

《Original article》

## Nutritional and dietary guidance during home visits to patients with cancer

Kotomi Kumagai<sup>1,2</sup> Tsuyoshi Nagao<sup>2</sup> Yuhei Yasuta<sup>1</sup> Yuuki Ito<sup>1</sup>, and Kiwako Okada<sup>1</sup>

### Abstract

**Aim:** We compared the characteristics of home-visit nutritional and dietary guidance offered to patients with cancer and non-cancer diseases.

**Methods:** This retrospective case-control study included 101 patients who received home-visit nutritional and dietary guidance. There were 51 men (50.5%), 50 women (49.5%), and the mean age was 74.7±11.6 years old. The following parameters were compared between patients with cancer (n=37) and non-cancer diseases (n=64): age, sex, diagnosis, level of care needed, degree of independence, living and household situation, height, weight, body mass index (BMI), medication, nutritional supplements, nursing-care service usage, medical treatment, blood test parameters, content of nutritional and dietary guidance, dietary pattern, and duration until death or cessation of treatment from initial home visits.

**Results:** In patients with cancer, home visit, requests for nutritional and dietary guidance, service usage, were less frequent than in non-cancer patients. Total parenteral nutrition, pain management using narcotics were more needed in cancer patients than in non-cancer patients. In blood tests, total protein albumin, creatinine, blood glucose, haemoglobin, haematocrit were lower in cancer patients than in non-cancer patients. The duration until death or cessation of treatment from initial home visit was shorter in cancer patients than in non-cancer patients.

**Conclusions:** Early intervention for home-visit nutritional and dietary guidance based on doctor's instructions are necessary for cancer patients, due to short duration of care and side effects of narcotics for pain control.

**Keywords:** cancer, home care services, nutrition therapy

### 1. Introduction

Recently, death toll is increasing in Japan with a demographic aging; 1,376 million in 2019<sup>1</sup>. As elderly people increases, the integrated community care system are developed in each local municipality. Furthermore, guidelines have been established for the implementation of community-based support projects in home medical care, in order to ensure that elderly people who require medical and/or nursing care can continue to live independently in a familiar environ-

ment. Such care requires the cooperation of medical institutions and nursing service providers<sup>2</sup>.

The ideal approach for providing medical treatment and care at the end of life has been referred to as 'patient-led end-of-life medical care', which requires appropriate information and available options. Such end-of-life care should be based on medical validity and suitability, determined by a multidisciplinary medical care team<sup>3,4</sup>. When a patient's general condition changes dramatically in a clinical setting,

<sup>1</sup> Graduate School of Nutritional Sciences, Nagoya University of Arts and Sciences

<sup>2</sup> Seishoukai Clinic Konan

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health care professionals should take care of wishes of patients and their family; which is the same as management of home-care setting. Comprehensive palliative care for patients with cancer should be provided at a suitable time and location, and at an appropriate cost<sup>5</sup>).

While the roles of physicians, nurses, and care workers in providing comprehensive cancer care in home have been well established recently, few studies report on the contributions of registered dietitians. The condition of patients with cancer dramatically deteriorates in the final months of life; this is mainly attributed to weight loss due to cachexia and underlying disease-associated inflammation<sup>6-9</sup>). Symptoms such as pain, appetite loss, nausea, and vomiting lead to an inability to eat and subsequent malnutrition<sup>10,11</sup>). An established system exists whereby patients can receive appropriate care for these symptoms by home visits by registered dietitians. Therefore, this study compared the characteristics of home-visit nutritional and dietary guidance provided by dietitians between cancer patients and non-cancer patients. The goal was to inform the development of an optimal dietary management approach for cancer patients in home.

