. *J. Clin. Gastroenterol.* 2006; **40**: 416–420.

32. Nelson G, Aubry T, Lafrance A. A review of the literature on the effectiveness of housing and support, assertive community treatment, and intensive case management interventions for persons with mental illness who have been homeless. *Am. J. Orthopsychiatry* 2007; **77**: 350–361.

33. Priebe S, Matanov A, Schor R *et al.* Good practice in mental health care for socially marginalised groups in Europe: A qualitative study of expert views in 14 countries. *BMC Public Health* 2012; **12**: 248.

地域在住高齢者の精神的健康度と認知機能低下との関連

Effect of Cognitive Decline on Mental Well-being:
A Community-based Cross Sectional Study

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ABSTRACT

AIM: To assess the effect of cognitive decline on mental well-being in community-dwelling elderly.

DESIGN: Cross-sectional

PARTICIPANTS: 2786 community-dwelling elderly

MEASUREMENTS: Mental well-being: the Japanese version of the World Health Organization-Five Well-Being Index (WHO-5-J). Cognitive function: the Japanese version of the Mini-Mental State Examination (MMSE-J).

RESULTS: In multivariate logistic regression analyses, cognitive decline independently associated with low mental well-being (odds ratio=1.22; 95% confidence interval=1.00–1.50) after controlling for potential confounding factors (age, gender, education, marital status, living alone or not, income level, perceived health, number of illnesses, central nervous system disorders, pain, instrumental activity of daily living, perceived forgetfulness, and perceived social support). After adjustment for deficit of judgment/problem solving, this association no longer met study criteria for statistical significance.

キーワード	Key words
地域在住高齢者	community-dwelling elderly
認知機能低下	cognitive decline
精神的健康度	mental well-being

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日本語版 WHO-5 　　World Health Organization-Five Well-Being Index
　　　　　　　　　　（WHO-5-J）
横断的研究　　　　　cross sectional

背景と目的

　Quality of Life（QOL）を維持・改善することが老年医学分野の重要な焦点になってきたと Lapid らは指摘する[26]。高齢者の QOL に影響を与える要因を考えるとき，精神疾患という側面だけをとってみても問題は複雑である。国内外の疫学調査によれば，高齢者の 1.8% に大うつ病，9.8% に小うつ病，13.5% に臨床的に明らかな抑うつ症状[9]が認められ，7% に不安障害[18]，6% に睡眠障害[38]，0.2% に統合失調症または妄想性障害[13]が認められると報告されている。認知症については，現在の有病率は 65 歳以上高齢者の 15% 程度[25]と推計されている。さらに，高齢者ではこれらの個々の精神障害がしばしば併存し[14, 11, 27]，また，診断基準を満たさない閾値下の精神症状も QOL に影響することが指摘されている[21]。しかしながら老年期の精神的健康あるいは老年期そのものが精神的健康に与える影響を考えるとき，精神疾患あるいは精神症状の有無を評価するだけでは十分ではない。心身の機能の衰えや，社会，その最小単位としての家族の中における役割の変化など，高齢者の体験の complexity ——複雑性——を統合し得る概念的枠組みが必要であり，精神的健康度という指標が有用となる。精神的健康度は精神的健康（メンタルヘルス）の主たる指標であり，QOL の中心的な要素であると Lawton は指摘している。

　客観的な認知機能の低下と精神的健康度との関連については未だ見解の一致をみないが，地域在住高齢者の精神的健康度が自覚的なもの忘れと関連することが報告されており[7, 10]，Mol ら[30]はかかりつけ医受診者から抽出された高齢者を対象とした 9 年間の前向きコホート研究を行い，自覚的なもの忘れと QOL の低下は関連し，かつ，その関連は持続することを報告している。我々の研究によっても「もの忘れが増えたと感じること」が精神的健康度の不良と強く関連することが明らかになった[19]。

　認知症の人の QOL，精神的健康度に関する研究は 1980 年代以降に行われてきた。近年の研究では，軽度認知障害[6, 31]も QOL と関連することが報告されている。明らかな認知症の発症に先立って認知機能障害が生じており，これが QOL に影響していることが考えられる。しかしながら地域在住高齢者の認知機能低下と精神的健康度との関連を検討した研究は少ない。Lapid ら[26]の地域在住の超高齢者 144 人を対象とした研究，Missotten ら[28, 29]の地域でケアを受けている認知症高齢者および施設入所中の認知症高齢者を対象とした研究のいずれにおいても，認知機能低下は QOL に関連しないことが報告されている。本邦において地域在住高齢者の認知機能低下と精神的健康度との関連を検討した研究は筆者が知る限りまだない。本研究では地域在住高齢者を対象とした横断研究を行い，認知機能低下と精神的健康度との関連を検討した。

