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育場合意の運動器疾患

25

介護福祉士のための教養学

3

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## Attitudes toward disclosing the diagnosis of dementia in Japan

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#### **ABSTRACT**

**Background:** The rapid increase in the elderly population in Japan has triggered a debate on whether or not patients with dementia should be informed of their diagnosis. The purpose of the present study was to investigate the attitudes of people in a large city in Japan toward the disclosure of a diagnosis of dementia.

**Methods:** In Study 1, 2000 residents aged 40–64 and 5000 residents aged 65 and over were sampled randomly, and a structured questionnaire was sent to them by mail. In Study 2, we administered a structured interview-based questionnaire to 3949 randomly enrolled residents of Nagoya City aged 45 and over whose family member had been certified as needing long-term care.

**Results:** In Study 1, 79.8% of the younger respondents (n=710) stated that they would prefer the disclosure of a hypothetical diagnosis of dementia, as did 75.5% of the older respondents (n=2162). Furthermore, 85.1% (n=749) of the younger respondents and 82.5% (n=2181) of the older respondents stated that they would prefer that the patient be told his or her hypothetical diagnosis of dementia. In Study 2, in the case of care recipients without dementia, 68.3% (n=650) of their family members preferred disclosure of a hypothetical diagnosis of dementia. Among the families of care recipients who had dementia, 58.4% (n=301) of family members preferred disclosure.

**Conclusions:** The present survey of caregivers and non-caregivers in an urban city of Japan demonstrated that the desire for disclosure of a diagnosis of dementia is relatively high.

Key words: dementia, diagnosis, long-term care insurance system, adult guardianship

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#### 2 H. Umegaki et al.

#### Introduction

Japan has been experiencing the fastest growth of the elderly population in the world and the percentage of the population aged 65 years old and over finally exceeded 20% in 2006. A mandatory social long-term care insurance system was therefore implemented in Japan in April 2000; all people aged 65 and older are eligible to benefit from institutional and community-based services upon certification of their need for care. In 2003, more than 3.8 million people were certified to receive long-term care insurance benefits in Japan. In parallel with the introduction of long-term care insurance, the adult guardianship law came into effect to shift the system from one of enforcement to one of contract. The law is applied to a person whose mental capacity is impaired due to dementia, mental deficiency or mental illness, and is aimed at securing legal advocacy of his/her own autonomy (Nakatani, 2000).

With the increase in the elderly population, the number of people with dementia is also steadily increasing. Because patients with dementia may be unable to understand the implications of their diagnosis or make decisions on clinical, social or financial issues, their caregivers have a unique role in the process of disclosing the diagnosis of dementia. A growing national concern for older people with dementia, particularly after the introduction of the long-term care insurance system and the increase in the number of people with dementia, has triggered a debate on whether or not patients should be informed of their diagnosis.

The results of previous reports on the opinions of caregivers toward diagnostic disclosure of dementia to the care recipients were largely inconsistent (Bamford et al., 2004). In Japan the results of domestic reports regarding this issue were also in disagreement (Sugiyama et al., 2003; Yamashita et al., 2002). In the present study we surveyed the attitudes of both caregivers and non-caregivers toward the disclosure of a diagnosis of dementia; our subjects were a population sampled in a large city in Japan.

#### Methods

The study consisted of two protocols, both of which were carried out in Nagoya City, which is located in the central part of Japan. Nagoya City has a population of 2 202 259 (April 2004), of whom 18.0% are 65 years of age or older. This study was developed and organized by Nagoya City and was supported by the Department of Geriatrics of Nagoya University Graduate School of Medicine. Written informed consent was obtained from all participants.

#### Study 1

Two thousands residents aged 40–64 and 5000 residents aged 65 and over were sampled randomly and a structured questionnaire was sent to them in December 2004. People residing in long-term care facilities and those admitted to hospitals were excluded. The questionnaire asked the participants about their background, their perceptions of dementia, level of anxiety about possible future dementia, awareness of the adult guardianship law and attitude toward the disclosure of a diagnosis of dementia. The care needs of the older participants were also surveyed. In the long-term care insurance system in Japan, all care recipients have their care needs categorized into seven levels [not eligible (independent), need support, and care need levels 1–5] depending on their physical and mental capabilities.

