Role of the Medical Care Center for Senile Dementia in the Long-Term Care Insurance System in Japan

Role of the Medical Care Center for Senile Dementia in the Long-Term Care Insurance System in Japan

Tomoji TAKATA, Ken TAKAOKA, Yasutaka SONE* and Kazuko SONE**

Department of Psychopathology, Division of Neuroscience, Gifu University School of Medicine
(Director: Prof. H. KOIDE)
**Okute Hospital*
***Department of Psychiatry, Daiyukai General Hospital*

The authors reviewed the medical records of 203 cases of people who underwent medical examinations at the Medical Care Center for Senile Dementia（MCCSD）of a local general hospital in Japan between September 1999 and March 2001. 133 of the patients suffered from dementia in Alzheimer's disease, 30 from vascular dementia, 12 from mixed dementia, and 28 from another type of dementia or psychiatric disorder. 131 of these individuals exhibited behavioral and psychological symptoms of dementia（BPSD）, and 147 applied to the Long Term Care Insurance（LTCI）system which was introduced for residents aged 40 years or above. Most of the patients with a Clinical Dementia Rating（CDR）score of 3 were judged as having a high level of care need by the LTCI system, and those with a CDR score of 1 or less were also judged as having an adequate level of care need that corresponded to their decline in activities of daily life. The patients with a CDR score of 2 were, however, judged inadequately as having various levels of care need because their BPSD were undervaluated. This tendency was remarkable in the group of AD patients. Consequently, undervaluation of BPSD resulted in a discrepancy between the CDR score and the level of care need. The MCCSDs in the LTCI system are potentially able to play a definite role in providing sufficient care services for individuals with dementia. For adequate function of the LTCI system, it is necessary for the MCCSD to evaluate BPSD points correctly.

Acta Sch Med Univ Gifu 52：1－5（2004）
Key words：Medical Care Center for Senile Dementia, Long-Term Care Insurance, dementia in Alzheimer's disease, BPSD

INTRODUCTION

In 1989, the Japanese Ministry of Health and Welfare advised each prefecture to establish a Medical Care Center for Senile Dementia（MCCSD）. The function of the MCCSD is to promote health and welfare services for elderly persons with dementia and their family by providing medical consultation, diagnosis, treatment and emergency care and by promoting cooperation between welfare institutions and administrative agencies for the aged.

In 1997, the Long-Term Care Insurance（LTCI）law was enacted in Japan. According to this law, the insurer is the municipal government and the insured are residents aged 40 years and above. The insured are divided into two categories: insured I, which includes persons aged 65 years or over, and insured II, which includes individuals aged 40 through 64 years. Individuals among the latter group are qualified to use LTCI only when they suffer from one or more of fifteen specified diseases such as presenile dementia, cerebrovascular disease, amyotrophic lateral sclerosis, or Parkinson's disease. LTCI grants benefits for institutional or community care. To be granted an LTCI benefit, the insured must apply to the insurer and allow his or her needs to be assessed by health care officials. The LTCI benefit is granted on the basis of the level of care needed, which can be classified as self-support, borderline, or levels 1-5（see Appendix）. As a rule, the level of care needed is judged first via a computerized evaluation system and then via a council that consists of a few general physicians in the community.

In 1999, every municipal government prepared for the LTCI system and began evaluating the severity of dementia exhibited by applicants. A year later, the LTCI system was introduced. The purpose of the present study was to examine the role of the MCCSD in the LTCI system in Japan.

METHODS

The authors reviewed the medical records of 203 individuals aged 49 years and above who underwent medical examinations at the Kikugawa General Hospital MCCSD, a local community health center in Japan, between September 1999

2003年11月25日受理

and March 2001. We classified these individuals into four groups according to their ICD-10[1] diagnosis: Alzheimer's disease (AD), vascular dementia (VD), mixed dementia (MD), and other dementia or psychiatric disorder. We compared these four groups with respect to age and sex; Clinical Dementia Rating (CDR) score[2)3)]; Mini-Mental State Examination (MMSE) score[4)]; behavioral and psychological symptoms of dementia (BPSD) and physical comorbidities[5)]; activities of daily living (ADL) score for which subdivisions I, IIa, IIb, IIIa, IIIb and IV each corresponded to a degree of decline in ADL and for which subdivision M represents the need for medical treatment[6)]; and the level of care needed[7)].