方法

1. 対象

対象は 2013 年 3 月 31 日現在，東京都 A 市に在住する 65 歳以上全高齢者 7682 人（男性 3543 人，女性 4139 人）から無作為に抽出された 3000 人から，死亡 43 人，転居 56 人，調査協力拒否 112 人，その他 3 人の 214 人を除外した 2786 人（男性 1283 人，女性 1503 人）である。

本研究は東京都健康長寿医療センター研究所倫理委員会の承認を得て実施した。郵送調査に関しては本研究の目的，利用，参加の自由について文書で説明し，署名と調査票の返送をもって同意とした。訪問調査に関しては本研究の目的，利用，参加の自由について文書と口頭で説明し，書面にて同意を得た。

2. 調査方法

一次調査として郵送によるアンケート調査を実施した。アンケートの調査項目には社会人口統計学的要因と健康関連要因に関するものを含めた。二次調査として，訓練をうけた看護師による訪問調査を実施し，地域包括ケアシステムにおける認知症アセスメントシート[43,44] 21 項目版（Dementia Assessment Sheet in Community-based Integrated Care System-21; DASC-21）および認知機能検査を施行した。

精神的健康度は日本語版 World Health Organization-Five Well-Being Index（WHO-5-J）[8,4,5]を用い，13 点未満を精神的健康度不良と定義した。WHO-5 は国際的に広く用いられている精神的健康度の総合評価尺度で，日本語版 WHO-5 は Awata らにより信頼性，妥当性が確認されている[4,5]。質問は，「1. 明るく，楽しい気分で過ごした」，「2. 落ち着いた，リラックスした気分で過ごした」，「3. 意欲的で，活動的に過ごした」，「4. ぐっすりと休め，気持ちよくめざめた」，「5. 日常生活の中に，興味のあることがたくさんあった」の 5 項目から成り，それぞれについて最近 2 週間の状態を「いつも」から「まったくない」の 6 件法で評価する。ポジティブクエスチョンのみで構成される簡便な測度であり，一般住民を対象として施行する際にも抵抗が少ない[8]ことが日本語版 WHO-5 の特徴である。

人口統計学的要因は，年齢，性別，教育年数，婚姻状況，同居家族の有無，所得を評価した。年齢は 65 歳以上 75 歳未満，75 歳以上 84 歳未満，85 歳以上の 3 階級に分類した。教育年数について，対象者には旧教育制度で教育を受けた者が含まれるが，今回は現行の教育制度を基準として〜9 年（中学校卒に相当），10 年〜12 年（高等学校卒に相当），13 年〜（高等学校以降の教育歴ありに相当）の 3 階級に分類した。婚姻状況は「1. 現在，配偶者がいる」「2. 死別または離婚して，現在独身である」「3. 未婚である」「4. その他」の 4 件法で回答を求め，1 を「現在配偶者あり」，2，3，4 を「現在配偶者なし」に分類した。所得は 300 万円未満，300 万円以上 500 万円未満，500 万円以上の 3 階級に分類した（平成 24 年度高齢社会白書によれ

