Table 3. Comparison of SF-36 subscale scores by NYHA class

SF-36	NYHA I (n=54)	NYHA II (n=60)	NYHA III (n=11)	Kruskal-Wallis p value
Physical functioning	85.0 ± 9.3[a,b]	63.9 ± 13.8[c]	29.5 ± 19.6	0.000
Role-physical	69.9 ± 35.8[a,b]	34.5 ± 10.4[c]	11.3 ± 10.4	0.000
Bodily pain	85.1 ± 21.2[a,b]	68.6 ± 26.3	65.6 ± 10.3	0.001
General health	54.1 ± 18.6[a,b]	45.5 ± 12.8[c]	25.1 ± 8.8	0.000
Vitality	70.4 ± 8.7[a,b]	52.1 ± 12.4[c]	32.7 ± 18.3	0.000
Social functioning	84.7 ± 20.8[a,b]	66.2 ± 9.3[c]	47.7 ± 9.3	0.000
Role-emotional	77.7 ± 9.1[a,b]	50.0 ± 9.7[c]	21.2 ± 9.7	0.000
Mental health	76.1 ± 9.1[a,b]	61.4 ± 8.5[c]	56.3 ± 8.5	0.000

[a] Significantly different when compared with NYHA II group.
[b] Significantly different when compared with NYHA III group.
[c] Signifcantly different when compared with NYHA III group.
Data are expressed as mean ± SD.
NYHA, New York Heart Association.

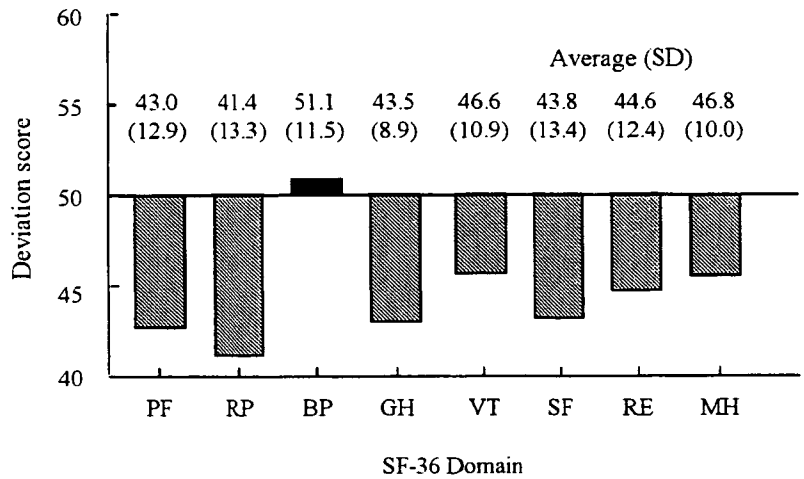

Fig. 1. Comparison of SF-36 subscale scores between a normal Japanese population and patients with CHF. Values are adjusted for patient age and sex. 50=Japanese normal population, PF=Physical Functioning, RP=Role-Physical, BP=Bodily Pain, GH=General Health, VT=Vitality, SF=Social Functioning, RE=Role-Emotional, MH=Mental Health.

Comparison with a normal Japanese population

In the present study, an SF-36 score <50 indicated that the score representing the specific health concept was below that of the normal Japanese population after adjusting for age and sex. In our total CHF patient sample, no SF-36 score except that for the bodily pain subscale attained the level of scores of normal Japanese populations (Fig. 1). The lowest scores were obtained for role limitation because of patient physical problems. SF-36 subscale scores that grade mental status, such as social functioning and role-emotional, were also low.

Discussion

This study shows a difference in cardiac function as related to degree of illness, HRQOL, and physiological outcomes such as peak $\dot{V}O_2$ and $\dot{V}E/\dot{V}CO_2$ slope in Japanese CHF patients. We chose to evaluate HRQOL with the SF-36 instrument because it is well validated, scores for the general population have been published, and an increasing number of researchers are using this test[18].

As an objective index of disease severity, we measured BNP concentration. BNP concentration increases as CHF becomes more severe, and BNP is a known, independent factor of mortality of CHF[19]. Because BNP concentration in our study increased as NYHA functional class increased,

we thought that BNP reflected the degree of seriousness of CHF as well as NYHA functional class did.

With regard to physiological outcomes, it was previously reported that peak $\dot{V}O_2$ and $\dot{V}E/\dot{V}CO_2$ slope vary inversely, and both are related to symptom scores and prognosis[20]. Itoh *et al.*[21] previously reported that peak $\dot{V}O_2$ is expressed as a percentage of predicted values determined. As a result, % peak $\dot{V}O_2$ decreases significantly with increasing severity of disease, or, in other words, peak $\dot{V}O_2$ decreases as NYHA functional class increases. In the present study, although LVEF of patients did not differ between NYHA functional class groups, peak $\dot{V}O_2$ decreased as NYHA functional class increased. This finding from our study is consistent with those of earlier studies[21].

A recent study also reported that patients with CHF breathe more often during exercise than do controls, resulting in an increase in $\dot{V}E/\dot{V}CO_2$ slope[22]. In the present study, the $\dot{V}E/\dot{V}CO_2$ slope increased as NYHA functional class increased. The increased $\dot{V}E/\dot{V}CO_2$ slope must therefore be a result of other mechanisms[22]. Ventilation perfusion mismatch, impaired diffusion of metabolic gases, respiratory muscle weakness, and heightened sensitivity of peripheral receptors have all been postulated as possible causes[22]. In this way, physiological outcomes such as peak $\dot{V}O_2$ and $\dot{V}E/\dot{V}CO_2$ slope appeared to differentiate clearly between different grades of disease severity, as measured by NYHA functional class.

With regard to another important outcome, indices of HRQOL also decreased with NYHA functional class. All aspects of HRQOL were dramatically reduced in NYHA class I, II, and III patients, reflecting the severe impact of CHF on daily life, even though the patients were in a compensated stage and in an ambulatory setting. This also applied to another HRQOL instrument, the Nottingham Health Profile (NHP)[23], and suggested that when using the aforementioned measures, improvements in HRQOL may also reflect improved NYHA functional class. Indeed, quality of life, as reflected by the NHP, has been shown to improve, as has NYHA functional class, after heart transplantation[23]. These data imply that HRQOL may be especially relevant in CHF, in which NYHA functional class is of prime importance.

In addition to NHYA functional class, more objective indices of functional capacity such as the 6-minute walk test also showed some relation to quality of life[24]. However, Steptoe *et al.*[6] found no univariate association between exercise capacity and quality of life in patients with mild to moderate CHF. In the present study, we also were not able to clarify this point. This raises the question as to which other predictors besides the most obvious prognostic somatic variables in CHF patients are important. Future trials are needed to evaluate the predictors of prognosis and/or mortality in patients with CHF.

Compared with the normal Japanese population, our CHF patients showed a global reduction in HRQOL as measured in 7 of the SF-36 subscales. Although the most pronounced loss of HRQOL was observed in the domain of role limitation because of physical problems, SF-36 subscales scores related to mental status such as social functioning and role-emotional were also low.