#### Study 2

We randomly enrolled 3949 residents of Nagoya City aged 45 and over who had been certified as requiring long-term care. Of these participants, 1885 were actively using at least one type of service provided by public long-term care insurance, and 2064 were not currently using any of these services. A structured interview-based questionnaire was administered to the families of the enrolled people by the investigators to evaluate the physical and mental status of the participants for determination of their care needs. Home-visit interviews were carried out between October and November 2004. The questionnaire asked about the background of the people in need of care, the awareness of the family caregiver of the adult guardianship law and the attitude of the caregiver toward the disclosure of a diagnosis of dementia. If the people in need of care were found to have dementia at the time of the questionnaire, a short memory questionnaire (SMQ; Koss *et al.*, 1993) was administered and the possibility of disclosure to the patient was investigated.

#### Statistical analysis

Pearson's correlation coefficients (r) were calculated for parametric data and Spearman's rank-order correlation coefficients ( $\rho$ ) were calculated for non-parametric data. We used the  $\chi^2$ -test, the Kruskal-Wallis test and a one-way analysis of variance (ANOVA) for categorical comparisons of the data. Tukey's test was performed for multiple comparisons when the ANOVA showed a significant difference. Differences in the means of the SMQ among the groups were tested using the Student's t-test. A p-value of < 0.05 was considered to indicate statistical significance; all tests were two-tailed. All statistical analyses were performed on a personal computer with the statistical package SPSS 11.0 for Windows (SPSS, Inc., Chicago, IL, USA).

#### 4 H. Umegaki *et al.*

#### Results

#### Study 1

A total of 942 younger residents (47.1%) and 3273 (65.5%) older residents returned our questionnaire. Among the older residents, 173 were excluded because they were in hospital (n = 53), were residing in long-term care facilities (n = 106), had moved or died (n = 5), or the address of residence was unknown (n = 9). Characteristics of the respondents are shown in Table 1.

The perceptions of dementia by the respondents are shown in Table 2. Trends in answers are similar in younger and older participants. Approximately half of the participants answered that dementia is a morbid condition and more than 40% regarded dementia as a progressive disease. More than 10% of the respondents were not familiar with dementia as a disease.

Among the younger respondents, 34.1% (n=308) said that they feared that they might develop dementia in the future, and 32.0% of the older

Table 1. Characteristics of responders in Study 1

	YOUNGER	OLDER	
	RESPONDENTS $(n=942)$	RESPONDENTS $(n=3100)$	p-VALUE
	. ( / 2-/	(,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	P
Gender			
Male	395 (42.3)	1403 (45.6)	< 0.042
Female	538 (57.7)	1673 (54.4)	
Age (years)			
40-49	306 (32.5)		
50-59	394 (41.9)		
60-64	241 (25.6)		
6569		934 (30.3)	
70–79		1548 (50.3)	
80-89		541 (17.6)	
90+		57 (1.9)	
Certified care needs			
None		2548 (87.1)	
Need support		123 (4.2)	
Level 1		124 (4.2)	
Level 2		52 (1.8)	
Level 3		40 (1.4)	
Level 4		24 (0.8)	
Level 5		16 (0.5)	
Residency status			
Live by oneself	78 (8.6)	538 (20.6)	< 0.001
Live with spouse	199 (21.9)	282 (10.8)	
Other	633 (69.6)	1794 (68.6)	

Values are n (%).