ば高齢世帯平均年収は 307.9 万円，全世帯平均所得は 549.6 万円であった）。

　健康関連要因については，主観的健康感，身体疾患既往歴の数，中枢神経系既往歴の有無，疼痛，手段的日常生活動作能力（Instrumental Activities of Daily Living; IADL）を評価した。主観的健康感は現在の健康状態について「1. よい」「2. まあよい」「3. ふつう」「4. あまりよくない」「5. よくない」の 5 件法で回答を求め，4，5 を「主観的健康感不良」に分類した。身体疾患既往歴の数は，高血圧，心臓病，糖尿病，高脂血症，呼吸器の病気（肺炎や気管支炎など），胃腸・肝臓・胆のうの病気，腎臓・前立腺の病気，筋骨格系の病気（骨粗しょう症，関節症など），外傷（転倒・骨折など），がん（悪性新生物），血液・免疫の病気，目の病気，耳の病気，その他，の 14 項目から「これまでに治療したことがある病気」を選択する複数回答を求めた。中枢神経系既往歴の有無については，脳卒中（脳出血・脳梗塞など），うつ病，認知症（アルツハイマー病など），パーキンソン病のいずれかの既往がある場合を「中枢神経系疾患の既往あり」とした。疼痛については過去 1 か月の身体の痛みについて，最も痛みの強かった箇所の痛みの程度を「1. 全然なかった」「2. かすかな痛み」「3. 軽い痛み」「4. 中くらいの痛み」「5. 強い痛み」「6. 非常に激しい痛み」の 6 件法で回答を求め，3，4，5，6 を「疼痛あり」とした。IADL は，DASC-21 に含まれる家庭外の IADL に関する 3 項目「一人で買い物はできますか」「バスや電車，自家用車などを使って一人で外出できますか」「貯金の出し入れや，家賃や公共料金の支払いは一人でできますか」と，家庭内の IADL に関する 3 項目「電話をかけることができますか」「自分で食事の準備はできますか」「自分で，薬を決まった時間に決まった分量のむことはできますか」を用い，それぞれ項目について，「1. 問題なくできる「2. だいたいできる」「3. あまりできない」「4. まったくできない」の 4 件法で回答を求め，家庭外の IADL と家庭内の IADL に分けて合計点を算出した。

　社会的要因はソーシャルサポートを評価した。ソーシャルサポートは村岡ら[32] の調査票により「困ったときに相談できる人はいますか」「体の具合が悪いときの相談相手がいますか」「日常生活を手助けしてくれる人がいますか（例）買い物，洗濯，掃除，食事の準備など」「具合が悪い時に病院に連れて行ってくれる人がいますか。」「寝込んだときに身のまわりの世話をしてくれる人はいますか。」の 5 項目で質問し，それぞれについて「はい」「いいえ」の 2 件法で回答を求めた。この 5 項目によって評価されるソーシャルサポートと高齢者の抑うつ症状との関連が明らかにされている[32, 23, 22]。

　自覚的もの忘れは，DASC-21 の導入質問「1 年前と比べてもの忘れが増えたと感じますか」を用いて「1. 感じない」「2. 少し感じる」「3. 感じる」「4. とても感じる」の 4 件法で回答を求めた。この質問項目は，自覚的もの忘れと精神的健康度が関連することを明らかにした先行研究[19] で用いたものである。「問題解決・判断力の障害」については，DASC-21 の問題解決・判断力に関する 3 項目「電気やガスが止まってしまったときに，自分で適切に対処できますか」「一日の計画を自分で立てることができますか」「季節や状況に合った服を自分で選ぶことができますか」のそれぞれについて「1. 問題なくできる」「2. だいたいできる」「3. あまりできな
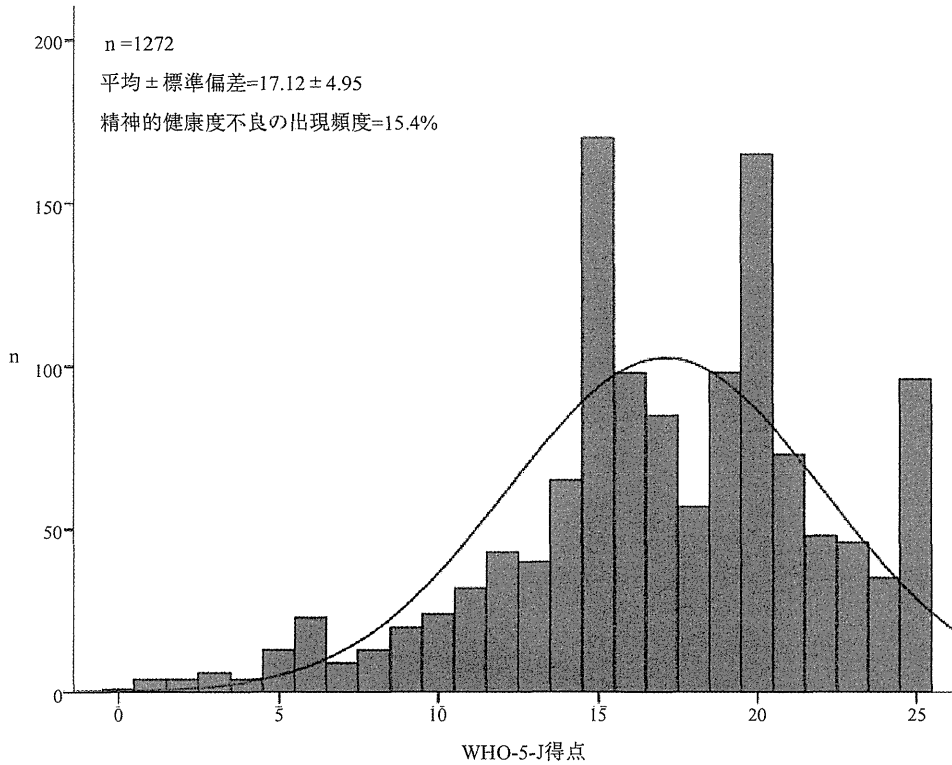
図1　精神的健康度の分布