## 2. Methods

This retrospective case-control study included 101 patients who received physician's nutritional and dietary guidance during home visits and underwent medical examinations between June 2015 and June 2020. The following data were obtained from the patients' medical charts: age, sex, diagnosis, living situation, household situation, height, weight, body mass index (BMI), oral medication status, nutritional prescriptions, service usage status, medical procedures, blood test results including estimated glomerular filtration rate (eGFR), white blood cell count (WBC), and total protein (TP), albumin (ALB), blood urea nitrogen (BUN), creatinine (CRE), brain natriuretic peptide (BNP), blood sugar (BS), haemoglobin A1c (HbA1c), C-reactive protein (CRP), haemoglobin (Hb), and haematocrit levels (HCT), duration (number of days) after the nutritional and

dietary guidance visit until death or cessation of treatment (hospital transfer or admission to a facility), and the type of diseases (cancer or non-cancer diseases).

We recorded the health professional who first requested nutritional and dietary guidance as follows: doctor, clinic nurse, long-term care support specialist, or facility staff/home visit nurse. If requests were made by health professionals other than doctors, home-visit nutritional and dietary guidance was not provided until after consultation with a doctor.

The frequency of dietician's visit was classified as one visit or more than two visits (ongoing visits). As the first visit combined with the intake interview, it was not recorded as a home visit for nutritional and dietary guidance (or home care management and guidance); the home visit was on physician's instructions. The second and subsequent visits were performed with the consent of the patient and their family. These visits and were recorded as home visits for nutritional and dietary guidance (or home care management and guidance). The contents of nutritional and dietary guidance sessions (tailored to the individual's lifestyle) were classified as follows: 1) dietary advice; 2) dietary advice and proposed menus; and 3) dietary advice, proposed menus, and cooking instructions.

Dietary formula was based on the Japanese Dysphagia Diet 2013, as proposed by the Japanese Society of Dysphagia Rehabilitation<sup>12</sup>). Dietary habits applicable to the Japanese Dysphagia Diet were classified as a dysphagia diet, while non-applicable dietary habits were classified as either regular or vegetarian diets.

Comparisons of variables between cancer patients and non-cancer patients were made using non-parametric Mann-Whitney U test and  $\chi$ -square test. The level of statistical significance was at  $P < 0.05$ . IBM SPSS Statistics for Windows, Version 24.0 (IBM Corp, Armonk, NY) was used for statistical analysis.

The study protocol was approved by Ethics Review Board of Nagoya University of Arts and Sciences. Written informed consent was obtained from the patients or their families at the first visit. Compliance

with STROBE has been addressed.

### 3. Results

The mean age of patients was  $74.7 \pm 11.6$  years old. The numbers of males ( $n=51$ ; 50.5%) and females ( $n=50$ ; 49.5%) were approximately equal. Thirty-seven patients had cancer, and 64 patients had non-cancer diseases. Most of patients ( $n=91$ ) were certified for needed long-term care, although 10 patients had not yet applied for such certification. Only 12 (11.9%) patients lived alone; 89 (88.1%) lived with others. The sites of cancer were stomach cancer ( $n=11$ ; 29.7%) and colorectal cancer ( $n=9$ ; 24.3%). Non-cancer diseases were diabetes ( $n=26$ ; 25.7%) and heart disease ( $n=21$ ; 20.8%). Average BMI of cancer patients was significantly lower than those of non-cancer patients ( $P=0.002$ ; Table 1).

Many patients with cancer (54.1%) requested supports for nutritional diet guidance to physicians (54.1%) and nurses (40.5%), while non-cancer patients requested to nursing care support specialists (25.0%). There were significant differences in the type of service provided ( $P<0.001$ ); non-cancer patients used home care (45.3%) and day services (43.8%), on the other hand, cancer patients used home medication (91.9%) and home nursing (100%). In terms of medical procedures, total parenteral nutrition and pharmacological pain management were conducted to cancer patients more frequently than non-cancer patients ( $P<0.001$ ; Table 2).