The two-sided t-test and chi-square test were used as needed for statistical analysis. P values < 0.05 were considered statistically significant.

RESULTS

133 (65.5%) of the total 203 individuals suffered from AD, 30 (14.8%) from VD, 12 (5.9%) from MD, and 28 (13.8%) from other dementia or psychiatric disorder.

Age and Sex: There were no significant differences in age between the four groups at the time of the first medical examination. The only difference in sex was between the VD group and the AD group, which had significantly more females (chi-square test, $p<0.05$) (Table 1).

CDR score: 125 (61.6%) individuals had a CDR score of 1 or less. The distribution of CDR scores did not differ between the four groups (Table 2).

MMSE score: As for the mean MMSE score in relation to CDR scores, there were no significant differences between the four groups. The CDR score correlated inversely with the mean MMSE score (Table 3).

Table 1 Age and Sex of subjects per type of dementia

	Total		AD		VD		MD		Other	
Age(y)	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
−49	1				1					
50−59	2				1				1	
60−64	2	3		3	1				1	
65−69	5	7	2	3	1				2	4
70−74	10	4	6	2	1	1		1	3	
75−79	11	36	8	21	3	3		3		9
80−84	15	40	11	32	3	4	1	2		2
85−89	16	30	9	20	3	4	2	2	2	4
90−94	2	18	1	15	1	2		1		
95−99		1				1				
Total	64	139	37	96	15	15	3	9	9	19
	203		133		30		12		28	
Mean Age(y)	77.2	81.7	80.4	82.1	71.1	84.0	85.7	81.7	71.4	77.5
	80.3		81.7		77.6		82.7		75.5	

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder

Table 2 CDR scores per dementia type

	AD	VD	MD	Other	Total
CDR score	Number(%)*	Number(%)*	Number(%)*	Number(%)*	Number(%)*
0				5 (17.9)	5 (2.5)
0.5	22 (16.5)	7 (23.3)	2 (16.7)	10 (35.7)	41 (20.2)
1	54 (40.6)	9 (30.0)	5 (41.7)	11 (39.3)	79 (38.9)
2	38 (28.6)	11 (36.7)	3 (25.0)	2 (7.1)	54 (26.6)
3	19 (14.3)	3 (10.0)	2 (16.7)		24 (11.8)

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder
CDR = Clinical Dementia Rating
*( ) = percentage to the total number of patients in the group

BPSD and physical comorbidity : 131(64.5%)individuals exhibited BPSD. The number of VD patients with physical comorbidity was significantly greater than the number of AD patients with such comorbidity (chi-square test, $p<0.005$) (Table 4).

ADL score: As for ADL score in relation to CDR scores, there were no significant differences between the four groups. The CDR score is likely to be in proportion to the ADL score (Table 5).

Level of care needed : 147 (72.4%) individuals applied to the LTCI. There was not a significant relation between the levels of care needed and the CDR scores in each group (Table 6).

Table 3 CDR score in relation to mean MMSE score per dementia type

	AD	VD	MD	Other
CDR score	MMSE score (SD)	MMSE score (SD)	MMSE score (SD)	MMSE score (SD)
0				24.4 (8.71)
0.5	21.5 (2.20)	21.1 (4.33)	20.5 (2.12)	24.8 (2.30)
1	17.5 (3.25)	19.9 (2.52)	16.8 (1.64)	18.8 (3.57)
2	12.8 (3.42)	11.7 (5.80)	13.3 (3.06)	13.0 (0)
3	6.6 (4.05)	2.0 (2.65)	8.5 (3.54)	

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder
CDR = Clinical Dementia Rating
MMSE=Mini-Mental State Examination

Table 4 BPSD and physical comorbidity according to CDR per dementia type

	AD					VD					MD					Other					
	CDR					CDR					CDR					CDR					
	0.5	1	2	3	total	0.5	1	2	3	total	0.5	1	2	3	total	0	0.5	1	2	3	total
BPSD	8	32	31	13	84 (63.2)	6	7	8	0	21 (70.0)	2	4	3	1	10 (83.3)	2	4	8	2	0	16 (57.1)
Physical comorbidity	13	43	21	14	91 (68.4)	7	9	10	3	29 (96.7)	2	5	2	2	11 (91.7)	5	8	11	1	0	25 (89.3)