い」「4. まったくできない」の4件法で回答を求め，合計点を算出した。

　認知機能の評価には，日本語版 Mini-Mental State Examination[16]（MMSE-J）を用いた。MMSE のカットオフ値は研究によって異なり，Folstein によるオリジナルは 20/21[16]，その後の検討で妥当と言われているのは 23/24 点である[2]。しかしながら MMSE が教育歴の影響を受けることが知られており，教育歴 13 年以上で 29/30 と高いカットオフを定めた研究もある[36]。本研究では4分位値を用いた。

3. 分析方法

PASW Statistics version 20 for Windows（SPSS inc. Chicago IL）を用いて，t- 検定，χ^2 検定，ロジスティック回帰分析を行った。$p < 0.05$ をもって有意水準とした。

結果

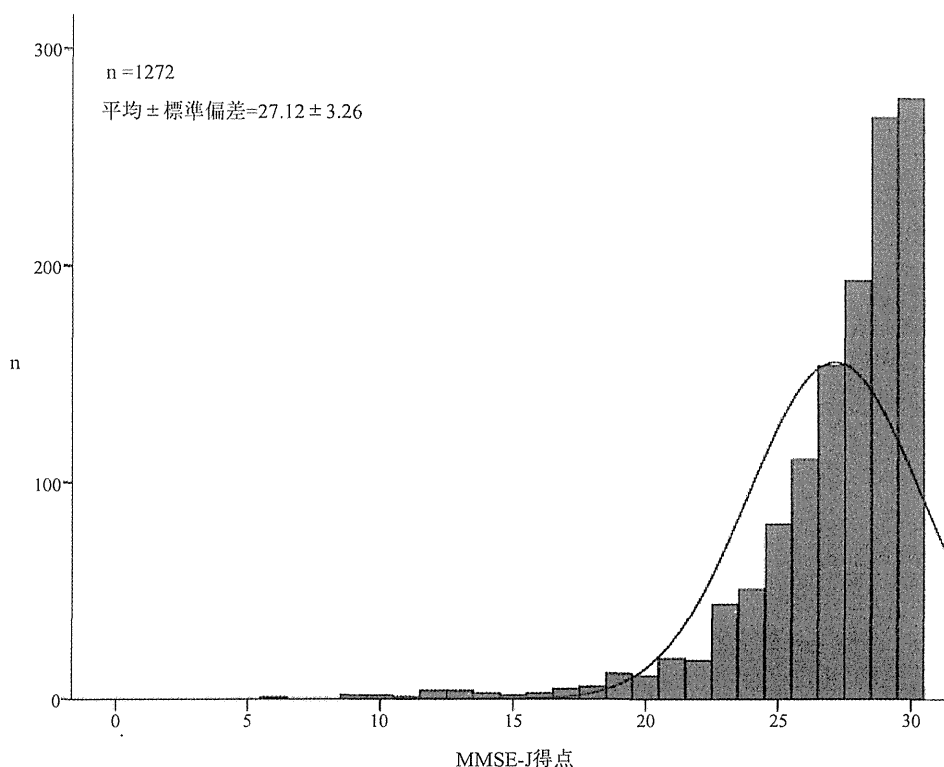### 1. 解析対象者の特徴

対象者のうち，1341 人（男性 659 人，女性 682 人）から同意を得て調査を実施した（調査

図 2 認知機能の分布

実施率 46.9%)。このうち WHO-5-J と MMSE-J のいずれにも欠損値のない 1272 人を解析対象とした。解析対象者と解析非対象者を比較すると男女比に有意差はなく（$\chi^2 = 1.48$, p=0.27），年齢にも有意差はなかった（t=－1.84, p=0.07)。