In apparently asymptomatic patients with left ventricular dysfunction, the SF-36 scores revealed significant decreases in the scales representing somatic physiological and mental status. In other words, poor HRQOL might be indicated not only by scores relating to physical but also mental state. The lack of association between LVEF and HRQOL is in total agreement with findings of previous studies[25–26].

In addition to decrease in physiological outcomes such as peak $\dot{V}O_2$, one could speculate that these results reflect the effect of CHF on the central nervous system[24)27)]. Changes in central neurohumoral regulation systems or diminished central perfusion might impair cognitive capacity and trigger a latent vulnerability to depressive disorders[24)27)].

Interestingly, with regard to the SF-36 bodily pain subscale score, we felt that improvement in this score was unrelated to bodily pain per se because CHF patients were not experiencing chest pain. For example, after the onset of AMI, patients may interpret the SF-36 bodily pain subscales as referring to chest pain. However, only 24% of patients in the present study had a previous MI. The possibility exists in the present study that CHF patients did not influence the SF-36 bodily pain subscale score. Therefore, we surmised that the bodily pain subscale may not be appropriate for the evaluation of patients with CHF.

To the best of our knowledge, Mitani *et al.*[28] are the only other group to have evaluated HRQOL in Japanese CHF patients with the SF-36 health survey. In their study, although 91 patients with CHF had very poor HRQOL and overall reported bodily pain, their patients' bodily pain scores were lower than those of the patients in our study. This discrepancy may be related to differences in patient characteristics. A possible reason may be that a higher percentage of CHF patients in their study had ischemic heart disease. Although our study patients included mainly those with cardiomyopathy, valvular heart disease, hypertensive heart disease, and atrial fibrillation, only 24% of patients had a previous myocardial infarction. In their study, 57% of CHF patients had ischemic heart disease. This may account for the difference in HRQOL-related findings between the present study and those of Mitani *et al.*

Recently, Tamura *et al.*[29] developed a disease-specific quality of life measure in patients with CHF. They suggested that a disease-specific quality of life questionnaire is applicable to the evaluation of HRQOL in patients with CHF. We believe that both the SF-36 and

disease-specific quality of life questionnaires may be needed to evaluate HRQOL in future trials.

There were several limitations in the present study. First, the present study comprised a small sample, and thus it was not possible to determine what factors might predict reduced HRQOL. We did not ascertain the reasons for impaired HRQOL. Other conditions, such as hip pain, cancer, or depression, for example, may also result in lower HRQOL scores. Therefore, further studies are needed to investigate the relation between HRQOL and other factors.

Second might be the cross-sectional design of the study. The main thrust of the present study was to assess the differences in degree of illness in relation to physiological outcome and HRQOL assessed at a particular time. Nevertheless, it would be highly desirable to document longitudinal change in physiological outcome and HRQOL in patients with CHF. HRQOL and disease-specific quality of life questionnaires should be used in future studies to evaluate not only the effect of exercise performance but mental status as it relates to HRQOL over the long term after CR.

Finally, in the present study, although differences in physiological outcomes associate with NYHA functional classes were determined, we did not directly measure leisure-time physical activity. A previous study has shown that leisure-time physical activity influences HRQOL positively[30]. A recent review also indicated that an increased level of physical activity generally, although not always, favorably affects quality of life[31]. Therefore, future trials are needed to evaluate the relation between physical activity and HRQOL in patients with CHF.

Conclusion

We found in patients with CHF that as NYHA functional class increased, peak $\dot{V}O_2$ and almost all SF-36 subscale scores decreased, whereas $\dot{V}E/\dot{V}CO_2$ slope increased. NYHA functional class, but not LVEF, appears to be related to HRQOL. Thus, in patients with CHF, not only objective physiological outcomes but also HRQOL decreased as NYHA functional class increased. In addition, all SF-36 subscale scores except that for bodily pain were greatly lower when compared to those of the normal Japanese population. Future trials will need to evaluate the effect of CR for longitudinal settings and for longer periods; long-term follow-up will be required to evaluate whether these benefits continue over time.

Acknowledgments

This study was supported in part by a Grant-in-Aid for Scientific Research (A) #13301006 from the Japanese Society for the Promotion of Science.

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Clinical Rehabilitation 2005; **19:** 20–27

Effects of home massage rehabilitation therapy for the bed-ridden elderly: a pilot trial with a three-month follow-up

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Received 8th November 2003; returned for revisions 10th March 2004; revised manuscript accepted 30th May 2004.

Objectives: To assess the effects of home massage rehabilitation therapy on the bed-ridden elderly.
Design: Alternatively allocated trial.
Setting: Subjects' homes, three home nursing stations, 13 visit care stations and one day service centre in Aichi prefecture, Japan.
Subjects: Bed-ridden patients who were 65 years and above, no dementia, stable general condition, and receiving no rehabilitation therapy.
Intervention: Thirty-minute sessions of home massage rehabilitation therapy by a massage practitioner 2 or 3 days a week for three consecutive months or usual care.
Main measurements: Barthel Index (BI), Subjective Satisfaction and Refreshment Scale, Apathy Scale and Self-rating Depression Score.
Results: Fifty-three subjects were recruited, 26 in the home massage rehabilitation group (HMG) and 27 in the routine care group without massage (RCG). The protocol was completed for 40 subjects, 22 in the HMG and 18 in the RCG. There were no significant differences between the baseline characteristics of both groups; age, presence of spouse, diseases associated with disabilities and use of day care rehabilitation ($p = 0.76$, 0.36, 0.94 and 0.71, respectively). The total BI score of the HMG (15.27 ± 4.51) at baseline was nonsignificantly lower ($p = 0.03$) than those of the RCG (11.44 ± 5.90). Subjective Satisfaction and Refreshment Scale, Apathy Scale and Self-rating Depression Score of both groups at baseline were matched ($p = 0.12$, 0.32 and 0.89, respectively). There were no statistical differences between the intergroup changes over time in BI, Subjective Satisfaction and Refreshment Scale, Apathy Scale and Self-rating Depression Score ($p = 0.35$, 0.08, 0.70 and 0.55, respectively).
Conclusion: Home massage rehabilitation therapy did not show a positive effect on the bed-ridden elderly, either mentally or physically. We would require large-size trials to determine whether it is effective.

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10.1191/0269215505cr795oa

Introduction

A byproduct of the ageing of the population has been a rise in the number of bed-ridden patients who remain at home.[1,2] However, it is currently difficult to adequately meet the demand for home rehabilitation services for the bed-ridden elderly staying at home due to a shortage of physical therapists and occupational therapists.[1,3–6] Home massage rehabilitation therapy by trained professionals is available to the bed-ridden elderly as an alternative home rehabilitation service in Japan.