There were significant differences between cancer patients and non-cancer patients groups in terms of the frequency of visits, content of nutritional and dietary guidance, blood test parameters, and duration from the start of home care until death or cessation of treatment ( $P<0.05$  to  $P<0.001$ ). However, there was no significant difference in dietary advice content. In terms of the number of home visits, two or more visits were more often requested for non-cancer patients ( $n=27$ ; 42.2%) compared to cancer patients. The most common form of guidance for cancer patients was dietary advice ( $n=25$ ; 67.6%); a combination of dietary advice, menu proposals, and

cooking instructions were more frequently provided for non-cancer patients ( $n=22$ ; 34.3%), compared with cancer patients ( $n=5$ , 13.5%). The duration from the start of home care until death or cessation of treatment was assessed for 69 patients. The median duration of home care was 3 months in cancer patients ( $n=29$ ), significantly shorter than that of 10.5 months in non-cancer patients ( $n=40$ ); this reflected a shorter duration of home medical care among cancer patients (Table 3).

A total of 66 patients (65.3%) received only one-time nutritional and dietary guidance visit, 29 (28.7%) in the cancer patients and 37 (36.6%) in the non-cancer patients. In cancer patients, the most common reasons for not choosing continued support were 'Understood the guidance' ( $n=12$ ; 75.9%) and 'Unable to eat' ( $n=11$ ; 37.9%), whereas, in non-cancer patients, the most common reasons were 'Financial problems' ( $n=8$ ; 21.6%) and 'Not wanting to increase new services' ( $n=11$ ; 29.7%; Table 4).

### 4. Discussion

This study investigated the characteristics of patients with cancer and non-cancer patients who received home-visit nutritional and dietary support by registered dietitians under the supervision of doctors. Most of cancer patients were cognitively normal, where requests for nutritional support were most often made by doctors and nurses. Cancer patients highly needed for medical care (e.g. administration of total parenteral nutrition and pharmacological pain management), so beneficial nutritional supports by dietitians were limited. Indeed, most of cancer patients received only one-time nutritional and dietary guidance visit because of inability to eat. The extent of nutritional support was also limited by short duration (median of 3 months) from the start of home care to death or cessation of treatment. On the other hand, a higher proportion of non-cancer patients had dementia, and care support specialists often requested nutritional support to dietitians. Compared to cancer patients, non-cancer patients exhibited a greater need for long-term in-home medical care and support for