2. 精神的健康度の分布

　精神的健康度の分布について，WHO-5-J のヒストグラムを（図 1）に示す。WHO-5-J 得点の平均±標準偏差は 17.12 ± 4.95（歪度 =－0.60, 尖度 =0.34）で，精神的健康度不良の出現頻度は 15.4% だった。性別に見た WHO-5-J 得点の平均±標準偏差は，男性で 17.32 ± 5.11，女性で 16.92 ± 4.79 で有意差を認めず（t=1.46, p=0.15），精神的健康度不良の出現頻度についても男性で 15.7%，女性で 15.1% で，有意差を認めなかった（$\chi^2 = 0.09$, p=0.82)。

3. 認知機能の分布

　認知機能の分布について，MMSE-J のヒストグラムを（図 2）に示す。MMSE-J の平均±標準偏差は 27.12 ± 3.26（歪度 =－2.25, 尖度 =7.16）であった。性別にみた MMSE-J 得点の平均±標準偏差は，男性で 27.20 ± 3.07，女性で 27.05 ± 3.44 で有意差を認めなかった（t=0.77,

p=0.44）。

4. 認知機能低下と精神的健康度の関連

精神的健康度と認知機能について，WHO-5-J の得点と MMSE-J の得点の Spearman 相関係数は 0.093 であった（p=0.001）。

精神的健康度の関連要因を検討したロジスティック回帰分析の結果を表1，2 に示す。単変量解析（表 1）では，MMSE の得点が低いこと，年齢が高いこと，教育年数が低いこと，現在独身であること，所得が低いこと，主観的健康感が不良であること，身体疾患の既往歴が多い

表 1　精神的健康度の関連要因　単変量解析

		n	精神的健康度不良 (WHO-5-J < 13)	p	OR	95%CI
MMSE-J 合計得点	26 点未満	269	67	<0.001	1.36	1.06−1.15
	26 点以上 28 点未満	265	43			
	28 点以上 29 点未満	193	23			
	29 点以上	545	63			
性別	男	630	99	0.765	1.05	0.77−1.42
	女	642	97			
年齢	85 歳以上	91	25	0.001	1.47	1.16−1.85
	75 歳以上 85 歳未満	491	80			
	65 歳以上 75 歳未満	690	91			
教育年数	～9 年（中学校卒業までに相当）	255	57	<0.001	1.48	1.21−1.82
	10～12 年（高等学校卒業までに相当）	486	75			
	13 年～（高等学校以降の教育歴ありに相当）	512	59			
婚姻状況	現在独身	392	74	0.020	1.46	1.06−2.00
	現在配偶者あり	878	121			
同居家族の有無	同居家族なし	227	43	0.106	1.36	0.94−1.98
	同居家族あり	1037	152			
所得	300 万円未満	500	98	0.010	1.46	109−1.94
	300 万円以上 500 万円未満	236	32			
	500 万円以上	100	11			
主観的健康感	不良	187	77	<0.001	6.08	4.16−8.90
	良好	688	71			
身体疾患既往歴の数		1265	196	<0.001	1.20	1.10−1.31
中枢神経系既往歴の有無	あり	134	39	<0.001	2.57	1.70−3.86
	なし	1138	157			
疼痛	あり	520	112	<0.001	2.32	1.55−3.47
	なし	340	36			
家庭外の IADL		1270	196	<0.001	1.23	1.13−1.34
家庭内の IADL		1271	196	<0.001	1.16	1.09−1.24
ソーシャルサポート		1249	195	<0.001	1.35	1.23−1.49
自覚的物忘れ	あり	128	34	<0.001	2.19	1.43−3.36
	なし	1114	162			
問題解決・判断力の障害		1269	196	<0.001	1.3	1.19−1.44

OR : odds ratio, CI : confidencial interval, MMSE : Mini Mental State Examination, IADL : Instrumental Activities of Daily Living

表 2　精神的健康度の関連要因　多変量解析（変数増加法）

MMS E-J 得点	モデル 1			モデル 2		
	P	OR	95%CI	P	OR	95%CI
MMS E-J 得点	<0.001	1.36	1.20–1.54	0.005	1.28	1.08–1.51