Table 2. Perceptions of dementia among respondents

		TEND	TEND	
	YES	TO YES	TO NO	NO
Younger respondents				
Morbid condition	480 (67.9)	165 (23.3)	32 (4.5)	30 (4.2)
Disease of increasing frequency	466 (66.4)	181 (25.8)	35 (5.0)	20 (2.8)
Anyone may have dementia	441 (62.8)	163 (23.2)	53 (7.5)	45 (6.4)
Unfamiliar and scary disease	428 (48.0)	257 (28.8)	109 (12.2)	97 (10.9)
Familiar disease	302 (42.4)	280 (39.3)	86 (12.1)	44 (6.2)
Fatal disease	338 (38.9)	269 (30.9)	137 (15.7)	126 (14.5)
Disease unrecognized by society	303 (33.9)	360 (40.3)	129 (14.4)	102 (11.4)
Shameful disease	140 (15.7)	237 (26.7)	211 (23.7)	301 (33.9)
Untreatable disease	93 (10.4)	167 (18.7)	254 (28.4)	379 (42.4)
Older respondents				
Morbid condition	1528 (60.7)	659 (26.2)	194 (7.7)	135 (5.4)
Disease of increasing frequency	1387 (58.1)	775 (32.5)	218 (9.1)	8 (0.3)
Anyone may have dementia	1307 (50.5)	715 (27.6)	292 (11.3)	272 (10.5)
Unfamiliar and scary disease	1520 (60.5)	593 (23.6)	187 (7.4)	214 (8.5)
Familiar disease	1149 (44.9)	992 (38.8)	260 (10.2)	156 (6.1)
Fatal disease	978 (51.8)	631 (33.4)	275 (14.6)	5 (0.3)
Disease unrecognized by society	1112 (44.8)	832 (33.5)	250 (10.1)	290 (11.7)
Shameful disease	762 (31.2)	628 (25.7)	378 (15.5)	678 (27.7)
Untreatable disease	451 (18.1)	525 (21.0)	541 (21.7)	979 (39.2)

respondents (n=927) had the same fear. Another 29.3% (n=265) of younger and 28.3% (n=821) of older respondents stated that they sometimes feared future dementia, while 28.1% (n=254) of younger and 28.0% of older respondents (n=813) rarely had this fear. Eight and a half percent (n=77) of younger respondents and 11.7% of older respondents (n=339) had no fear at all that they might have dementia in the future.

With regard to the adult guardianship law, 30.5% (n=271) of younger respondents and 28.6% (n=797) of older respondents knew about the law, but the majority of both younger (n=617, 65.5%) and older respondents (n=1994, 71.4%) did not know about it.

To a question assuming that the respondent would be afflicted with dementia in the future, 79.8% (n=710) of younger respondents and 75.5% (n=2162) of older respondents stated they would prefer to be told their diagnosis, while only 3.4% (n=30) of younger respondents and 4.8% (n=138) of older respondents do not wish to be told. The rest answered "don't know." The percentage of younger respondents who preferred disclosure was significantly higher than that of older respondents (p=0.025); the reasons given for preferences regarding disclosure are shown in Table 3. Some of these reasons show a significant

Table 3. Disclosure of a diagnosis of dementia

YOUNGER PEOPLE (n=710)	OLDER PEOPLE (n=2162)	p-VALUE
199 (28.0) 534 (75.2)	633 (29.3) 1292 (59.8)	0.279 < 0.001
459 (64.6)	1297 (60.0)	0.015
298 (42.0)	1005 (46.5)	0.020
YOUNGER PEOPLE (n=30)	OLDER PEOPLE (n=138)	p-VALUE
17 (56.7)	49 (35.5)	0.004
15 (50.0)	55 (39.9)	0.206
21 (70.0)	58 (42.0)	0.275
4 (13.3)	30 (21.7)	0.219
7 (23.3)	53 (38.4)	0.086
	PEOPLE (n=710) 199 (28.0) 534 (75.2) 459 (64.6) 298 (42.0) YOUNGER PEOPLE (n=30) 17 (56.7) 15 (50.0) 21 (70.0) 4 (13.3)	PEOPLE (n=710) (n=2162)  199 (28.0) 633 (29.3) 1292 (59.8)  459 (64.6) 1297 (60.0)  298 (42.0) 1005 (46.5)  YOUNGER PEOPLE (n=30) (n=138)  17 (56.7) 49 (35.5)  15 (50.0) 55 (39.9)  21 (70.0) 58 (42.0)  4 (13.3) 30 (21.7)

difference between younger and older respondents. However, in answer to a question assuming that a family member of the respondent has dementia, 85.1% (n=749) of younger respondents and 82.5% (n=2181) of older respondents stated that they would prefer that the patient be told his or her diagnosis, while only 4.7% (n=41) of younger participants and 4.0% (n=106) of older participants do not wish the patient to be told. The percentage of respondents who preferred telling the diagnosis of dementia to an affected family member did not differ significantly between younger and older respondents (p=0.293).