Massage has been used since ancient times both in the East and the West.[7,8] Recently, the demand for massage therapy as a useful adjunct to medical treatment has been on the rise in the US.[9–12]

There is now a need for 'evidence-based alternative medicine' in addition to evidence-based medicine.[7,10,13,14] Various countries, including the US, have encouraged research into the effects of alternative medicine.[11,13,15] We believe it is important to perform further studies for a more reliable evaluation of the effect of alternative medicine in Japan. A number of papers have highlighted the positive effects of massage treatments.[7,16–21]

However, to our knowledge, no study has reported on the effect of home massage rehabilitation therapy on the bed-ridden elderly. We therefore conducted a pilot study to evaluate the effect of home massage rehabilitation therapy on the following: activity of daily living (ADL), quality of life (QOL), apathetic mood and depressive mood of the bed-ridden elderly in communities.

Methods

Patient selection

Study participants were recruited for a period of nine months, from June 2002 to February 2003 from groups of users of home nursing stations, visit care stations and a day service centre in Aichi prefecture, Japan. We contacted service stations closest to our university and explained the study procedure to the director, chief administrator or head nurse. Staff with one or more licences of nurse, physical therapist, occupational therapist or care manager were in charge of recruitment. The inclusion criteria were as follows: 65 years and above, cognitive impairment not likely to interfere with adherence to the study, bed-ridden condition rank B or C; stable general condition and no rehabilitation therapy within three months of enrolment, and permission of the physician in charge. All eligible participants were required to agree to the study and sign informed consent forms.

The Japanese public nursing care system recently established the licence of care manager, whose primary responsibility is to oversee the co-ordination of care services for elderly people.

In Japan, the term 'bed-ridden' does not equate to being restricted to bed. Japan's Ministry of Welfare identifies four ranks of ADL of disabled elderly ranks B and C are defined as 'bed-ridden' condition in the criteria:

- Rank J = independent in ADL:
  Despite certain limitations, person is mostly independent in daily life and goes out on his/her own.
  1) Goes out using any means of public transportation.
  2) Goes out around the neighbourhood.

- Rank A = house-bound:
  In general, person can manage indoors independently, but requires some kind of care when going out.
  1) Goes out with assistance, and spends most of the day out of bed.
  2) Seldom goes out, and spends the day in and out of bed.

- Rank B = chair-bound:
  Requires some care indoors and spends most of the day in bed, but can maintain a seating position.
  1) Transfers to a wheelchair on his/her own and goes out of bed for meals and excretion.
  2) Requires assistance in transferring to a wheelchair.

- Rank C = bed-bound:
  Spends the whole day in bed, and requires assistance with excretion, eating meals and changing clothes.
  1) Turns over in bed on his/her own.
  2) Does not turn over in bed on his/her own.

Allocation

We alternatively allocated the participants to either a home massage rehabilitation group (HMG) or a routine care group (RCG) in order of enrolment. Participants were enrolled in their order of appearance on a list of eligible applicants provided by each station. We commissioned each station to send us the list when participants' recruitment was completed.

Massage intervention

The HMG received 30-min sessions of home massage rehabilitation 2 or 3 days a week for 12 consecutive weeks. A local massage practitioner was assigned to each patient. Massage practitioners were selected by the professional Association of Licensed Massagers of Aichi prefecture. As a safety measure, the participants were given the option to stop receiving home massage rehabilitation therapy whenever they wished. Both HMG and RCG were also allowed to receive home rehabilitation and/or day care for the duration of the study.

The intervention of home massage rehabilitation consisted of medical massage and kinesitherapy as follows:

Medical massage

Medical massage included two kinds of massage: therapeutic massage and nursing massage.[8] Both consisted predominantly of rub and finger-pressure techniques.

- *Therapeutic massage* aims at the direct treatment of illnesses in internal medicine, orthopedics, neurology and other fields.
- *Nursing massage* aims at the indirect treatment of illnesses. It prevents or improves the patient's weakness or fatigue.

Kinesitherapy

- Sitting balanced exercise
- Sitting up exercise
- Standing up exercise
- Gait exercise
- Range of motion (ROM) exercise.

Baseline and follow-up assessment

Assessments were performed at baseline and at three months. All participants were assessed by qualified assessors having one or more licences of nurse, physical therapist, occupational therapist or care manager using the Barthel Index (BI),[22] Subjective Satisfaction and Refreshment Scale,[23] Apathy Scale[3,24] and Self-rating Depression Scale (SDS).[25] The Subjective Satisfaction and Refreshment Scale was assessed on a 4-item scale (3 = strongly, 2 = moderately, 1 = slightly, 0 = not at all) based on answers to the following question: 'To what extent do you feel satisfied and refreshed in daily life?' As for the apathy scale, we used the shortened edition of the apathy scale translated by Kobayashi. The scale consisted of 14 headings, and points were allotted to each question from 0 to 3. Higher scores reflect apathetic mood in this scale. The SDS was used to assess depressive mood.

The assessors were not blinded. They probably found out who was given intervention because they were staff from the participating stations usually providing home care for each participant.

Statistical analysis

We analysed the significance of intergroup outcome differences at baseline. Proportions were compared by the χ^2 test. Continuous data were compared using the Mann–Whitney test. We also analysed the significance of the differences between intergroup changes over time by analysis of variance (ANOVA) with repeated measures. p-values < 0.01 were considered significant. Statistical analyses were performed with the Statview J-5.0.

Results

Profile of trial

We approached about 100 stations concerning participants' recruitment. Seventeen stations cooperated in the study. A total of 53 users were recruited for the trial, 26 in the HMG and 27 in the RCG. The subjects belonged to three home nursing stations, 13 visit care stations, and one day service centre in Aichi prefecture. At three months, the protocol was completed for 40 subjects, 22 in the HMG and 18 in the RCG. Four subjects were hospitalized, none in the HMG and four in the RCG. Nine subjects were lost to follow-up for personal or unknown reasons, four in the HMG and five in the RCG (Figure 1).

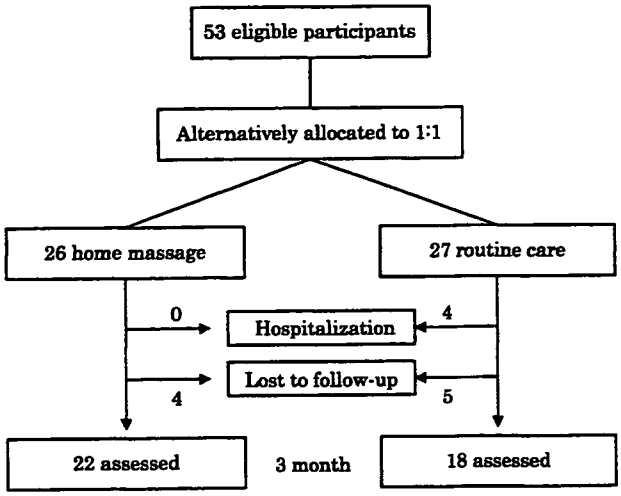

Figure 1 Flow diagram for the trial.

Baseline characteristics

The baseline characteristics of the HMG and the RCG subjects followed up three months after enrolment are summarized in Table 1. The baseline characteristics of the subjects in the HMG and the RCG were matched for age, presence of spouse, diseases associated with disabilities and use of day care rehabilitation ($p = 0.76$, 0.36, 0.94 and 0.71, respectively). A stroke was the most frequent cause of disability in both groups ($n = 12$ and 12, respectively). The HMG ($n = 14$) had a greater number of females than the RCG ($n = 6$) ($p = 0.06$).