	モデル 3			モデル 4			モデル 5		
	P	OR	95%CI	P	OR	95%CI	P	OR	95%CI
MMS E-J 得点	0.030	1.24	1.02–1.50	0.048	1.22	1.00–1.49	0.088	1.19	0.98–1.45

単変量解析で検討したすべての要因を共変量に投入し，変数増加法をもちいた多変量ロジスティック回帰分析．
モデル 2 で共変量として人口統計学的要因（性別，年齢，教育年数，婚姻状況，同居家族の有無，所得）を投入した．
モデル 3 で共変量としてさらに健康関連要因（主観的健康感，疼痛，身体疾患既往歴の数，中枢神経系疾患既往歴の有無，自覚的もの忘れ，家庭外の IADL，家庭内の IADL）を投入した．
モデル 4 で共変量としてさらに社会的要因（ソーシャルサポート）を投入した．
モデル 5 で共変量としてさらに「問題解決・判断力の障害」を投入した．

こと，中枢神経系疾患の既往歴があること，疼痛があること，家庭外の IADL が障害されていること，家庭内の IADL が障害されていること，ソーシャルサポートが不足していること，自覚的なもの忘れがあること，問題解決・判断力が障害されていることが，精神的健康度不良と有意に関連した。

　次に，単変量解析で検討したすべての要因を共変量に投入し，変数増加法をもちいた多変量ロジスティック回帰分析を行った。結果を（表 2）に示す。Step 2 で人口統計学的要因（性別，年齢，教育年数，婚姻状況，同居家族の有無，所得），Step 3 ではこれに加えて健康関連要因（主観的健康感，疼痛，身体疾患既往歴の数，中枢神経系疾患既往歴の有無，自覚的もの忘れ，家庭外の IADL，家庭内の IADL），Step 4 ではこれに加えて社会的要因（ソーシャルサポート）を投入したが，いずれの段階でも認知機能低下は精神的健康度不良と有意に関連した（OR=1.22，95% 信頼区間 =1.00–1.49）。次に，Step 5 でさらにこれに加えて「問題解決・判断力の障害」を投入したところ，認知機能低下と精神的健康度不良との関連は認められなくなった。

考察

　精神的健康度を指標とし地域在住高齢者を対象とした本邦の研究において，主観的健康感[17]，身体的健康[24]，もの忘れの不安[19]，ソーシャルサポート[20]と精神的健康度との強い関連が指摘されている。本研究では，これらの要因とは独立に認知機能低下が精神的健康度と関連し，この関連は「問題解決・判断力の障害」を投入することによって有意でなくなることが明らかになった。変数増加法を用いた多変量解析において，人口統計学的要因を投入すると，MMSE の得点（OR=1.28，95% CI=1.08–1.51），年齢（OR=1.39，95% CI=1.04–1.87）と精神的健康度との間に有意な関連が認められた。次に健康関連要因を投入すると，MMSE の得点（OR=1.24，

95% CI=1.02–1.50），主観的健康感（OR=3.78，95% CI=2.38–5.99）に加え，疼痛（OR=1.76，95% CI=1.10–2.84）が精神的健康度と有意に関連し，一方，精神的健康度と年齢との関連は有意でなくなった。このことから，年齢は精神的健康度に関連するが，疼痛を抱えることや主観的健康感が不良になることを介した関連である可能性が示唆される。次いで社会的要因を投入すると，MMSEの得点（OR=1.22，95% CI=1.00–1.48），主観的健康感（OR=3.85，95% CI=2.40–6.17），疼痛（OR=1.70，95% CI=1.05–2.75）に加えてソーシャルサポート（OR=1.36，95% CI=1.18–1.58）が精神的健康度と有意に関連した。ソーシャルサポートが精神的健康度と強く関連することは我々が本邦他地区で行った研究[20]の結果と矛盾しないものであった。ソーシャルサポートと精神的健康度との関連は，婚姻状況や同居家族の有無，所得，あるいは主観的健康感や疼痛とは独立して認められ，ソーシャルサポートは人口統計学的要因や身体的健康関連要因とは異なる独特の性質をもつ要因であると考えられる。次いで「問題解決・判断力の障害」を投入すると精神的健康度とMMSEとの関連は有意ではなくなった（OR=1.19，95% CI=0.98–1.45）。主観的健康感（OR=4.01，95% CI=2.48–6.46），疼痛（OR=1.65，95% CI=1.02–2.68），ソーシャルサポート（OR=1.37，95% CI=1.18–1.59），問題解決・判断力（OR=1.42，95% CI=1.09–1.86）と精神的健康度との間に有意な関連が認められた。

