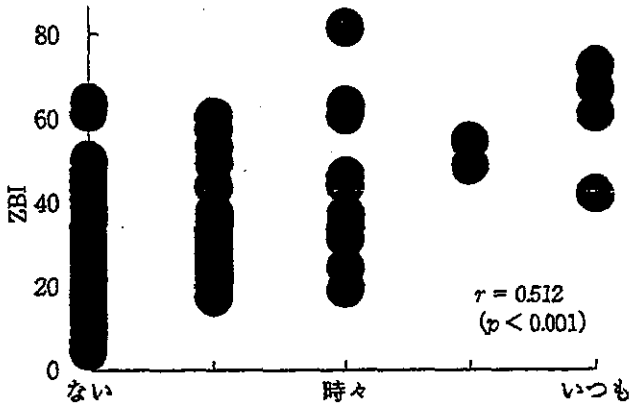

図3 「(要介護が) いなくなればいい」と思う気持ちとZBI

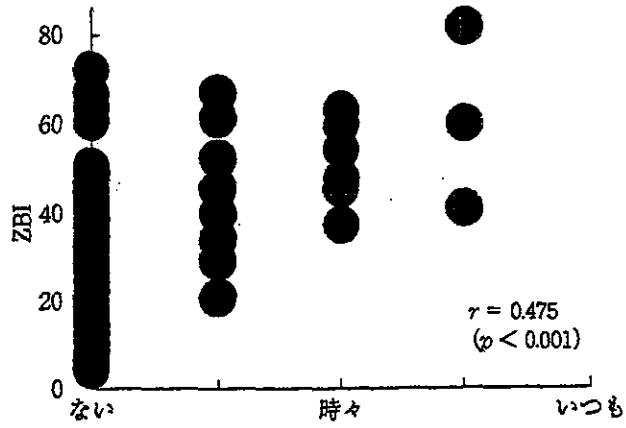

図4 「死んでしまいたい」と思う気持ちとZBI

て抽出され，調整済み説明率は$R^2 = 0.401$であった．

4．負担に続く感情

「(要介護者が) いなくなればよい」という感情についての質問では，「なし」44.8%，「たまに感じる」31.0%，「時々感じる」17.2%，「よく感じる」1.7%，「いつも感じる」5.2%という回答結果であったが，これはZBIおよび負担感得点とよく相関した（$r=0.512$，$r=0.418$，図3）．また，介護のやり甲斐（$r=-0.337$），休める日（$r=0.269$），将来の不安（$r=0.306$）とも相関した．

「死んでしまいたい」という感情についての質問では，「なし」73.7%，「たまに感じる」17.5%，「時々感じる」5.3%，「よく感じる」2.6%，「いつも感じる」0.9%であったが，これはZBIおよび負担感得点とやはりよく相関し（$r=0.475$，$r=0.388$，図4），そのほか介護期間（$r=0.387$），介護者の体の痛み（$r=0.351$），休める日（$r=0.211$），将来の不安（$r=0.250$），家計の苦しさ（$r=0.380$），痴呆のため親しい家族を失ったという喪失感（$r=0.200$）と有意な相関があった．

これら2つの感情についてそれぞれ回帰分析を行ったところ，「いなくなればよい」という感情についてはZBIだけが変数として抽出されたものの調整済み説明率は$R^2 = 0.294$と低かった．「死んでしまいたい」という感情についてはZBIおよび介護期間が抽出されたが，調整済み説明率は$R^2 = 0.289$とやはり低かった．

また，介護者自身の生活の満足度はZBIおよび負担感得点と強く相関した（$r=-0.557$，$r=-0.496$）．満足度は相談者の有無（$p=0.006$）とは相関がみられたものの，介護者の年齢，続柄，介護期間，年収，介護を交替する者の有無，介護者の体の痛み，介護を要するまでの人間関係とは相関がみられなかった．満足度を回帰分析したところ負担感得点のみが有意な独立変数として抽出されたが，調整済み説明率は$R^2 = 0.098$と低いものであった．