The reasons given for preferences regarding the disclosure of a diagnosis of dementia to an affected family member are shown in Table 4; some of these

Table 4. Disclosure of a diagnosis of dementia to an affected family member

REASONS WHY RESPONDENTS PREFER DISCLOSURE OF A DIAGNOSIS OF DEMENTIA TO AN AFFECTED FAMILY MEMBER	YOUNGER RESPONDENTS (n=749)	0	p-VALUE
Because he/she has the right to know		625 (27.8)	0.430
Because he/she may want to consult or convey wills about the future	612 (81.7)	1592 (70.7)	< 0.001
Because telling the diagnosis would give him/her the option to receive treatment and rehabilitation	535 (71.4)	1342 (59.6)	< 0.001
Because he/she can accept the diagnosis and cope with problems positively	259 (34.6)	849 (37.7)	0.068
REASONS WHY RESPONDENTS PREFER A DIAGNOSIS OF DEMENTIA NOT TO BE DISCLOSED TO AN AFFECTED FAMILY MEMBER		OLDER RESPONDENTS (N = 113)	p-VALUE
Because he/she cannot help having dementia when he/she grows old	6 (14.6)	31 (27.4)	0.073
Because there are no advantages in knowing the diagnosis due to reduced capacity for judgment	17 (41.5)	40 (35.4)	0.307
Because he/she may be depressed or lose hope by knowing it	27 (65.9)	40 (35.4)	0.001
Because knowing the diagnosis may exacerbate symptoms of dementia	13 (31.7)	30 (26.5)	0.331
Because it may be better untold as there is no effective remedy for reversing the condition	11 (26.8)	53 (46.9)	0.019

reasons show a statistically significant difference between younger and older respondents.

#### Study 2

A total of 1444 (76.6%) family members of care recipients who were using some type of services provided by public long-term care insurance and 441 (21.4%) who did not use any service returned the questionnaire. Of the care recipients, 57.7% of the users of the care service and 53.9% of the

Table 5. Characteristics of responders in Study 2

	TOTAL $n = 1885$		WITH DEMENTIA n=749 (39.8%)	p-VALUE
Gender ( $n = 168$	1, 89.2%)			
•	617 (36.7)	371 (38.1)	246 (34.8)	0.098
Female	• •	• •	460 (65.2)	
Age (years) $(n =$	1672, 88.7%)			
40-64	45 (2.7)	28 (2.9)	17 (2.4)	< 0.001
65–74	308 (18.4)	• •	76 (10.9)	
75–84	713 (42.6)	435 (44.7)	278 (39.8)	
85+	606 (36.2)	278 (28.6)	328 (46.9)	
Residency $(n=1)$	636, 86.8%)			
Live by oneself		76 (8.0)	42 (6.1)	< 0.001
Live with spouse	484 (29.6)	315 (33.2)	169 (24.6)	
Others	1034 (63.2)	559 (58.8)	475 (69.2)	
Certified level of	care needs (n =	= 1678, 89.0%)		
Need support	1299 (77.4)	183 (18.7)	46 (6.6)	< 0.001
	445 (26.5)		126 (18.0)	
Level 2	341 (20.3)	193 (19.7)	148 (21.1)	
Level 3	290 (17.3)	119 (12.2)	171 (24.4)	
Level 4	222 (13.2)	8 (10.0)	24 (17.7)	
Level 5	151 (9.0)	66 (6.7)	85 (12.1)	
Duration in need	of care $(n=15)$	574, 83.5%)		
< 6 months	713 (45.3)	109 (12.1)	604 (89.3)	< 0.001
6 months– 3 years			29 (4.3)	
> 3 years	439 (27.9)	396 (44.1)	43 (6.4)	

non-users were female. The percentage of people with dementia was significantly higher in the care service users (43.3%, n = 625) than in non-users (28.1%, n = 124) (p < 0.001). Combining the users and non-users of care service, there were significant differences with regard to age (p < 0.001), residency status (p < 0.001), certified levels of care needs (p < 0.001) and duration in need of care (p < 0.001) between the care recipients with and those without dementia (Table 5).