**Table 1. Patient characteristics**

		Total (n = 101)	Cancer (n = 37)	Non-cancer (n = 64)	P-value	
<b>Sex</b>						
(male)	n · (%)	51 (50.5)	21 (20.8)	30 (29.7)	0.410	
(female)	n · (%)	50 (49.5)	16 (15.8)	34 (33.7)		
Age	(years)	77.0 (69.5 – 83.0)	68.5 (60.0 – 77.8)	77.0 (71.0 – 83.0)	0.361	
Height (n = 30)	(cm)	156.5 (146.8 – 161.0)	156.0 (152.8 – 160.0)	157.5 (140.8 – 164.3)	0.687	
Weight (n = 32)	(kg)	49.0 (38.4 – 59.3)	42.0 (35.0 – 51.4)	51.1 (42.8 – 59.8)	0.077	
BMI (n = 30)	(kg/m <sup>2</sup> )	19.6 (16.2 – 22.1)	16.1 (14.4 – 20.4)	21.7 (18.8 – 25.4)	0.002 **	
<b>Level of care</b>						
Requiring help 1	n · (%)	5 (5.0)	1 (2.7)	4 (6.3)	0.099	
Requiring help 2	n · (%)	5 (5.0)	2 (5.4)	3 (4.7)		
Long-term care level 1	n · (%)	10 (9.9)	3 (8.1)	7 (10.9)		
Long-term care level 2	n · (%)	14 (13.8)	5 (13.5)	9 (14.1)		
Long-term care level 3	n · (%)	13 (12.9)	5 (13.5)	8 (12.5)		
Long-term care level 4	n · (%)	13 (12.9)	3 (8.1)	10 (15.6)		
Long-term care level 5	n · (%)	31 (30.7)	11 (29.7)	20 (31.3)		
Not yet applied for care	n · (%)	10 (9.9)	7 (18.9)	3 (4.7)		
<b>Living situation</b>						
Living at home	n · (%)	84 (83.2)	34 (91.9)	50 (78.1)		0.099
Living in a facility	n · (%)	17 (16.8)	3 (8.1)	14 (21.9)		
<b>Household situation</b>						
Living alone	n · (%)	12 (11.9)	2 (5.4)	10 (15.6)	0.202	
Living with others	n · (%)	89 (88.1)	35 (94.6)	54 (84.4)		
<b>Diagnosis (multiple answers)</b>						
Cerebrovascular disease	n · (%)	18 (17.8)	2 (5.4)	16 (25.0)	0.287	
Heart disease	n · (%)	21 (20.8)	3 (8.1)	18 (28.1)		
Diabetes	n · (%)	26 (25.7)	4 (10.8)	22 (34.4)		
Chronic kidney disease	n · (%)	14 (13.9)	1 (2.7)	13 (20.3)		
Liver disease	n · (%)	5 (5.0)	0	7 (10.9)		
Lung disease	n · (%)	7 (6.9)	1 (2.7)	4 (6.3)		
Intractable neurological diseases	n · (%)	10 (9.9)	0	10 (15.6)		
Dementia	n · (%)	11 (10.9)	4 (10.8)	7 (10.9)		
<b>Cancer type</b>						
Prostate cancer	n · (%)		2 (5.4)			0.076
Brain tumor	n · (%)		1 (2.7)			
Lung cancer	n · (%)		2 (5.4)			
Thyroid cancer	n · (%)		1 (2.7)			
Liver, biliary or pancreatic cancer	n · (%)		4 (10.8)			
Bladder cancer	n · (%)		1 (2.7)			
Breast cancer	n · (%)		1 (2.7)			
Colorectal cancer	n · (%)		9 (24.3)			
Stomach cancer	n · (%)		11 (29.7)			
Ovarian cancer	n · (%)		2 (5.4)			
Esophageal cancer	n · (%)		1 (2.7)			
Oropharyngeal cancer	n · (%)		1 (2.7)			
Alpha serious disease	n · (%)		1 (2.7)			
<b>Nutritional supplements</b>						
Yes	n · (%)	38 (37.6)	11 (10.9)	26 (25.7)	0.287	
Oral medication	(Medicine)	6.0 (4.0 – 8.0)	6.0 (3.0 – 7.0)	6.0 (4.0 – 8.0)		

\*\*P < 0.01

Age, height, weight, BMI, medication status are based on the Mann-Whitney U test, median (interquartile range 25th percentile–75th percentile)

Comparisons of sex, long-term care, living situation, household situation, cancer type and nutritional supplements are based on the  $\chi^2$ -squared test.