Ⅲ．考　察

高齢痴呆者の介護負担に関する研究は，1960年にMcmillaneら[7]が知的能力の低下より多動・徘徊・失禁といった痴呆に伴うBPSDが負担を大きくしていることを報告して以来，BPSDや介護の負担感について客観的に評価し関連を検討する研究が多く積み重ねられている．BPSDは1975年にSanford[9]によって網羅的に列挙され，1980年にZaritらによって発表され，本研究でも用いた負担尺度（ZBI）は以後広く使用されている．また，Greeneら[5]は問題行動には「無感情と離脱」「行動障害」「感情障害」という3つの要素があることを明らかにし，Gilleardら[4]はBPSDのうち重大なのは常時監視が必要なこと・転倒・失禁・夜間徘徊・意味のある活動ができないことであることを報告した．

今回の研究では介護者の負担感を評価するため

にZBIを用いたが，これは1997年に荒井らによって日本語版が作成され，信頼性・妥当性が確かめられている[1]．しかし，本尺度は元来痴呆性高齢者の介護負担を評価するためにつくられたものであるが，荒井らの研究は要介護高齢者を対象とした調査であり，痴呆についての検討はなされていない．本研究は痴呆性高齢者を多く含む調査であったが，高い信頼性と妥当性が示され，痴呆を含む高齢者介護においてもZBI日本語版は介護者の負担感をよく示すものであることが確かめられた．

この結果を踏まえたうえで，本研究ではZBIと100点を最大とした負担感得点を用いて介護負担の関連について調査した．BPSDの頻度と負担感についてはTeriら[10]のThe Revised and Memory Behavior Problems Checklist（RMBPC）を用いた研究があるが，RMBPCには尿・便失禁など身体的障害に関する項目がなく，今回の調査では介護負担の関連因子をより網羅的に把握し，実際の臨床利用を容易にするため，現在公的介護保険の一次調査で用いられている問題行動19の項目を含めた独自のリストを作成した．このなかで負担として大きかったものは，①一人で自宅に戻れないこと，②金銭の管理，③便失禁などであった．

Haley[6]が徘徊や怒りなど予測できない行動は継続した監視が必要であり，負担感を増大させると指摘しているように，痴呆性高齢者の介護では見守りに手間がとられ負担になっていることが多い．また，朝田[2]により尿・便失禁が在宅介護の破綻の強い予測因子であることも明らかにされているが，本研究においても，尿・便失禁は負担感と強い関連を示すと同時に，家族が仕事を辞めたり介護者の休める日がなかったりという事柄とも関連し，介護のなかでキーポイントになっていることが示された．また，そのほかに負担感と強く相関したBPSDには，夜間の不穏や会話の妨害など介護者の生活を侵害する行動，幻覚や不幸な様子など対応が困難な行動などがあった．

また，Pearlinら[8]は，primary stressorに介護環境や介護者自身の問題としてsecondary stressorが加わって，ストレス症状として現れるモデルを提唱しているが，本調査でもsecondary stressorとして介護期間，相談者の有無，介護者の体の痛みが負担と強い相関をもつことが確認された．とくに相談者をもたない場合，負担感が大きい一方で要介護者を施設に入所させることをつらく感じ，将来の不安も強く，要介護者の病状を「死んだほうがまし」と悲観する傾向があり，介護のうえで相談者が重要であることが示された．

今回の調査では，ZBIおよび負担感得点を従属変数とした回帰分析はそれぞれ$R^2 = 0.295$，$R^2 = 0.275$といずれも低いものであった．荒井らは介護負担が介護者のうつと強く関連していたことを報告しているが[1]，今回の調査では介護者自身の身体的・精神心理的評価が十分に行えておらず，この点が不十分であったことが考えられた．

要介護高齢者のBPSDが介護者に与える影響は病状によって異なりそれに応じた評価が必要であるものの，今回の調査は病状別に検討するためには十分な数の調査ではなかったが，今後はさらに規模を大きくして調査を行う予定である．

結　論

要介護高齢者のBPSDおよび介護環境と介護負担について明らかにするため，要介護高齢者の介護者を対象に調査を行い，介護負担の関連因子について明らかにした．今後は介護の負担を適切に評価するため，今回負担に関連の強かったBPSDや介護環境を重視する必要があろう．