In the case of a diagnosis of dementia, after the exclusion of the respondents who answered "don't know," 79.0% (n = 650/823) of family members of care recipients without dementia and 58.4% (n = 301/515) of family members of care

Table 6. Preferences of disclosure of a diagnosis of dementia

REASONS WHY FAMILY MEMBERS OF A CARE RECIPIENT PREFER DISCLOSURE OF A DIAGNOSIS OF DEMENTIA	WITHOUT DEMENTIA (n=650)	WITH DEMENTIA (n=301)
	(n = 050)	(n = 301)
Because he/she has the right to know	208 (32.5)	99 (32.9)
Because he/she may want to consult or convey wills about the future	476 (74.4)	216 (71.8)
Because telling the diagnosis would give him/her the option to receive treatment and rehabilitation	412 (64.4)	175 (58.1)
Because he/she can accept the diagnosis and cope with problems positively	347 (54.2)	156 (51.8)
Because I feel guilty about not telling the truth	136 (21.3)	52 (17.3)
Others	14 (2.2)	14 (4.7)
REASONS WHY FAMILY MEMBERS OF A	WITHOUT	WITH
CARE RECIPIENT PREFER NO DISCLOSURE	WITHOUT DEMENTIA	WITH DEMENTIA
CARE RECIPIENT PREFER NO DISCLOSURE		
CARE RECIPIENT PREFER NO DISCLOSURE OF A DIAGNOSIS OF DEMENTIA	DEMENTIA	DEMENTIA
CARE RECIPIENT PREFER NO DISCLOSURE OF A DIAGNOSIS OF DEMENTIA  Because he/she cannot help having dementia when he/she	DEMENTIA (N = 173)	DEMENTIA (N = 214)
CARE RECIPIENT PREFER NO DISCLOSURE OF A DIAGNOSIS OF DEMENTIA  Because he/she cannot help having dementia when he/she grows old Because there are no advantages in knowing the diagnosis due to reduced capacity for judgment	DEMENTIA (N = 173) 56 (32.4) 87 (50.3)	DEMENTIA (N = 214) 119 (55.6) 146 (68.2)
CARE RECIPIENT PREFER NO DISCLOSURE OF A DIAGNOSIS OF DEMENTIA  Because he/she cannot help having dementia when he/she grows old Because there are no advantages in knowing the diagnosis due to reduced capacity for judgment Because he/she may be depressed or lose hope by knowing it	DEMENTIA (N = 173) 56 (32.4) 87 (50.3)	DEMENTIA (N = 214) 119 (55.6)
CARE RECIPIENT PREFER NO DISCLOSURE OF A DIAGNOSIS OF DEMENTIA  Because he/she cannot help having dementia when he/she grows old Because there are no advantages in knowing the diagnosis due to reduced capacity for judgment Because he/she may be depressed or lose hope by knowing it Because knowing the diagnosis may exacerbate symptoms	DEMENTIA (N = 173) 56 (32.4) 87 (50.3) 73 (42.2)	DEMENTIA (N = 214) 119 (55.6) 146 (68.2) 48 (22.4)

recipients with dementia said that they would prefer to tell the afflicted person of the diagnosis, while 21.0% (n=173/823) of the family members of the care recipients without dementia and 41.6% (n=214/515) with dementia preferred not to disclose the diagnosis. There was a significant difference in the percentages of family members who wanted to disclose the diagnosis between those whose care recipient did not have dementia at the time of the questionnaire and those whose care recipient had already been diagnosed with dementia (p < 0.001). The reasons for preferring to disclose the diagnosis are shown in Table 6. Male family members of care recipients were significantly more likely to prefer disclosure than female family members (male 73.4%, female 68.6%, p=0.048). The spouses were significantly more likely to want their care recipients to be told the diagnosis than non-spouse caregivers (74.9% vs. 66.6%, respectively, p=0.002). The certified level of long-term care needs had no significant effect on disclosure preference (p=0.121), nor did residence status (living alone or