Main outcome measures

Table 2 shows main outcome measurements of subjects at baseline. The total BI score of the HMG (15.27 ± 4.51) at baseline was nonsignificantly lower than that of the RCG (11.44 ± 6.0) ($p = 0.03$). In the Subjective Satisfaction and Refreshment Scale there was no significant difference between the baseline scores of the two groups (0.90 ± 0.85 and 1.35 ± 0.75, respectively). In the Apathy Scale there was no significant difference between the baseline scores of the two groups (18 and 23, respectively). In the SDS, there was no significant difference between the baseline scores of the two groups (45 and 46.5, respectively).

Table 3 shows main outcome measurements of subjects at three months. In BI there were no significant differences between the intergroup changes over time in the total ($p = 0.35$) and each of 10 categories. In the Subjective Satisfaction and Refreshment Scale, Apathy Scale and SDS there were no differences between the intergroup changes over time between the two groups ($p =$ 0.08, 0.70 and 0.55, respectively).

Discussion

Outline and weaknesses of study

This study examined the effect of massage therapy, a traditional oriental medicine treatment, on at-home elderly in Japan. Despite extensive recruitment which lasted about nine months, the

Table 1 Baseline characteristics of subjects

Variable	HMG ($n = 22$)	RCG ($n = 18$)	p-value
Age (mean $\pm$ SD) years	80.09 ± 8.09	79.67 ± 8.46	0.76
Female	14	6	0.06
Living with spouse	13	8	0.36
Family member (mean $\pm$ SD)	1.8	2.4	0.12
Going to day care	5	5	0.71
Cause of independence in ADL			0.94
Stroke	12	12	
Circulatory illness	2	2	
Respiratory illness	1	1	
Orthopaedic illness	6	3	
Rheumatism	1	1	

HMG, home massage rehabilitation group; RCG, routine care group.
Proportions were compared by the χ^2 test. Continuous data were compared using the Mann–Whitney test.

Table 2 Outcome measurements of subjects at baseline

Variable	HMG ($n = 22$)	RCG ($n = 18$)	p-value
BI (mean±SD) (95% CI)			
Total (0–20)	15.27±4.51 (13.27–17.27)	11.44±5.90 (8.51–14.38)	0.03
Feeding (0–2)	1.77±0.53 (1.54–2.01)	1.56±0.71 (1.21–1.91)	0.40
Bathing (0–1)	0.46±0.51 (0.23–0.68)	0.22±0.43 (0.01–0.43)	0.21
Grooming (0–1)	0.73±0.46 (0.53–0.93)	0.61±0.50 (0.36–0.86)	0.53
Dressing (0–2)	1.50±0.67 (1.20–1.80)	0.94±0.73 (0.58–1.31)	0.03
Bowel (0–2)	1.64±0.58 (1.38–1.89)	1.50±0.86 (1.07–1.93)	0.92
Bladder (0–2)	1.41±0.67 (1.11–1.70)	1.44±0.78 (1.05–1.83)	0.73
Toilet use (0–2)	1.64±0.58 (1.38–1.89)	1.06±0.73 (0.69–1.42)	0.02
Transfers (0–3)	2.55±0.67 (2.25–2.84)	2.00±0.97 (1.52–2.48)	0.09
Mobility (0–3)	2.50±0.80 (2.14–2.86)	1.50±1.25 (0.88–2.12)	0.01
Stairs (0–2)	1.09±0.68 (0.79–1.39)	0.72±0.75 (0.35–1.10)	0.14
Subjective Satisfaction Scale (mean±SD) (95% CI)	0.90±0.85 (0.50–1.30)	1.35±0.70 (0.99–1.71)	0.12
Apathy Scale (median) (95% CI)	18 (16–25)	23 (18–28.5)	0.32
SDS (median) (95% CI)	45 (42.5–49.5)	46.5 (38.5–50)	0.89

HMG, home massage rehabilitation group; RCG, routine care group.
There were no significant intergroup outcome differences at baseline (the Mann–Whitney test). p-values < 0.01 were considered significant.

sample size of the study was small for the following reasons: many users were already receiving home rehabilitation in the stations/centre, many users had dementia, and many users were reluctant to change to alternative allocation. The blindness was limited because the station staff necessarily knew to which group the participants were assigned. We enlisted each station to perform the evaluation because of a shortage of staff and the large quantity of settings. This may have biased

Table 3 Outcome measurements of subjects at three months

Variable	HMG ($n = 22$)	RCG ($n = 18$)	p vs. baseline
BI (mean±SD) (95% CI)			
Total (0–20)	15.05±4.87 (13.25–18.02)	10.89±6.29 (7.76–14.01)	0.35
Feeding (0–2)	1.64±0.58 (1.38–1.89)	1.44±0.71 (1.09–1.79)	0.37
Bathing (0–1)	0.50±0.51 (0.27–0.73)	0.17±0.38 (0.01–0.43)	0.33
Grooming (0–1)	0.82±0.50 (0.60–1.04)	0.61±0.50 (0.36–0.86)	0.53
Dressing (0–2)	1.50±0.80 (1.14–1.86)	0.89±0.76 (0.51–1.27)	0.90
Bowel (0–2)	1.59±0.67 (1.30–1.89)	1.28±0.83 (0.87–1.69)	0.85
Bladder (0–2)	1.41±0.73 (1.08–1.73)	1.22±0.88 (0.79–1.66)	0.63
Toilet use (0–2)	1.73±0.63 (1.45–2.01)	1.17±0.79 (0.78–1.56)	0.94
Transfers (0–3)	2.59±0.67 (2.30–2.89)	1.94±0.87 (1.51–2.38)	0.75
Mobility (0–3)	2.36±0.90 (1.96–2.76)	1.39±1.15 (0.82–1.96)	0.27
Stairs (0–2)	1.32±0.72 (1.00–1.64)	0.78±0.73 (0.41–1.14)	0.42
Subjective Satisfaction Scale (mean±SD) (95% CI)	1.00±0.80 (0.63–1.37)	1.00±0.61 (0.69–1.31)	0.08
Apathy Scale (median) (95% CI)	23 (18.5–27.5)	25.5 (20.5–31)	0.70
SDS (median) (95% CI)	49 (45.5–51)	49.5 (41.5–55.5)	0.55

HMG, home massage rehabilitation group; RCG, routine care group; CI, confidence interval.
In all variables, there were no significant differences between intergroup changes over time by analysis of variance (ANOVA) with repeated measures. p-values < 0.01 were considered significant.

assessors' evaluation and limited the validity of the results. Bed-ridden people in our inclusive criteria are more prone to dementia.[26] This may explain the presence of a large number of demented elderly in the participating service stations. Because those suffering from dementia could not reply to the mental scale questions, we needed to exclude them from the object of this research. As for home rehabilitation, various stations justified users' refusal to participate in the study, alleging that many users already received home rehabilitation. This explanation, however, is in contradiction with the above mentioned reports.[1,3,6] This may be because (1) rehabilitation resources by area are different and not lacking in Aichi prefecture,[4] (2) the number of rehabilitation sessions per person may be small, and (3) nurses give home rehabilitations instead of physical therapists and occupational therapists.[6]

The baseline characteristics of the subjects in the HMG and the RCG were matched. This result supports the validity of the outcome measures in this study because the mental and physical state of the elderly is related to their social support.[27] However, we could not match the baseline outcome measurements between the two groups at the time of the allocation because this study did not accept enough participants to match the baseline outcome measurements at a time.