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The effect of public long-term care insurance plan on care management and care planning in Japanese geriatric hospitals

Yuichiro Masuda [a,*], Masafumi Kuzuya [a], Kazumasa Uemura [b], Ryuichi Yamamoto [c], Hidetoshi Endo [d], Hiroshi Shimokata [e], Akihisa Iguchi [a]

[a] *Department of Geriatrics, Nagoya University Graduate School of Medicine, 65 Tsuruma-cho, Showa-ku, Nagoya, Aichi, 466-8550, Japan*

[b] *Third Department of Internal Medicine, Nagoya University Graduate School of Medicine, 65, Tsuruma-cho, Showa-ku, Nagoya, Aichi, 466-8550, Japan*

[c] *Department of Internal Medicine, Nanakuri Sanatorium, Fujita Health University School of Medicine, Mukohiro, Otori-cho, Hisai, Mie, 514-1295, Japan*

[d] *Department of Internal Medicine, Chubu National Hospital, 36-3, Gengo, Morioka-cho, Obu, Aichi, 474-8511, Japan*

[e] *Department of Epidemiology, National Institute for Longevity Science, 36-3, Gengo, Morioka-cho, Obu, Aichi, 474-8511, Japan*

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Abstract

Japan, a society facing demographic aging at an incomparable speed, decided to introduce a new public long-term care insurance system to meet the expected need for elders to be cared for in the near future. The purpose of this study was to examine the change in knowledgeability on the side of managers of Japanese geriatric hospitals regarding (1) the concept of care-management as the methodology to supply care services to the elderly smoothly, and (2) comprehensive assessment for the elders as the technical skill in the process of materializing care management. Subjects were interviewed and questioned over the telephone according to a structural questionnaire. Managers (directors and office managers) of geriatric hospitals in 1996 and 1999. In 1996, the rate of knowledgeability for care management on the side of managers of geriatric hospitals was 70.0% (28/40) as a whole,

* Corresponding author. Tel.: +81-52-7442364; fax: +81-52-7442371.
E-mail address: masuda@med.nagoya-u.ac.jp (Y. Masuda).

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increasing to 97.3% (71/73) in 1999. With regard to MDS-RAPs, the knowledgeability rate increased from 57.5% (23/40) in 1996 to 95.9% (70/73) in 1999. However, regarding care planning, almost all of the hospitals that performed care planning were those in the category required to submit care plans to the municipal government. Geriatric hospitals that were not required to submit such plans did not perform such planning either in 1996 or in 1999. It can be concluded that the decision to introduce a long-term care insurance system in Japan has led to a deeper understanding of the methodology of care management and a comprehensive assessment on the side of managers of geriatric hospitals.

Keywords: Care management; Care planning; Geriatric hospital; MDS-RAPs; Public long-term care insurance

1. Introduction

Every health-care system has many commonalities in the challenges it is facing. This is especially true for long-term care (LTC) for the elderly. In Japan, the proportion of the population aged 65 years and older, which is almost the same today as in the UK, is projected to be much greater in the 21st century. It will double from 12% in 1990 to 25% by the year 2020 (Ishikawa, 1996). This is an issue of serious concern. In the two countries mentioned above, the needs for LTC have been emerging as major health-care needs as demographic aging proceeds.

These fundamental issues have not been solved in Japan. However, the very fact that a public LTC insurance act has passed the Upper House in December 1997 is an indication that the country has managed, at least initially, to overcome the first hurdle of introducing a system to socially share the care-taking tasks for the elderly. Japan has been the third country to establish public LTC insurance after the Netherlands (Kerkstra, 1996) and Germany (Alber, 1996) since April 2000. Japan would be embarking on largely uncharted territory and should therefore provide information for other countries.

In Japan, we have three categories of LTC facilities for the elderly: (1) geriatric hospitals, (2) health-care facilities for the elderly, and (3) special homes for the elderly (Ikegami et al., 1994). Mechanisms to integrate the three categories, such as uniform data systems for service planning and quality assessment, are yet to be developed. The Health and Welfare Ministry of Japan has introduced the assessment for the eligibility status and classify individuals into six levels. These six levels were derived from statistical analysis using, as the independent variable, the period of time obtained from authorized researches (Japan Ministry of Health and Welfare, 1996) necessary to perform each care service. Yet, we have had neither fixed format of, nor assessment instruments for, care planning for individuals cared at home or in the facilities. The needs for a uniform tool for residents assessment in long-term care facilities had long been recognized (Kane and Kane, 1981; Katz, 1983; Katz and Stroud, 1989).