living with family) (p = 0.282). The mean SMQ score of care recipients whose family preferred disclosure (17.6  $\pm$  5.6 S.D.) and that of patients whose family did not prefer disclosure (17.0  $\pm$  5.4 S.D.) did not differ significantly (t = 1.256, p = 0.210).

Of the patients whose family preferred disclosure of the diagnosis of dementia, after the exclusion of 26 patients who had not confirmed whether they were told the diagnosis or not, 62.5% (172/275) were told the diagnosis by their physicians, and 37.5% (103/275) were not told. Of the patients whose family preferred no disclosure to the patient, 64.3% (128/199) were told the diagnosis by their physicians, and 35.7% (71/199) were not told, after the exclusion of 15 patients who had not confirmed whether they were told the diagnosis or not.

#### Discussion

The present survey reveals that the residents of an urban area of Japan strongly favor the disclosure of a hypothetical diagnosis of dementia (Study 1), with 85.1% of younger respondents and 82.5% of older respondents expressing positive attitudes toward disclosure to their family members. In 1996, Maguire et al. reported that in a memory clinic in Ireland, only 17% of family members wanted disclosure to the patient of a diagnosis of dementia. This disagreement might be attributed to cultural differences. The fact that we found a willingness to disclose a diagnosis of dementia to a family member in this study population is also in contrast to the somewhat negative attitude toward disclosing a diagnosis of cancer in Iapan (Elwyn et al., 2002), while the trend is the opposite in western countries (Holroyd et al., 2002), where people might be more sensitive to losing autonomy or human dignity by having dementia. The favorable attitudes toward diagnosis disclosure of dementia in the current study were, however, in agreement with two recent reports from western countries (Holroyd et al., 2002; Pinner and Bouman, 2003) and one from Taiwan (Lin et al., 2005). This may suggest that the increased public awareness of dementia in recent years has affected attitudes toward this issue irrespective of cultural differences. One recent survey performed in an island in Okinawa in Japan reported 29.9% of the caregivers were positive for disclosure (Sugiyama et al., 2003), whereas another survey in an urban area in Japan showed that 71% of caregivers were in favor of disclosure (Yamashita et al., 2002), which is comparable to our current results. These inconsistent results within the same county may be due to the different areas of the surveys. The attitudes in a relatively rural area in Japan might be shifting toward a more positive outlook with an increase in public awareness, but further investigation is necessary.

In the present study, the older people were less favorable to disclosure of their own hypothetical diagnosis, but no difference was found between younger and older respondents in terms of preference of disclosure of a hypothetical diagnosis to an affected family member. Although the reasons why the younger people were more favorable to disclosure of their own hypothetical diagnosis were unclear, they may have more interest in their own condition.

There was a significant difference regarding the disclosure of diagnosis between younger and older respondents in the general population and an even more striking difference between the two caregiver groups whose recipients either had or did not have dementia. Our results show that the older adults were less eager to be told of their own diagnosis and that the caregivers of patients with dementia were also less eager to tell their patients. In general, older people are more likely to have had personal experiences related to dementia than younger people, and caregivers of patients with dementia may have broader experience and knowledge of dementia, which might give them an understanding of the deeper implications of disclosure. With this deeper understanding of dementia based on actual personal experiences, caregivers of patients with dementia may become apaternalistic or reluctant to deal with the potential grief reaction of a family member, and therefore may be reluctant to disclose the diagnosis. Indeed, in a study in the U.S.A., Turnbull et al. (2003) found that people who had had personal experience with Alzheimer's disease (AD) were less likely to want to know themselves if they had AD than those without personal experience. In the case of patients with advanced dementia, advance planning including disclosure may have less significance. As expected, we found less favorable attitudes toward the disclosure in caregivers (Study 2) than in non-caregivers (Study 1). Although the difference in study design (questionnaires sent by mail vs. interview-based questionnaires) makes a direct comparison difficult, similar reasons to those given above may explain the relative reluctance of the caregivers to disclose the diagnosis of dementia.