We should have excluded the provinces of rehabilitation, acupuncture and moxibustion from the study protocol to examine the effects of home massage accurately. In Japan, home massage programmes usually consist of medical massage and rehabilitation by a licenced massage practitioner. Some massage practitioners have a licence to practise acupuncture and moxibustion. According to some studies, home rehabilitation by physical therapists and/or occupational therapists may have an effect on ADL,[28,29] while acupuncture and moxibustion may have an effect on ADL and depressive mood.[30,31] As a result of a conference with the Massage Association, we concluded that rehabilitation could not be separated from home massage because rehabilitation, acupuncture and moxibustion are widely used in conjunction with massage in Japan.

Effectiveness

A few studies indicate a significant improvement in ADL of stroke patients by three-month rehabilitation in the chronic stage.[28,32] To our knowledge, this is the first study investigating the effect of home massage rehabilitation therapy on ADL. We believe that this study is valuable in planning additional trials to assess the benefits of home massage rehabilitation therapy as an efficient substitute for hospital and/or home rehabilitation in the chronic stage.

However, the findings of the study may suggest that home massage rehabilitation therapy does not have a positive effect on the bed-ridden elderly in terms of ADL in the chronic stage. There are two possible reasons for this result: the first is that the three-month study period was too short to allow for the detection of significant differences. The second is that home massage rehabilitation alone may not trigger improvements in ADL. This result suggests that we need to appropriately combine home massage with other types of Western medical care services such as home nursing visits.[31,33]

Geriatric rehabilitation aims at the improvement of QOL in addition to higher ADL.[34] Massage has documented mental benefits.[7,8,16,35] However, we detected no changes in Subjective Satisfaction and Refreshment Scale scores, Apathy Scale scores and SDS in this study. These three scales may not match the study design because it is difficult to make an accurate assessment of QOL. We should also take it into consideration that more females were allocated to the HMG because there is a strong relation between depression and sex.[27,36,37] Additional research is needed for a more accurate appraisal.

Table 4 Clinical course of all participants during six months

Group	Clinical course (illness)	*n*
HMG	Unknown	2
	Hospitalization	2
	Death (cerebral infarction)	1
RCG	Unknown	5
	Bad condition	2
	Hospitalization	6
	Death (cerebral infarction)	2

HMG, home massage rehabilitation therapy group; RCG, routine care group.

Clinical messages

- Recently, the demand for massage therapy as a useful adjunct to medical treatment has increased.
- For the bed-ridden elderly, home massage rehabilitation therapy is feasible but has not been shown to be effective.
- Additional large-scale studies would be required to give scientific evidence.

Safety is an important consideration in the provision of alternative medicine.[12] In our study, none of the HMG and four of the RCG were hospitalized and therefore excluded from the research. Furthermore, six months after the start of our research, a follow-up survey of study participants was conducted. We did not detect any serious complications in HMG when comparing our findings at six months. The results of our follow-up survey are detailed in Table 4. However, we need additional research to prove the safety of home massage accurately.

Conclusion

We conducted a pilot study to investigate the effectiveness of home massage rehabilitation therapy. We concluded that this study did not suggest that home massage rehabilitation therapy was mentally and physically beneficial to the disabled at-home elderly. We need to conduct additional large-scale studies to give better evidence.

Acknowledgements

The authors are grateful to Mr Haruta and his colleagues at the Association of Licenced Massagers of Aichi prefecture for their assistance in developing the study design. We are also thankful to participants and their care service stations. Financial support for this project was provided by the Mitsui-Sumitomo Insurance Welfare Foundation, Tokyo.

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Geriatr Gerontol Int 2005; 5: 301–302

LETTER TO THE EDITOR

Feeding tubes in the terminal frail elderly

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Dear editor,

It is distressing to decide how to treat the frail elderly in the terminal stage.[1] The increased number of frail elderly in Japan forces us to confront the serious decision of not treating the frail elderly with feeding tubes in the terminal stage. In Japan, because of strong family emotions, religion, social customs and public opinion, it is very difficult to refuse feeding tubes when patients are suffering from dysphagia.[2] Japanese physicians agree to the use of feeding tubes out of fear that they will be accused of refusing to tube feed patients for economic and financial reasons.

Kosaka *et al.* asked the families caring for tube-fed patients about how and why they accept tube feeding,[3] whether to recommend tube feeding to families if their relative suffers a terminal illness, and whether they would accept tube feeding themselves if they were suffering from a terminal illness. They found that 66% of families caring for patients with tube feeding permitted tube feeing because there was no other way for the patient to survive. However, about 90% of families caring for patients with tube feeding rejected the idea of being tube fed themselves in a similar situation. The same response was also given by families caring for patients eating by themselves and outpatients.

According to previous studies,[3] we asked families who had a frail elderly relative in the terminal stage of disease whether the families chose a feeding tube or not for patients with dysphagia. Eligible frail elderly were terminal patients who required tube feeding because they had difficulty maintaining adequate nutrition orally and their cognitive function was extremely poor and not improving. Patients were in long term care for several reasons, including physical disabilities, mostly due to cerebral strokes, and by the request of the patients' families. These patients continued to deteriorate to the point where they did not have any conscious awareness although they occasionally opened their eyes and made noises. However, the eye movements and the noises they made were not discernibly purposeful. With the consent of team staff, including nurses and care givers, we took informed consent by explaining previous data,[3] which showed that about 90% of families caring for patients in the terminal stage refused the option of feeding tubes. We also indicated to them the prognoses in both the event that they were fed and if they were not. Drip infusion from peripheral veins was accepted in cases without feeding tubes. Approximately 1000 mL of drip infusion containing electrolytes and vitamins was performed under careful observation for edema, urine volume and so on. Without any previous instructions, full explanations of the consequences of both alternatives on the terminally ill patients were given and the families chose one method. Informed consent was started from August 2002 until July 2004. We compared the decisions regarding the use of the feeding tubes in the terminally ill from before taking informed consent (August 1999 to July 2002) with those made afterwards (August 2002 to July 2004).

We examined 102 patients in the terminal stage with dysphagia (mean age ± SD 82 ± 8 years): 58 women (82 ± 8 years of age) and 44 men (80 ± 8 years of age) who were bedridden at Hikarigaoka Sperman Hospital, a geriatric long-term care facility in Sendai City, Japan. The number of patients annually from 1999 to 2003 were 23, 20, 15, 18 and 26 patients, respectively. Before July 2002, the proportion of patients with feeding tubes varied from 65 to 67%, but after August 2002 they deceased to 39–28% (Fig. 1). Fifty-two patients (80 ± 7 years of age: 29 women and 23 men selected feeding tubes and the other 50 patients (84 ± 8 years of age; 29 women and 21 men) selected peripheral drip infusion. There were no systematic differences in age, cognitive impairments or basic diseases between patients with and without tube feeding.