In the US, responding to the very need, the Minimum Data Set (MDS) had been developed, being initially tested by gerontologists and geriatricians under contract

with the Health Care Financing Administration (Morris et al., 1990). The reason for developing this assessment tool is the recognition of the fact that traditional long-term care system had not offered to the elderly care services based upon correct evaluation of his/her physical, mental and social functions. Individual items and combinations of items can trigger further assessments using one or more of the 18 Residents Assessment Protocols (RAPs). Each RAP is a structured framework for organizing MDS elements that can be used to inform the care planning process. We obtained the translation of MDS-RAPs in 1994 in Japan (Japan Ministry of Health and Welfare, 1994).

The purpose of our study is to examine to what extent care planning has been conducted, and the term and idea of "care management" including the knowledge-ability of assessments especially MDS-RAPs have been shared by staff working in geriatric hospitals. Furthermore, the effect of introduction of long-term care insurance on these matters is also expected to be clarified.

2. Methods

2.1. Subjects

The study sample included directors or office managers of geriatric hospitals (GH) that had introduced an inclusive per diem rate system with fixed per diem medical charges in the Aichi prefecture, Japan (Tables 1 and 2). In Aichi, there were 47 such GHs in 1996, and that number had been increased to 96 in 1999. For the purpose of increasing the number of beds in nursing facilities fulfilling the standards of hardware to yield an appropriate care-taking environment by the time of introduction of long-term care insurance in April, 2000, the Health and Welfare Ministry has chosen, as the insurance-certificate facilities, not traditional geriatric hospitals but such nursing facilities fulfilling the expected hardware standards.

For this reason, existing GHs in Japan are remodeling themselves to be such long-term care hospitals (LTCHs) at present. In addition, the transitional period in which geriatric hospitals can also obtain reimbursement has been set up to March, 2003. Regarding the hardware, these nursing hospitals (LTCHs) are required to

Table 1
Japanese geriatric hospitals and long-term care hospitals for the elderly: requirements for geriatric hospitals and long-term care hospitals for the elderly

	Minimum floor space per bed (m^2)	Minimum width of passage (m)	Dining room, common room, and rehabilitation room
(a) Geriatric hospitals GHs	4.3	1.2	Not required
(b) Long-term care hospitals for the elderly (LTCHs)	6.4	1.8	Required

Table 2
Japanese geriatric hospitals and long-term care hospitals for the elderly: four types of the geriatric hospitals and the long-term care hospitals for the elderly

Characteristic	Type I	Type II	Type III	Type IV
Required staff				
Number of physicians (/100 patients)	3	3	3	3
Number of nurses (registered nurses/practical nurses >0.2)	1/6 patients	1/6 patients	1/6 patients	1/6 patients
Number of nursing aids	1/3 patients	1/4 patients	1/5 patients	1/6 patients
Payment				
Insurance coverage (yen/day)	8890	8140	7610	7260
Charges on patients (yen/month)	21 000+"caring charges"	21 000+"caring charges"	21 000+"caring charges"	21 000+"caring charges"
Care plans				
Submission to the municipality	Required	Not required	Not required	Not required

have higher standards in comparison with traditional GHs. The above-mentioned 96 GHs with some per diem rate systems existing in Aichi in March 1999 actually consisted of 41 GHs and 55 LTCHs for the elderly. On a number-of-beds basis, there were a total 5388 beds in GHs in 1996, and the number increased to 9089, consisting of 5469 beds in GHs and 3620 beds in LTCHs in 1999.

We had mailed prospectuses of our study to each director or office manager of the above-mentioned hospitals on June 1, 1996 and March 1, 1999 and asked for a hearing (basically in an interview, and in case it was not available, we had a hearing using the telephone). The hearings had been undertaken from September to December in 1996 and from April to June in 1999. We asked questions in accordance with our questionnaire (Table 4).