**Table 2. Healthcare staff requesting nutritional and dietary guidance, service usage status and medical procedures**

		Total (n = 101)	Cancer (n = 37)	Non-cancer (n = 64)	<i>P</i> - value
Healthcare staff requesting nutritional and dietary guidance					
Doctor	n ▪ (%)	55 (54.5)	20 (54.1)	35 (54.7)	
Clinic nurse	n ▪ (%)	23 (22.8)	15 (40.5)	8 (12.5)	
Long-term care support specialist	n ▪ (%)	17 (16.8)	1 (2.7)	16 (25.0)	
Facility staff/home visit nursing station	n ▪ (%)	6 (5.9)	1 (2.7)	5 (7.8)	
Service usage status (Multiple answers)					
Visiting pharmacist	n ▪ (%)	90 (89.1)	34 (91.9)	56 (87.5)	0.742
Home-visit nurse	n ▪ (%)	81 (80.2)	37 (100.0)	44 (68.8)	0.000 ***
Home care	n ▪ (%)	34 (33.6)	5 (13.5)	29 (45.3)	0.001 **
Home rehabilitation	n ▪ (%)	33 (32.7)	11 (29.7)	22 (34.3)	0.666
Day service	n ▪ (%)	34 (33.6)	6 (16.2)	28 (43.8)	0.005 **
Short stay	n ▪ (%)	6 (5.9)	3 (8.1)	3 (4.7)	0.666
Medical procedures (multiple answers)					
Central venous hyperalimentation	n ▪ (%)	27 (26.7)	19 (51.4)	8 (12.5)	0.000 ***
Peripheral venous nutrition	n ▪ (%)	10 (9.9)	6 (16.2)	4 (6.3)	0.165
Nasogastric tube	n ▪ (%)	1 (1.0)	0	1 (1.6)	1.000
Gastrostomy	n ▪ (%)	5 (5.0)	0	5 (7.8)	0.154
Home oxygen therapy	n ▪ (%)	8 (7.9)	3 (8.1)	5 (7.8)	1.000
Ventilator	n ▪ (%)	2 (2.0)	0	2 (3.1)	0.531
Stoma care	n ▪ (%)	2 (2.0)	2 (5.4)	0	0.132
Indwelling bladder catheter	n ▪ (%)	15 (14.9)	3 (8.1)	12 (18.8)	0.245
Insulin management	n ▪ (%)	6 (5.9)	2 (5.4)	4 (6.3)	1.000
Pressure ulcer management	n ▪ (%)	15 (24.8)	12 (32.4)	13 (20.3)	0.232
Pain management with drugs	n ▪ (%)	18 (17.8)	16 (43.2)	2 (3.1)	0.000 ***

\*\**P* < 0.01, \*\*\**P* < 0.001,  $\chi$ -squared test

**Table 3. Content of nutritional and dietary guidance, blood test parameters and time from start of home care until death or cessation of treatment**

		Total (n = 101)	Cancer (n = 37)	Non-cancer (n = 64)	P-value
<b>Number of visits</b>					
One visit	n · (%)	66 (65.3)	29 (78.4)	37 (57.8)	0.011 *
Two or more visits (ongoing visits)	n · (%)	35 (34.7)	8 (21.6)	27 (42.2)	
<b>Diet content</b>					
Dysphagia diet	n · (%)	43 (42.6)	13 (35.1)	30 (46.9)	0.313
Regular or vegetarian diet	n · (%)	58 (57.4)	24 (64.9)	34 (53.1)	
<b>Content of nutritional and dietary guidance</b>					
Dietary advice	n · (%)	61 (60.4)	25 (67.6)	36 (56.3)	0.297
Dietary advice, menu proposals	n · (%)	13 (12.9)	7 (18.9)	6 (9.4)	0.220
Dietary advice, menu proposals, cooking instructions	n · (%)	27 (26.7)	5 (13.5)	22 (34.3)	0.049 *
<b>Blood test parameters</b>					
TP	(g/dL)	6.4 (5.7 – 6.9)	5.9 (5.5 – 6.4)	6.7 (6.0 – 7.1)	0.001 **
ALB	(g/dL)	3.2 (2.7 – 3.7)	2.8 (2.5 – 3.4)	3.5 (3.0 – 3.8)	0.000 ***
BUN	(mg/dL)	19.9 (14.9 – 26.8)	18.8 (13.5 – 22.4)	20.3 (16.9 – 31.5)	0.073
Cre	(mg/dL)	0.8 (0.5 – 1.2)	0.7 (0.4 – 1.0)	0.9 (0.6 – 1.3)	0.030 *
eGFR	(mL/min/1.73 m <sup>2</sup> )	64.0 (41.0 – 89.5)	72.0 (55.0 – 117.0)	59.0 (33.0 – 83.0)	0.008 **
BNP	(pg/mL)	40.2 (22.9 – 90.5)	40.0 (20.6 – 88.0)	40.3 (23.4 – 137.8)	0.648
BS	(mg/dL)	116.0 (95.0 – 146.5)	108.0 (90.0 – 133.5)	122.0 (99.0 – 157.0)	0.045 *
HbA1c	(%)	5.5 (4.9 – 6.2)	5.5 (4.8 – 5.8)	5.6 (5.0 – 6.4)	0.084
CRP	(mg/dL)	0.6 (0.1 – 2.7)	0.9 (0.2 – 4.1)	0.3 (0.1 – 1.7)	0.055
WBC	(/µL)	6700.0 (4950.0 – 8000.0)	7500.0 (5200.0 – 9250.0)	6100.0 (4500.0 – 7700.0)	0.050 *
Hb	(g/dL)	10.7 (9.4 – 12.9)	10.1 (9.2 – 11.2)	11.9 (9.7 – 13.3)	0.017 *
HCT	(%)	33.6 (29.1 – 39.4)	35.8 (28.5 – 35.7)	35.8 (30.1 – 41.0)	0.031 *
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		Total (n = 69)	Cancer (n = 29)	Non-cancer diseases (n = 40)	P-value
Time from start of home care until death or cessation of treatment (hospital transfer or admitted to a facility)	(months)	8.0 (2.0 – 12.0)	3.0 (1.0 – 10.0)	10.5 (3.0 – 17.8)	0.003 **