Infections, including pneumonia, were observed in 72% of the patients with feeding tubes and 25% of the patients with peripheral drip infusion. Nine patients with feeding tubes and one patient with peripheral drip infusion survived to the end of December 2004. The average survival period of patients who died with feed-

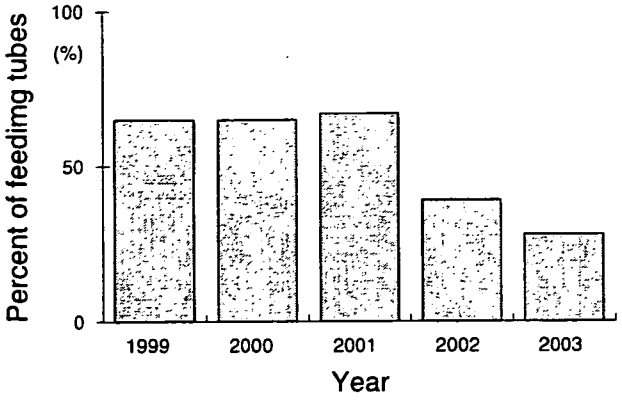

Figure 1 Proportion of feeding tubes for frail elderly in the terminal stage deceased by half after taking informed consent by explaining that about 90% of the families had denied feeding tubes since August 2002.

ing tubes was 447 ± 65 days (mean ± SD)and that of patients who died with peripheral drip infusion was 65 ± 7 days (mean ± SD). The average medical cost of dead patients with feeding tubes was $618 \times 10^3 \pm 121 \times 10^3$ yen per month and that of dead patients with peripheral drip infusion was 525×10^3 yen $\pm 182 \times 10^3$ per month. Total medical costs of dead patients with feeding tubes was $9214 \times 10^3 \pm 1804 \times 10^3$ yen per person (mean ± SD) and that of dead patients with peripheral drip infusion was $1156 \times 10^3 \pm 401 \times 10^3$ yen per person (mean ± SD).

The difference in acceptance of tube feeding between the reality of being tube fed and the thought of rejecting tube feeding, may be due to Japanese morals. Japanese families find it hard to accept death even in patients who have decreased cognition, no will and who are bed bound. However, rejecting tube feeding in about 90% of the families caring for terminal patients might decrease tube feeding by half.

About 100 000 patients in geriatric hospitals all over Japan die per year, which represents about 10% of all deaths in Japan.[2] Medical fees for the patients who died were spent largely in the terminal stage.[4] If the proportion of feeding tubes was reduced by half, as shown in the present study, medical costs in the terminal stage would decease tremendously, because the medical cost of feeding tubes was about eight times higher than that of peripheral drip infusion. Life elongation with treatment depending on the family's desire and the public health system, which covers almost all medical costs without limitation, might be one of the reasons for continuing terminal medical care.[5] On the other hand, feeding tubes may be used as means of saving costs because the staff time required to feed patients by hand is expensive.[6] An attempt to reduce the length of hospital stay may promote decisions to place feeding tubes in an acute care setting. In the present study we took informed consent from families caring for patients in the terminal stage.

Finucane *et al.* reviewed the evidence to identify data about whether tube feeding in patients with advanced dementia can prevent aspiration pneumonia,[7] prolong survival, reduce the risk of pressure sores or infections, improve function or provide palliation. They found no data to suggest that tube feeding improves any of these clinically important outcomes and found some data to suggest that it does not. Further, risk was substantial. They suggested that the widespread practice of tube feeding should be carefully reconsidered, and for severely demented patients the practice should be discouraged on clinical grounds. In contrast, in Japan, decisions on how to treat the terminal elderly are different from those of Western countries, because of differences in terms of philosophy, religion, family emotions, social customs and public opinion. These are partly derived from Confucianism in which the virtue of filial piety is strongly stressed. It may not be justified to cease feeding tubes in terms of benefits and risks as it is in Western countries, but it also may be wrong to prolong survival in most cases in the terminal stage of dementia. A middle ground for decisions on feeding tubes in Western and oriental countries might be suitably settled in future.

The present study is an attempt to construct a medical consensus for life-extending care in terminal older patients.

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2005年12月

原　著　ホスピスケアと在宅ケアVol.13, No.3　220－224, 2005

高齢者の在宅終末期ケアに関する前向き研究

平川仁尚[1]、益田雄一郎[1]、葛谷雅文[1]、大頭信義[2]、梁勝則[3]、井口昭久[1]、植村和正[4]

要旨

高齢者の在宅終末期ケアのあり方が議論されているが、先行研究は少ない。今回、日本ホスピス・在宅ケア研究会との共同で、高齢患者の終末期ケアに関する前向き観察調査を実施した。日本ホスピス・在宅ケア研究会に所属する医師16名が担当した患者のうち、2002年の10月から2004年の9月までの間に、最終的に自宅で看取られた65歳以上の高齢患者240名を対象とした。調査内容は、患者の特徴、事前指定書の有無、死亡前48時間以内に観察された症状および実施された終末期ケア・検査であった。データ収集は、患者の死後、担当医師が質問紙に回答する形式で実施された。その結果、高齢癌患者の死因は必ずしも癌ではないこと（219人中116人）、事前指定書の所持率が低いこと（15.4%）、死亡直前には、食欲不振（56.7%）・疼痛（51.3%）・呼吸困難（44.2%）などが多くみられ、侵襲的な積極的医療はほとんど行われていなかったこと、などが分かった。今後、本研究のデータを詳細に分析し、高齢者の在宅終末期ケアの実態を明らかにする必要があるだろう。

索引用語：症状、事前指定書、心臓マッサージ、オピオイド剤、緩和ケア

緒言

わが国は世界でも類をみない速さで高齢社会を迎えている。人は老いて死ぬことが避けられない以上、高齢社会の到来は高齢者の死の増加を意味する。一致した見解はないものの、癌患者の場合は、6ヶ月以内に死亡すると認められた時点から終末期といわれることが多い[1)]。一方、高齢者は老衰という避けられない自然経過をたどるうえ、心不全・脳梗塞後遺症など様々な慢性病を抱えていることが多く、その死にゆく過程には多様性がみられる[2)]。

これまで高齢者の終末期医療の実態を調査した研究は少ない[1)]。我々の研究グループは、高齢者専門病院・ホスピス・大学病院などの病院、介護老人保健施設、認知症高齢者グループホーム、などにおける終末期ケアの実態調査を実施してきた。その結果、人生の最期を過ごす場所により、終末期ケアの特徴に違いがみられることが分かってきている。