Approval for this study was obtained from the Ethics Committee of Nagoya University School of Medicine, and informed consent was obtained from each subject.

2.2. Statistical analysis

The knowledgeabilities on care management of each subject were compared in terms of the number of beds, the type of inclusive per diem rates of the hospital, and whether or not staff had made use of MDS-RAPs at the hospital. In addition, we compared whether or not care planning had been conducted with the differences in number of beds, type of inclusive per diem rates, and whether or not the director or office manager of the hospital had knowledgeability on care management. Univariate comparisons were made using Cochran–Mantel–Haenszel statistics with Statistical Analysis System (SAS) version 6.11 (SAS/STAT User's Guide, 1990).

3. Results

3.1. Descriptive statistics

We interviewed 40 directors or office managers of 47 GHs (40/47, 85.1%, 5,086 beds) in 1996 and 37 directors or managers of 41 GHs (37/41, 90.2%, 5086 beds) and 36 directors or office managers of 55 LTCHs (36/55, 65.5%, 2663 beds) in 1999. Characteristic data are shown in Table 3. With regard to the capacity of hospitals, approximately half of GHs (52.5%) had 99 beds or less (min. = 46 beds) in 1996. However, in 1999, while the percentage was similar with GHs 46.0%, min. = 46), the percentage became higher with LTCHs (75.0%, min. = 22).

Tables 1 and 2 show the four types of per diem rate system of Japanese geriatric hospitals. In both 1996 and 1999, almost half of GHs adopted type I and the percentages were similar with national data (type I = 42.4%, type II = 33.1%, type III = 9.9%, type IV = 3.8%, July 1997). With LTCHs, The number of type I was the same as that of type II.

Table 3
Characteristic data of the geriatric hospitals

	1996	1999 GH	1999 LTCH
(1) Number of beds of their hospitals (percentage of total)			
1–99	21(52.5%)	17 (46.0%)	27 (75.0%)
100–199	12 (30.0%)	13 (35.1%)	8 (22.2%)
200–299	6 (13.5%)	5 (13.5%)	1 (2.8%)
300–	2 (5.4%)	2 (5.4%)	0 (0%)
(2) Type of inclusive per diem rates (percentage of total)			
Type I	19 (47.5%)	18 (48.7%)	13 (36.1%)
Type II	15 (37.5%)	11 (29.7%)	13 (36.1%)
Type m	4 (10.0%)	3 (8.1%)	2 (5.6%)
Type W	2 (5.0%)	5 (13.5%)	8 (22.2%)

Table 4
Results of descriptive data

	1996	1999 GH	1999 LTCH
(1) Directors or office managers with knowledgeabilities on care management			
To know	28/40 (70.0%)	35/37 (94.6%)	36/36 (100%)
Not to know	12/40 (30.0%)	2/36 (5.4%)	0/36 (0%)
(2) Care planning for residents			
Performed for all residents	20/40 (50.0%)	18/37 (48.7%)	18/36 (50.0%)
Performed partly	12/40 (30.0%)	7/37 (18.9%)	6/36 (16.7%)
(3) Staff participating in care planning			
Physician	21/32 (65.7%)	10/25 (40.0%)	10/24 (41.7%)
Public health nurse	3/32 (9.4%)	3/25 (12.0%)	5/24 (20.8%)
Nurse	26/32 (81.3%)	25/25 (100%)	21/24 (87.5%)
Certified social worker	8/32 (25.0%)	5/25 (20.0%)	9/24 (37.5%)
Certified care worker	8/32 (25.0%)	7/25 (28.0%)	7/24 (29.2%)
Nursing aid	14/32 (43.8%)	20/25 (80.0%)	13/24 (54.2%)
Others (PT, OT, etc.)	11/32 (34.4%)	4/25 (16.0%)	6/24 (25.0%)
(4) Performance of some comprehensive assessments			
Performed	25/40 (62.5%)	16/37 (43.2%)	21/36 (58.3%)
(5) Staff performing residents assessments			
Physician	11/25 (44.0%)	13/16 (81.3%)	16/21(76.2%)
Public health nurse	1/25 (4.0%)	0/16 (0%)	3/21 (14.3%)
Nurse	24/25 (96.0%)	16/16 (100%)	20/21(95.2%)
Certified social worker	3/25 (12.0%)	6/16 (37.5%)	9/21(42.9%)
Certified care worker	3/25 (12.0%)	7/16 (43.8%)	5/21(23.8%)
Nursing aid	13/25 (52.0%)	11/16 (68.8%)	14/21 (66.7%)
Others (PT, OT, etc.)	8/25 (32.0%)	5/16 (31.3%)	11/21(52.4%)
(6) Directors or office managers with knowledgeablities on MDS-RAPs			
To know	23/40 (57.5%)	35/37 (94.6%)	35/36 (97.2%)
Not to know	17/40 (42.5%)	2/37 (5.4%)	1/36 (2.8%)
(7) Use of MDS-RAPs			
To make use	13/40 (32.5%)	12/37 (32.4%)	16/36 (44.4%)
Not to make use	27/40 (67.5%)	25/37 (67.6%)	20/36 (55.6%)