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder
BPSD = behavioral and psychological symptoms of dementia
( ) = percentage to the total number of patients in the group

Table 5 ADL scores according to CDR per dementia type

	AD				VD				MD				Other				
	CDR				CDR				CDR				CDR				
	0.5	1	2	3	0.5	1	2	3	0.5	1	2	3	0	0.5	1	2	3
Normal													3	1			
I	2				1								2	3			
IIa	19	3			3	2	1		2	1				4	1		
IIb		42	2		1	5	1			2					7		
IIIa		5	22			1	7				1						
IIIb		1	10							1	2					2	
IV				13				3				1					
M	1	3	4	6	2	1	2			1		1		2	3		

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder
CDR = Clinical Dementia Rating

Table 6 Levels of care needed according to CDR per type of dementia

	AD				VD				MD				Other				
	CDR				CDR				CDR				CDR				
	0.5	1	2	3	0.5	1	2	3	0.5	1	2	3	0	0.5	1	2	3
Self-support		1															
Borderline	2	4	1		1						1			2	2		
Level 1	6	18	10			1	2		1	1		1	1	2	1		
Level 2		7	8			5				2	1				4	1	
Level 3	1	1	7	4			1				1						
Level 4		3		8		2	3						1			1	
Level 5	1		2	2	1		2	2				1					
Unknown	1	5	3	2	1		2			1				1	1		
No application	11	15	7	3	4	1	1	1	1	1			3	5	3		

AD = Alzheimer's disease, VD = vascular dementia, MD = mixed dementia, Other = other dementia or psychiatric disorder
CDR = Clinical Dementia Rating

DISCUSSION

More than half of the study subjects suffered from dementia in AD. This is true for other MCCSDs as well[8)9)]. There are two possible reasons for this. One is that, at the onset of VD, most patients suffer from cerebral apoplexy, foudroyant paralysis, or other physical symptoms; thus their dementia is diagnosed incidentally. The other is the high prevalence of AD in Japan[10)].

The male/female ratio among our AD patients was approximately 1 ：2.5. According to other MCCSD reports[8)9)], it is common for patients with AD to include significantly more females than we found among patients with VD. The mean age of our study patients did not differ from that of other MCCSD reports. Therefore, our subjects are considered to represent those of other MCCSDs.

The fact that nearly 75% of our study subjects applied to the LTCI implies the following: families of the elderly desire appropriate testing of members suspected of having dementia, which causes annoying behaviors; families expect to learn how to manage patients' behavior medically; and families wish to obtain appropriate care for the needy members. Consequently, correct evaluation of BPSD as well as physical disease is important.

The fact that nearly 65% of the individuals exhibited BPSD highlights the enormity of this problem. The highest BPSD rates are seen in patients with a CDR of 2 followed by a CDR of 1, implying that patients with moderate dementia are likely to present BPSD.

Despite the distribution of MMSE, ADL and CDR scores, there was not a significant association between the levels of care assigned and the CDR scores. Most of the patients with a CDR score of 3 were judged to need a high level of care after correct diagnosis, and those with a CDR score of 1 or less were also judged to need a level of care commensurate with their decline in ADL. The patients with a CDR score of 2, however, were judged inadequately: their need for care was assigned to various levels because their BPSD were undervaluated despite the high rate of occurrence. This trend was remarkable in the group of AD patients.

According to the LTCI law, when the level of care required by an individual with dementia is judged by health care officials, the BPSD should be taken into account. Nevertheless, the BPSD have been undervaluated because the system for judging the level of care needed is inadequate[11)]. This is likely due to uniformity of the primary computerized evaluation of individuals with dementia despite the differences between them, and also to the secondary evaluations of the council, which does not necessarily consist of specialists in geriatric psychiatry. The discrepancy between the CDR score and the level of care assigned due to undervaluation of the BPSD is likely to cause insufficient provision of care, particularly among patients with a CDR score of 2. Thus, it is necessary for BPSD to be evaluated and treated adequately in the LTCI system.