A study conducted at a Dutch memory clinic reported that spouses were significantly more likely to want their care recipients to be told the diagnosis than non-spouse caregivers (Dautzenberg et al., 2003), which is consistent with the present results.

Fahy et al. (2003) found that lower scores on the Mini-mental State Examination of a care recipient was a predictor of the desire of the caregivers for the diagnosis to remain undisclosed in a study performed at a U.K. clinic. In the present study, however, the mean SMQ score, which reflects the severity of dementia (Koss et al., 1993), was not significantly different between the two different preference groups for disclosure, although it was slightly lower in the group that did not prefer disclosure.

Some studies, including one from Japan (Johnson et al., 2000; Maguire et al., 1996; Yamashita et al., 2002), have found a double standard toward disclosure in that many people may have a more favorable attitude toward disclosure to themselves than toward disclosure to others. We did not find this trend in the present study; this may reflect changes in the attitudes of Japanese society after the introduction of long-term care insurance, which has promoted the socialization of care.

While one study reported that disclosure of diagnosis to patients and family members is beneficial (Smith and Beattie, 2001), another report revealed that about half of family members studied experienced a poor reaction from an informed patient (Holroyd *et al.*, 2002), and possible consequences even include some catastrophic reactions such as suicide of the patient (Rohde *et al.*, 1995). Thus, in order to obtain a social consensus, this issue requires careful substantiation.

The new guardianship law for adults has been in effect in Japan since 2000. The law protects persons with dementia with respect to their autonomy, and the right to know or not to know one's own disease is one of the basic human rights granted within this autonomy. The present study showed strongly positive attitudes toward disclosure of a diagnosis of dementia in Japanese society; however, only about 30% of the participants knew of the new guardianship system. Low dissemination of the system may be due to poor publication to the possible beneficiaries.

Because our survey was conducted in an urban area, it is not known whether these results are representative of the whole of Japan, including residents in rural areas, and this is a major limitation of the study.

In summary, the present survey of caregivers and non-caregivers in an urban city of Japan has demonstrated that the desire for disclosure of a diagnosis of dementia is relatively high. National debate on this issue is required.

#### **Conflict of interest**

None.

#### Description of authors' roles

H. Umegaki designed the study and wrote the paper. J. Ohnishi was responsible for the statistical design of the study and carried out the statistical analysis. Y. Suzuki, H. Endo and A. Iguchi helped to write the paper.

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## Behavioral, psychological and physical symptoms in group homes for older adults with dementia

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#### **ABSTRACT**

Background: Despite the recent dissemination of group homes in Japan for older adults with dementia, the behavioral and psychological features of the residents remain unknown. To clarify the association of such features with the levels of difficulty encountered by caregivers in coping with these symptoms, we have conducted a survey to compare the frequencies of the symptoms among group homes, nursing homes and a long-term care hospital.

**Methods:** Five hundred and eighty-six older adults aged 65 years or more were sampled. Data were consecutively collected from questionnaires given to the caregivers. The questionnaire included basic activities of daily living, the Minimental State Examination, frequencies of behavioral, psychological and physical symptoms, and the levels of difficulty in coping with the symptoms.

**Results:** In group homes, requests to go home, urinary incontinence and frequent complaining were the most commonly observed symptoms. The symptoms associated with disorientation, anxiety and depression were frequently observed in all three care settings. Most of the symptoms were more frequently observed in group homes than in the other two care settings. However, the levels of difficulty in coping with most of the symptoms were the highest in the long-term care hospital, followed in order by the group homes and nursing homes. In group homes, inappropriate sexual behavior was the symptom creating the most

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#### J. Onishi et al.

76

stress for the caregivers, followed by verbal and nonverbal abuse and changeable mood.