Table 4 lists the results of descriptive data. Seventy per cent of the directors or office managers knew the term and idea of care management in 1996, while almost all of them had knowledgeability on care management in 1999. In both 1996 and 1999, some care planning for residents had been undertaken in approximately half the hospitals. In 1996, it varied among nurses, nursing aids, and physicians who had participated in the task of care planning, whereas in 1999, at all hospitals where care-planning was conducted, every nurse was concerned with it.

Regarding comprehensive assessments for residents, they had been undertaken in about half of the hospitals both in 1996 and 1999. With regard to the kind of staff who took part in conducting them, we found that nurses were concerned at almost all such hospitals both in 1996 and in 1999. In 1996, nursing aids were concerned

at two-thirds of such hospitals, and physicians at 44% (11/25) of them, while in 1999, the percentage of physicians concerned increased to approximately 80% (29/37). Certified social workers were concerned only in three hospitals in 1996. However, in 1999, the number had increased.

Though the number of directors or office managers who knew MDS-RAPs had increased in 1999 (Fig. 1), the number of staff utilizing MDS-RAPs was similar.

3.2. Univariate analysis

We grouped subjects into those who had knowledgeability on care management and those who did not, and then compared the two groups with characteristic variables. We found no significant differences in the capacity of their hospitals. The association between their knowledgeability on care management and the types of per diem rate system adopted is shown in Fig. 2. The directors or office managers of hospitals adopting type I were more likely to understand care management than those of hospitals adopting other types in 1996 ($P < 0.001$). In 1999, they were more likely to have knowledgeability on every type.

Then, we grouped subjects into those of hospitals where care planning was conducted and where it was not, and compared the two groups with demographic variables. In terms of the capacity of hospitals, we found no significant differences. The association between their attitudes and the types of per diem rate system is shown in Fig. 3. In hospitals adopting type I, the staff were more likely to conduct care planning for their residents than in hospitals adopting other types in both 1996 and 1999 ($P < 0.001$). Both had a similar tendency.