戦後、わが国では、核家族化に伴う家族介護力の低下や医療の高度化などにより、病院で死を迎える国民が増加してきた[3,4)]。近年、住み慣れた自宅で人生の最期を迎えたいと希望する高齢者の増加や国民医療費の増大などを背景に、高齢者の在宅終末期ケアが注目されてい

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る[3,4]。しかし、その実態は未だ不明である。本研究は、国民および在宅ケアに関わる医療・福祉関係者などに、高齢者の在宅終末期ケアに関して議論を行う際の基礎資料を提供することを目的としている。

方法

本調査は、日本ホスピス在宅ケア研究会の協力を得て実施した。この前向き研究は、日本ホスピス在宅ケア研究会に所属する医師16名が担当した患者のうち、2002年の10月から2004年の9月までの間に、最終的に自宅で看取られた65歳以上の高齢患者240名を対象とした。調査内容は、患者の特徴（性別、年齢、寝たきり度（JABC）、認知症の程度、疾病および死因など）、事前指定書の有無、死亡前48時間以内に観察された症状と実施された終末期ケア・検査とした。症状と医療・ケアの項目は次に示す。

症状：呼吸困難、疼痛、自制内疼痛、昏睡、せん妄、不安、めまい、吐き気・嘔吐、食欲不振、下痢、便秘、発熱、尿便失禁、吐血、喀血、下血、その他の出血、咳、痰、など。

終末期ケアおよび検査：心臓マッサージ、気管内挿管、人工呼吸器、酸素吸入、エアウェイ留置、痰の吸引、高カロリー輸液、末梢点滴、抗生剤、昇圧剤、輸血（成分輸血を含む）、麻薬、尿導カテーテル留置、心理的ケア、宗教的ケア、血液検査、X線検査、など。

これらのデータの収集は、患者の死後、カルテや家族の話などを参考に、患者の担当医師が質問紙に回答する形式で行われた。

倫理面への配慮は、診療所からの情報は匿名化され、個人が特定されないようにした。

結果

患者の特徴を表1に示す。性別について、男女比はほぼ1：1であった。障害老人の日常生活自立度（寝たきり度）について、全体の半

表1. 患者の背景（240人）

項目	内訳または単位	（人）数または平均	%またはSD
性別	男	122	50.8
年齢	歳	78.6	0.6
寝たきり度	J	8	3.3
	A	20	8.3
	B	49	20.4
	C	139	57.9
	不明	24	10.0
痴呆度	正常	115	47.9
	I	27	11.3
	II	20	8.3
	III	26	10.8
	IV	18	7.5
	M	9	3.8
	不明	25	10.4
主疾患（複数回答）	悪性新生物	219	91.3
	呼吸器	35	14.6
	脳血管	22	9.2
	肝	21	8.8
	循環器	21	8.8
	腎	10	4.2
	消化器	9	3.8
	その他	68	28.3
	不明	5	2.1
死因	悪性新生物	116	48.3
	呼吸器	31	12.9
	肝	28	11.7
	循環器	14	5.8
	腎	8	3.3
	脳血管	6	2.5
	消化器	1	0.4
	その他	27	11.3
	不明	16	6.7
看取りの場所	自宅	197	82.1
	親族宅	22	9.2
	その他	3	1.3
	不明	18	7.5
医療機関までの距離	メートル	3541	
事前の指示	あり	37	15.4

表2. 死亡前48時間以内にみられた症状（240人）

項目	人数	%
食欲不振	136	56.7
疼痛	123	51.3
（強い疼痛）	35	14.6
呼吸困難	106	44.2
昏睡	100	41.7
喀痰・痰詰り	76	31.7
発熱	69	28.8
悪心嘔吐	55	22.9
せん妄	48	20.0
咳嗽	47	19.6
失禁	37	15.4
不安	34	14.2
便秘	16	6.7
下血	16	6.7
下痢	13	5.4
出血（吐血・下血・喀血以外）	12	5.0
吐血	11	4.6
眩暈	3	1.3
喀血	2	0.8
その他	51	21.3

表3. 死亡前48時間以内に実施された終末期ケアおよび検査(240人)

項目	人数	%
オピオイド剤	83	34.6
酸素吸入	82	34.2
末梢点滴	85	35.4
吸痰	65	27.1
尿道カテーテル	40	16.7
抗生物質	38	15.8
血液検査	18	7.5
高カロリー輸液	18	7.5
経管チューブ	10	4.2
心臓マッサージ	6	2.5
エアウェイ	5	2.1
心理的ケア	5	2.1
宗教的な癒し	3	1.3
昇圧剤	2	0.8
人工呼吸器	1	0.4
血液製剤	1	0.4
動脈ライン	1	0.4
X線撮影	1	0.4
挿管	0	0.0
輸血	0	0.0
その他	15	6.3

数以上がCランクであった。認知機能について、正常な対象者は、全体のほぼ半数を占めた(47.9%)。看取りの場所については、ほとんどの対象者が、対象者自身の自宅であった。主たる原疾患について、ほとんどの対象者が、悪性新生物に罹患していた(91.3%)。一方、死因となった疾患について、悪性新生物が約半数で、呼吸器系疾患、肝疾患と続いた。事前指定書を持っていた対象者は37人(15.4%)であった。

死亡前48時間以内にみられた症状(表2)について、食欲不振、呼吸困難、疼痛などが多かった。疼痛の約3分の1は強い疼痛であった。

死亡前48時間以内に実施された終末期ケアおよび検査を表3に示す。終末期ケアについて、オピオイド剤、酸素吸入、末梢点滴などが多かった。検査について、血液検査はわずかながら実施されていたものの、X線写真撮影はほとんど実施されていなかった。

考察

本研究の対象者は、日常生活自立度についてはベッド上寝たきり者が全体の約3分の1を占め、認知機能が正常な者は全体の約半数であった。認知機能は、疼痛など症状の出現の仕方に影響を与えることが知られており[5]、今回の結果の解釈には注意する必要がある。

多くの対象者は、主疾患として、悪性新生物を患っていた。日本ホスピス・在宅ケア研究会は終末期ケアに積極的に取り組んでいる研究会であるため、癌患者の割合が高くなったと考えられる。しかし、死因に関しては、悪性新生物は約半数にとどまった。高齢者の場合、悪性新生物に罹患しても症状の発現が若年者に比べて緩徐である傾向があり、経過中に心不全や肺炎など他の疾患で死亡することがある[1,2]。今回の結果は、これを裏付けるものかもしれない。

また、事前指定書を有していた対象者は、約15%と少なかった。この理由として、口頭で合意形成がなされていたこと、家族や医師が終末期であることを告げていなかったこと、認知症などにより患者に治療に同意する能力がなかったこと、などが考えられる[6]。しかし、わが国では、事前指定書は定着しているとはいえず、それに関する調査もほとんど行われていない。事前指定のあり方を議論するためには更なる調査が必要である。

死亡前48時間に見られた症状について、食欲不振、呼吸困難、疼痛、昏睡、などがみられた。これらの症状が癌患者の終末期によくみられることは、先行研究で指摘されている[7,8,9,10]。今回の対象者には、非癌患者も含まれているため、それらの研究結果と単純に比較することはできないが、必ずしも症状の出現頻度が高いとはいえない結果だった。ただし、死亡前48時間に限ったことなのか、適切にケアがなされた結果、症状の出現頻度が減少したのかは、本調査で論じることはできない。