　本調査の結果は，認知機能低下が高齢者の精神的健康度の低下と強く関連することを示すものである。認知症とは，「認知症疾患が原因となって認知機能障害が起こり，認知機能障害が原因となって生活機能障害が起こって日々の生活に支障をきたすようになった状態」と定義される。軽度認知障害（Mild Cognitive Impairment: MCI）の概念は提唱者によって異なるが，今日もっとも一般的に用いられているWinbladの定義[45]によれば，生活機能障害が複雑な日常生活機能（complex instrumental function）の軽度の障害に限定される点で認知症と区別される。MCIの認知機能障害と生活機能障害との関連を検討した研究は多くはないが，記憶と実行機能・処理速度あるいは実行機能の要素としての推論・判断を要する手段的日常生活動作能力（Instrumental Activities of Daily Living: IADL）がMCIでも障害されること[34,41,42]，さらに，IADLの障害があるMCIはIADLの障害がないMCIに比べて認知機能障害が進行する速度が速く[35]，認知症への進展率も高い[33,35]ことが複数の研究で報告されている。認知症の生活機能障害について，軽度から中等度の認知症と診断された人が自身の能力低下を十分には自覚していないと報告した研究が散見されるが，MCIについても，正常群とMCIとの比較[1]，ADに進展しないMCIとADに進展するMCIとの比較[40]のいずれにおいても，後者でIADLの低下に対する自覚が乏しいことが報告されている。このように観察される事態について，自覚することの難しさの背景として「何ができないのか明確に言語化することの難しさ」を考える必要があるのではないだろうか。周囲の者がそれと気づく程度の，あるいは，簡易な認知機能検査に反映される程度の認知機能障害の出現に先立って，「何かがおかしい」「理由はわからないけど，なんだかいろいろなことが上手にできなくなっている」といった確実な自覚が本人にはあると齋藤は指摘している[39]。

ごく軽度の認知機能低下によって，具体的にたとえば「電車を使った外出ができない」「服薬管理ができない」といったような明確な焦点化はできないが，「何だかうまくいかない」という感覚が生じていることは，臨床の場面で確かに，正常老化の範囲内と診断される患者から聴取される。MCI では抑うつ，アパシー，不安焦燥などの神経心理学的症状の有症率が高く[3]，これらの症状と認知機能および生活機能低下との関連[12, 15, 37]が報告されており，MCI の診断基準を満たさない程度の認知機能低下でも，「何だかうまくいかない」たとえば「今日も何もせずに終わってしまった」，つまり客観的な事象あるいは症状としてとらえれば「一日の計画が立てられない」といった問題解決・判断力の障害は，全体的な認知機能低下よりも一層直接的に精神的健康度に強い影響を与える可能性が示唆される。

本研究は特定の都市部自治体に在住する高齢者を対象とした調査であり，結果の一般化には注意を要する。また，基本的日常生活動作能力（Basic Activities of Daily Living: BADL）の障害が高齢者の精神的健康度に与える影響については，BADL が障害されている対象者が極めて少なく検討することができなかった。

正常老化の範囲内ととらえられる認知機能低下から軽度認知障害，認知症へと進展は精神的健康度に影響を与える。しかし老年期は認知機能低下のほかにも精神的健康度に影響を与え得るさまざまな要因を抱えるリスクを負っている。社会的役割の喪失や身体的健康の喪失といった体験は認知症に先立つ段階から起こり得るものであり，精神的健康度に影響を与えるだろう。さらに言えば，たとえ認知機能低下を直接に体験しないとしても，家族介護者，とくに配偶者介護者はこのような被介護者の老年期の体験を共有する。従って本調査の結果は，精神的健康度と認知機能が直接的に関連するというよりは，老年期におこる様々な変化の複合体の影響として考えるべきであろう。長く疾病の治癒と生命の延長を目標として発展してきた医療のなかで，人が回避することができない老い，老いの体験としての認知機能低下と精神的健康度との関連を研究することによって，そもそも人間にとって精神的健康度とは何かということを問うために，老年期におこる様々な変化が精神的健康度に与える影響について今後のさらなる研究が望まれる。

結論

地域在住高齢者では，認知機能低下は精神的健康度不良に強く関連する。認知機能が低下した高齢者の精神的健康度の関連要因を明らかにし，老年期の精神的健康度の向上につながり得る介入を開発することが望まれる。

参考文献

1. Albert SM, Michaels K, Padilla M et al. (1999) Functional significance of mild cognitive impairment in elderly patients without a dementia diagnosis, *Am J Geriatr Psychiatry.* **7** (3), 213-220.