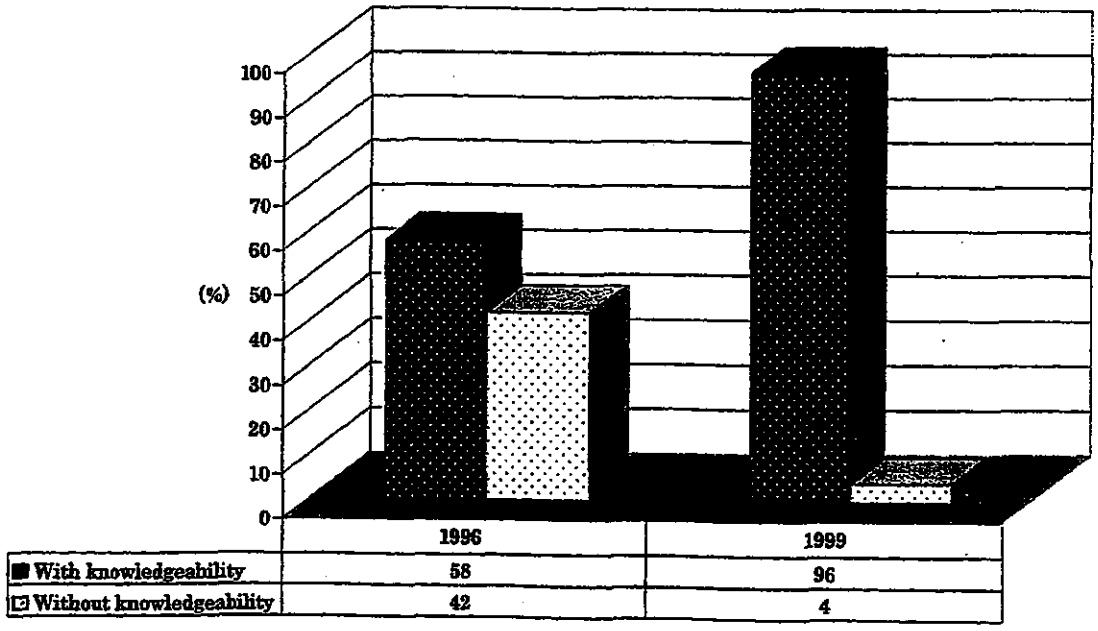
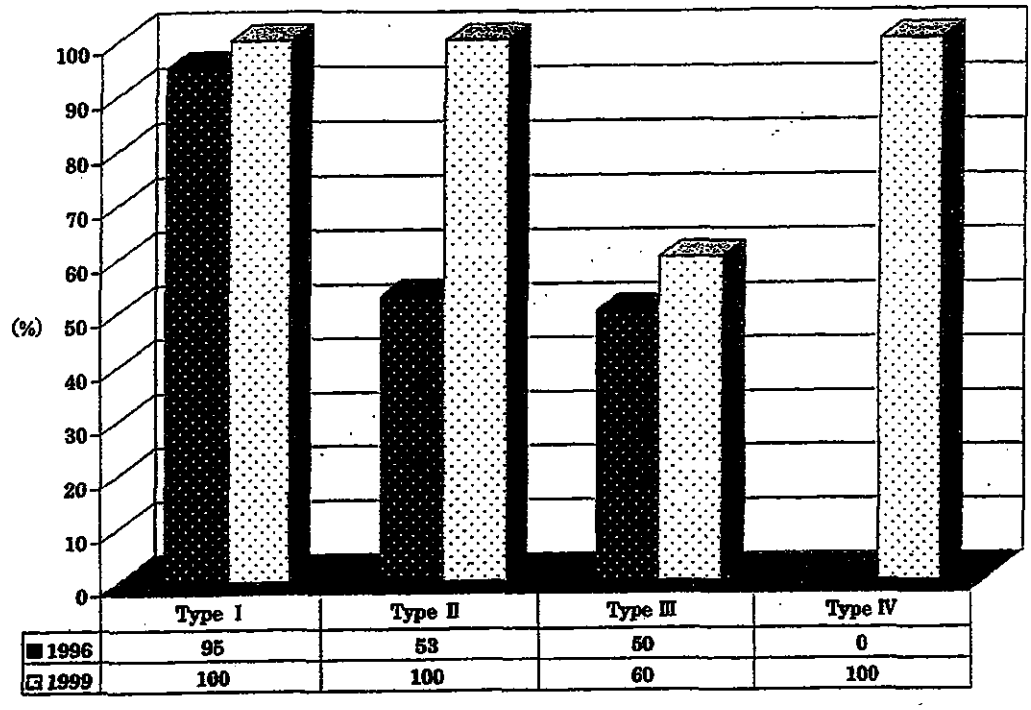


Fig. 1. Rates of knowledgeability on MDS-RAPS.



	Type I	Type II	Type III	Type IV
1996	95	53	50	0
1999	100	100	60	100

Fig. 2. Rates of knowledgeability on care management.

4. Discussion

The purpose of our study is to examine to what extent care planning has been conducted, and the term and idea of "care management" including the knowledgeability of comprehensive assessments especially MDS-RAPs have been shared by staff working in geriatric hospitals. Furthermore, the effect of introduction of long-term care insurance program on these matters is also expected to be clarified.