また、死亡前48時間に実施された終末期ケアについて、心臓マッサージや人工呼吸器の使用などの一般的には苦痛を伴う積極的医療はほとんど行われていなかった。一方、オピオイド剤の投薬や酸素吸入は、他のケアに比べ

て、多くみられた。我々の研究グループが行った療養型病床群の終末期ケアの研究[5]において、積極的医療が広く行われ、緩和医療がほとんど行われていなかった結果と比較すると、在宅終末期ケアは、苦痛を伴う積極的医療を控え、緩和医療に重点を置いているケアである可能性が示唆される。しかし、精神的なケアがほとんど実施されていなかったことは、今後の課題と考えられた。また、表には示さないが、末梢点滴量について、死亡前24－48時間の平均は525.4ml/日、0－24時間の平均は445.7ml/日であった。この結果は、森田らの調査[7]と一致するが、全国調査では、終末期の輸液量に関する医師の考えに違いがあることが指摘されている[11]。今後、終末期の輸液が患者の症状に与える効果に関する調査も必要だろう。

結論

今回、高齢者の在宅終末期ケアに関する前向き観察調査を実施した。その結果、高齢の癌患者の死因は必ずしも癌ではないこと、事前指定書の所持率が低いこと、終末期にみられる症状として食欲不振・呼吸困難・疼痛などが多かったこと、終末期に延命を目的とする積極的医療はほとんど行われていないこと、などが分かった。今後、本研究のデータを詳細に分析し、高齢者の在宅終末期ケアの実態を明らかにする必要があるだろう。

謝辞

本研究にご協力いただいた日本ホスピス・在宅ケア研究会の先生方、ご遺族の方々に深謝する。また、日本ホスピス・在宅ケア研究会事務局の西稔氏、ならびに、名古屋大学大学院医学系研究科老年科学教室の佐野典子氏に感謝する。尚、本研究は、厚生労働省長寿科学総合研究事業の一環として行われた。

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ABSTRACT

Home end-of-life care for elderly in the last days of life

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End-of-life care for the elderly has become a major national problem in Japan. Yet, the prevalence of symptoms experience and care receipt in elderly patients dying at home is still unclear. The aim of this study was to assess the frequency of symptoms and end-of-life care receipt in elderly patients dying at home during the last two days of their lives. It was conducted in collaboration with the Japanese Society for Hospice and Home-care. Two hundred forty decedents aged 65 or older who were using sixteen study clinics belonging to the society with diagnoses of all illnesses including advanced cancer and died at home from October 2002 to September 2004 were included in the study. The following information was collected: decedent characteristics, advance directives, observed symptoms and end-of-life care provided during the last 48 hours of life. We observed that elderly cancer decedents did not always die of cancer (n=116/219). Few decedents had advance directives (15.4%). Anorexia (56.7%), pain (51.3%), dyspnea (44.2%) were frequently reported. Invasive treatments were not common. Additional analysis is important in this study.
KEY WORDS: Symptom, Advance directives, Heart massage, Opioids, Palliative care

42 : 540

〈原　著〉

全国の医学科・看護学科における終末期医療・看護教育の実態調査

平川　仁尚[1)]　益田雄一郎[1)]　植村　和正[2)]　葛谷　雅文[1)]
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〈要　約〉 **【緒言】**高齢者の終末期医療・看護に関する教育が重要になってきているが，わが国では，終末期医療・看護一般に関する教育すら十分でない．本調査は，終末期医療・看護の卒前教育カリキュラムのあり方を議論するための基礎資料を得ることを目的に実施した．**【方法】**2004年3月に，全国の全ての医学科および3年制・4年制の看護学科の教育責任者宛てに依頼状と調査票を送付し，終末期医療・看護に関するカリキュラムの有無，高齢者のそれに関する内容の有無，授業内容，実施時期，授業の担当科・分野，教育方法，学生の習得度評価法，学生に推薦している図書，について質問した．**【結果】**回収率は，医学科50.6%・看護学科40.9%であった．両学科とも多くの回答校で終末期医療・看護教育のカリキュラムが存在し，必修としていた．高齢者の終末期医療・看護の内容は，医学科の45%，看護学科の68.9%がカリキュラムに盛り込んでいた．また，医学科では4年，看護学科では3年で多く実施されていた．教育内容は，医学科では系統的でなかった一方で，看護学科では幅広い内容がカリキュラムに盛り込まれていた．医学科では，麻酔科，内科，外科，などがカリキュラム全体もしくはその一部を担当していたが，看護学科では，独立した分野として盛り込んでいる回答校が全体の約4分の1であった．講義の平均時間数は，医学科7.6時間，看護学科35.5時間であった．医学科と比較して，看護学科では体験型学習を教育方法として取り入れている回答校が多かった．両学科とも実地試験を習得度評価に用いている回答校は少なかった．教科書に関しては，医学科の10%，看護学科の35.6%が何らかの図書を推薦していた．**【結論】**医学・看護学・社会学・心理学・倫理学・法律学などの多領域を包括した教育カリキュラムの整備，高齢者の終末期医療・看護に関する教育の実施，標準的な教科書の充実，などが課題である．

Key words：終末期医療・看護，教科書，教育，評価法，カリキュラム

（日老医誌　2005；42：540—545）

緒　言

わが国は世界でも類を見ない速さで高齢社会を迎えている．それに伴い，医療現場で，高齢者の死に直面する機会が増加している．死期が迫った高齢者に質の高い終末期医療・看護を提供していくためには，医学科および看護学科におけるこの分野の教育を充実させていくことが重要であり，徐々にそれが認識され始めている[1)]．しかし，わが国には，高齢者の終末期医療・看護に関する教育は言うに及ばず，一般的な終末期医療・看護に関する教育すら十分に行われていない現状がある[1)2)]．現代の医療においてわが国が手本としてきた欧米では，終末期医療・看護を教育カリキュラムに取り入れる大学が増加している．そして，教育カリキュラムのあり方に関して広範な議論が起こっている[3)4)]．終末期ケアに関する問題のとらえ方は人々が生活する社会の歴史的・文化的・社会的背景などに大きな影響を受けるため，欧米のそれがそのままわが国に適用できるとは限らない[5)]．わが国においても，わが国の実情に合った終末期医療・看護教育のあり方を検討していく必要がある．本調査は，その基礎資料を得ることを目的としている．尚，本調査は，日本老年医学会倫理委員会の委託を受けて実施した．

方　法

全国の医学科および3年制・4年制の看護学科を対象にした．2004年3月に，対象の学科の教育責任者宛てに依頼状と調査票を送付した．尚，看護学科の住所録は，「全国主要看護学校・医療系専門学校案内」2004年度版（一ツ橋書店）から作成した．調査票のなかで，「終末期医療・看護に関する内容をカリキュラムに盛り込んでい

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受付日：2005. 1. 27，採用日：2005. 3. 8