The MCCSDs can play a definite role in the LTCI system by providing services for individuals with dementia. For adequate functioning of the LTCI system, the MCCSD must be able to correctly evaluate BPSD exhibited by patients.

REFERENCES

1) World Health Organization: The ICD-10 Classification of mental and Behavioural Disorders: Clinical descriptions and diagnostic guidelines. Geneva, WHO, 1992.
2) Hughes CP, Berg L, Danziger WL, Coben LA, Martin RL: A new clinical scale for the staging of dementia. Brit J Psychiat 140, 566—572 (1982)
3) Gelb DJ, St. Laurent RT: Alternative calculation of the

global clinical dementia rating. Alzheimer Disease and Associated Disorders 7, 202－211 (1993)
4) Folstein MF, Folstein SF, McHugh PR: "Mini-Mental State": A practical method for grading the cognitive state of patients for clinician. J Psychiatr Res 12, 189－198 (1975)
5) International Psychogeriatric Association: Behavioral and Psychological Signs and Symptoms in Dementia (BPSSD) : implications for research and treatment. Int Psychogeriatr 8 (Suppl. 3), 215－552 (1996)
6) Japanese Health and Welfare Bureau for the Elderly, Japanese Ministry of Health and Welfare: The manual of criteria of activities of daily life (ADL) for elderly persons with dementia. Tokyo, Shinkikakusyuppansha, 1994.
7) Satou N: The Long-Term Care Insurance: Its system and mechanism. Tokyo, Kenpakusha, 1999.
8) Tanaka Y, Yoshinaga J, Sasaki T, Nakamura Y, Kikumoto O, Akechi T, Yoshimura Y, Hikiji A: Four-year activity report of municipal clinical center of senile dementia. Journal of Hiroshima City Hospital 11, 77－80 (1995)
9) Ueki A, Shimode Y, Maki H, Nakashima T, Sugiura T, Miwa C, Ohara K, Takauchi S, Morita Y, Kitutaka M, Miyosi K: Ten-year activity report of the Medical Care Center for Senile Dementia of Hyougo Prefecture. Japanese Journal of Geriatric Psychiatry 11, 700－701 (2000)
10) Homma A: Epidemiology of senile dementia in Japan. Japanese Journal of Geriatric Psychiatry 10, 895－900 (1999)
11) Shigenobu K, Ikeda M, Maki N, Tanabe H: Difference between first appraisal and clinical estimation appraisal in a New Social Insurance System Covering Long-Term Care Service: in terms of dementia and non dementia. Psychiat Neurol Jap 104, 717－721 (2000)

APPENDIX

The monetary benefit is meted out according to the level of care needed, which determines the perdiem cost for institutional care and the monthly budget cap for home care as shown below.

Level of care needed and benefit

	Monthly cap for home care (visiting and ambulatory services) (yen)	Perdiem cost for institutional care (skilled nursing facilities) (yen)
borderline	6150	not permitted
level 1	16580	880
level 2	19480	930
level 3	26750	980
level 4	30600	1030
level 5	35830	1080

Relative values are shown. The unit value is between 10 yen and 10.72 yen, depending upon the location of the facility. For example, in skilled nursing facilities in Kikugawa-town, the perdiem cost for level 5 services will be: 1080×10 yen = 10800 yen. Recipients' copayment is 10% (e.g.) in the above case, the recipient will pay 1080 yen and the provider will bill the insurance system 9720 yen.

介護保険制度下での老人性痴呆疾患センターの役割

共立菊川総合病院老人性痴呆疾患センターに1999年9月から2001年3月までに外来受診した203件を検討した。診断は，アルツハイマー病の痴呆133件，血管性痴呆30件，混合型痴呆12件，その他28件であった。受診時，131件がBPSD (behavioral and psychological symptoms of dementia) を呈しており，147件が介護保険の申請を求めた。CDR (Clinical Dementia Rating) 3の介護度は概ね高く認定され，CDR 1以下はADLの低下に応じて介護度は高くなっていた。しかし，CDR 2ではBPSDが軽視され，認定は一定していなかった。この傾向はアルツハイマー病群に強く現れていた。介護保険制度が適切に機能していくためには，BPSDを正しく評価し適切に対応していくことが必要であり，それに対する老人性痴呆疾患センターの役割が地域においてますます重要になってきていることが指摘できる。