2. Anthony JC, LeResche L, Niaz U, von Korff MR, Folstein MF. (1982) Limits of the 'Mini-Mental State' as a screening test for dementia and delirium among hospital patients, *Psychol Med.* **12** (2), 397-408.

3. Apostolova LG, Cummings JL. (2008) Neuropsychiatric manifestations in mild cognitive impairment: a systematic review of the literature, *Dement Geriatr Cogn Disord.* **25** (2), 115-126.

4. Awata S, Bech P, Koizumi Y et al. (2007) Validity and utility of the Japanese version of the WHO-Five Well-Being Index in the context of detecting suicidal ideation in elderly community residents, *Int Psychogeriatr.* **19** (1), 77-88.

5. Awata S, Bech P, Yoshida S et al. (2007) Reliability and validity of the Japanese version of the World Health Organization-Five Well-Being Index in the context of detecting depression in diabetic patients, *Psychiatry Clin Neurosci.* **61** (1), 112-119.

6. Barrios H, Narciso S, Guerreiro M et al. (2013) Quality of life in patients with mild cognitive impairment, *Aging Ment Health.* **17** (3), 287-292.

7. Bazargan M, Bazargan S. (1997) Self-reported memory function and psychological well-being among elderly African American persons, *Journal of Black Psychology.* **23** (2), 103-119.

8. Beck P, Olsen LR. (2003) Measureing well-being rather than the absence of distress symptoms: a comparison of the SF-36 Mental Health subscale and the WHO-Five Well-Being Scale., *Int J Methods Psychiatr Res.* **12** (2), 85-91.

9. Beekman AT, Copeland JR, Prince MJ. (1999) Review of community prevalence of depression in later life, *Br J Psychiatry.* **174**), 307-311.

10. Benito-Leon J, Mitchell AJ, Vega S, Bermejo-Pareja F. (2010) A population-based study of cognitive function in older people with subjective memory complaints, *J Alzheimers Dis.* **22** (1), 159-170.

11. Cairney J, Corna LM, Veldhuizen S, Herrmann N, Streiner DL. (2008) Comorbid depression and anxiety in later life: patterns of association, subjective well-being, and impairment, *Am J Geriatr Psychiatry.* **16** (3), 201-208.

12. Chan DC, Kasper JD, Black BS, Rabins PV. (2003) Prevalence and correlates of behavioral and psychiatric symptoms in community-dwelling elders with dementia or mild cognitive impairment: the Memory and Medical Care Study, *Int J Geriatr Psychiatry.* **18** (2), 174-182.

13. Copeland JR, Dewey ME, Scott A et al. (1998) Schizophrenia and delusional disorder in older age: community prevalence, incidence, comorbidity, and outcome, *Schizophr Bull.* **24** (1), 153-161.

14. Devanand DP, Sano M, Tang MX et al. (1996) Depressed mood and the incidence of Alzheimer's disease in the elderly living in the community, *Arch Gen Psychiatry.* **53** (2), 175-182.

15. Feldman H, Scheltens P, Scarpini E et al. (2004) Behavioral symptoms in mild cognitive impairment, *Neurology.* **62** (7), 1199-1201.

16. Folstein MF, Folstein SE, McHugh PR. (1975) "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician, *J Psychiatr Res.* **12** (3), 189-198.

17. 藤城有美子, 平部正樹, 山極和佳 他. (2010) 高齢化地域におけるこころの健康, 人間総合科学. **18**, 21-29.

18. Gum AM, King-Kallimanis B, Kohn R. (2009) Prevalence of mood, anxiety, and substance-abuse disorders for older Americans in the national comorbidity survey-replication, *Am J Geriatr Psychiatry.* **17** (9), 769-781.

19. Ito K, Inagaki H, Sugiyama M et al. (2013) Association between subjective memory complaints and mental