Regarding the effect of case management and care management and the usefulness of MDS-RAPs, opinions vary, and negative comments are often seen (Franklin et al., 1987; Ouslander, 1994; Rossler et al., 1992; Teresi and Holmes, 1992; Marshall et al., 1995; Burns, 1996; Phelan, 1996). However, Japanese long-term care insurance program makes it compulsory for facilities to introduce care management and conduct care planning for each resident. With respect to comprehensive assessment instruments, there are several available in Japan, and among those, MDS-RAPs, along with MDS-HC (Morris et al., 1997), are the most prevalent assessment tools at present and are quite likely to be the most usable assessment tools when the insurance program is actually launched.

Our findings in this study, though they are not always applicable to all over Japan, are that the concept of care management has become widely known as the insurance program was informed. It seems that MDS-RAPs has also been known along the way. We found that the performance rate of care planning did not change significantly unless the facility was mandated to tender care planning for residents to municipality. However, from April 2000 on, all caretakers are mandated to

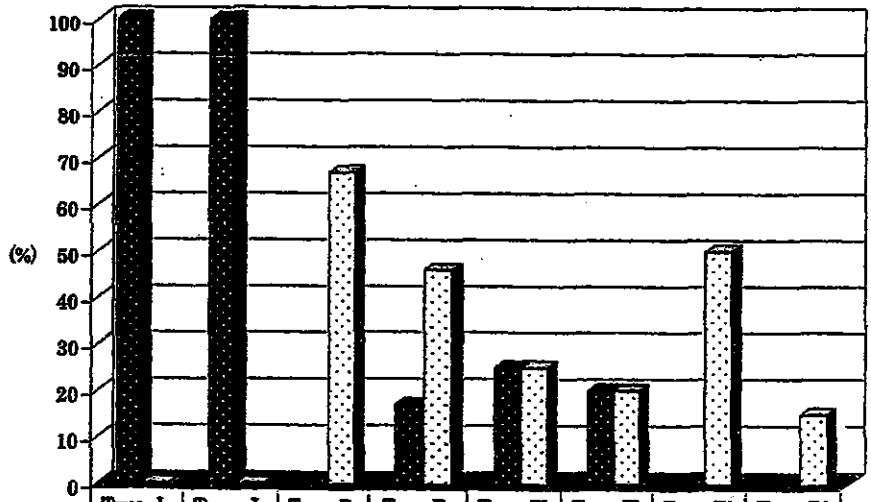
conduct care planning for all individuals to be cared, regardless of whether they are cared at home or in facilities for insurance coverage. The results of this study indicate clearly that caretakers are preparing for that, studying care management and assessments. This change in knowledgeability and attitude on the side of care-taking staff can lead to a drastic change in quality of care for the elderly in Japan after the launch of the insurance program in April 2000.

Meanwhile, in the UK, a white paper entitled "Modernizing Social Services (November, 1998)" pointed out the following problems particularly in connection with Community Care:

1. The standard of provided services became less clear due to the introduction of care management.
2. Reviewing and revising of care plans are not carried out.
3. Follow-up activity for care-takers is not performed sufficiently.
4. The coordination of community care as social service and other social services are not sufficiently made (Department of Health, 1998).

In comparison, the Japanese public care insurance program has clearer standards for providing services (Ikegami, 1997). However, with regard to other problems mentioned above, the Japanese system also has the possibility to face them in the future. Reviewing and follow-up activities should be carried out after the program has been launched.

In conclusion, the legislation of public long-term care insurance program leads to more recognition and knowledgeability on the side of hospital managers, regarding the methodology of care management and comprehensive assessment. In spite of the large number of problems to be solved before and even after the enforcement of the law in April of 2000, the significance of long-term care for the elderly as well



	Type I (1996)	Type I (1999)	Type II (1996)	Type II (1999)	Type III (1996)	Type III (1999)	Type IV (1996)	Type IV (1999)
■ Performed for every residents	100	100	0	17	25	20	0	0
□ Performed partly	0	0	67	46	25	20	50	15

Fig. 3. Rates of care planning.

as a concrete methodology for that has been recognized, and understanding on these matters has increased.

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