**Conclusions:** The symptomatic traits of residents in group homes were clarified in the present study. These findings could be helpful in considering desirable placement or the improvement of eligible service provision for older adults with dementia in care facilities.

Key words: aged, dementia, behavioral and psychological symptoms, group home

#### Introduction

The percentage of individuals aged more than 64 years in Japan reached 19.5% in 2004, making this country a clear forerunner in the aged society worldwide. The number of older adults with dementia who are unable to continue living in their home has been steadily increasing. Despite the recent dissemination of group homes for older adults with dementia, the behavioral, psychological and physical features of the residents remain unknown. A group home in Japan is defined as a care facility that accommodates a smaller (5-9 persons) number of older adults with mild to moderate dementia, and is characterized by participation of the residents in daily housekeeping if possible, with the assistance of the care staff. Most of the group homes are privately owned but the services are provided based on the public long-term care insurance policy. There were 270 group homes when this insurance system was implemented in 2000, but this number had risen to 4775 at the last measurement in 2004. Despite this rapid dissemination of group homes, their concept is not well understood by healthcare professionals, much less by the society as a whole. In terms of choosing an optimal care environment for older adults with dementia, it is important to identify symptomatic traits in those who are admitted to care facilities. However, there is a dearth of information regarding the relationship between the symptoms and care settings.

In this study, we surveyed the frequencies of behavioral, psychological and physical symptoms in group homes and the levels of difficulty in coping with the symptoms. We also compared the results obtained from group homes with those in nursing homes and in a long-term care hospital.

#### Methods

This study involved 586 older adults aged 65 years or older. Ninety-one older adults were living in 10 group homes, 411 were in five nursing homes, and 84 were admitted to a long-term care hospital. Data were collected consecutively from questionnaires given to the caregivers in charge of the older adults. The

questionnaire included questions about the residents' age, gender, basic activities of daily living (BADL) evaluated by the Barthel Index (Mahoney and Barthel, 1965), frequencies of behavioral, psychological and physical symptoms, and the levels of difficulty in coping with the symptoms. The Mini-mental State Examination (MMSE; Folstein *et al.*, 1975) was administered in two of the group homes to a total of 17 residents.

The behavioral, psychological and physical symptoms of the older adults were assessed using the original list given in Table 1. The list consisted of: 16 symptoms (numbers 1-16) included in the primary assessment dataset of the public long-term care insurance system; and 16 symptoms (numbers 17-32) selected from the lists applied in previous studies (Baumgarten et al., 1990; Greene et al., 1982; Sanford, 1975; Teri et al., 1992). Behavioral and psychological symptoms of dementia (BPSD) are usually defined as symptoms of disturbed perception, thought content, mood or behavior that occur frequently in patients with dementia (Finkel and Burns, 2000). We included not only behavioral and psychological but also physical symptoms, such as urinary/fecal incontinence, dysphagia and walking disturbance, as some previous reports suggested that the physical problems strongly affect the caregivers' burden (Dunkin and Anderson-Hanley, 1998; Onishi et al., 2005). The frequencies of observed symptoms were scored with the following values: 0 = none, 1 = lessthan once a week, 2 = a few times a week, 3 = almost every day, and 4 = always. When the symptoms were observed, the staff was asked to estimate the level of difficulty in coping with each symptom on a scale of 1 to 5, with 1 representing "easy" and 5 representing "extremely difficult."

Differences in the frequencies of observed symptoms and the levels of difficulty in coping with symptoms among group homes, nursing homes and the long-term care hospital were tested using a one-way analysis of variance (ANOVA). Tukey's test was used for multiple comparisons. A p-value of < 0.05 was considered to indicate statistical significance, and all tests were two-tailed. All statistical analyses were performed on a personal computer with the statistical package SPSS for Windows, Version 11.0 (SPSS Inc., Chicago, IL, U.S.A.).

#### Results

Table 2 shows gender, age and BADL for the residents in the three care settings. There were no significant differences in gender or age among the three groups, but the mean BADL was significantly higher in group homes than in the other two groups. The mean MMSE score was lower in the long-term hospital than in the nursing homes, but the score in the group homes did not differ significantly from the other two care settings.