\*P < 0.05, \*\*P < 0.01, \*\*\*P < 0.001

Comparisons of dietary content and content of nutritional and dietary guidance are based on the  $\chi$ -squared test

Blood tests and time until death or cessation of treatment are based on the Mann-Whitney U test, median (interquartile range 25th percentile–75th percentile)

Total protein (TP), serum albumin (ALB), blood urea nitrogen (BUN), creatinine (Cre), estimated glomerular filtration rate (eGFR), brain natriuretic hormone (BNP), blood sugar (BS), hemoglobin A1c (HbA1c), c-reactive protein (CRP), white blood cell count (WBC), haemoglobin (Hb), haematocrit (HCT)

**Table 4. Reasons for having only one nutritional and dietary guidance visit, rather than ongoing support**

		Total (n = 66)		Patients with cancer One home visit (n = 29)		Patients with non-cancer One home visit (n = 37)	
Understood the guidance	n • (%)	23	(34.8)	12	(75.9)	11	(29.7)
Unable to eat	n • (%)	16	(24.2)	11	(37.9)	5	(13.5)
Financial problems	n • (%)	14	(21.2)	6	(20.7)	8	(21.6)
Not wanting to increase new services	n • (%)	13	(19.7)	2	(6.9)	11	(29.7)
Death	n • (%)	2	(3.0)	0		2	(5.4)

activities of daily living, and a higher overall utilisation rate of services (including day services and home care).

A high proportion of patients with cancer required total parenteral nutrition owing to difficulties with oral intake; pharmacological pain management was also often required because of appetite loss and pain. Many patients in the terminal stage of cancer had various symptoms and were highly reliant on in-home medical care. The high rate of requests for nutritional guidance by doctors and nurses can be explained by their initial home visit assessments, where they documented the patients' concerns and distress regarding eating difficulties. A previous study reported that tailored dietary support provided by dietitians to cancer patients at terminal stage in general hospitals resulted in significant increases in oral intake at one-day and one-week follow-up assessments<sup>13</sup>. Appetite loss and weight loss reduced quality of life, highlighting the importance of dietary counselling by a dietitian<sup>14,15</sup>. Meals should contain foods that can be prepared quickly when required, such as soup, pancakes, yogurt, ice cream, and soda

drinks<sup>9</sup>. It is more important to cater to the patient's preference for foods that they enjoy, regardless of providing normal meals. However, in a survey of the bereaved families of patients who were treated in a palliative care ward, many respondents commented that they struggled with the daily preparation of meals owing to changing patients' preferences. Nevertheless, many respondents stated that they received adequate nutritional support from medical staff, and that cachexia and weight loss were fully explained to them<sup>16</sup>. Systems are in place in general hospitals and palliative care wards that provide patients and their families with support all day and night from various health care professionals, including doctors, pharmacists, nurses, and dietitians. This greatly reduces the burden of nursing care for the family and is especially important during the terminal stage of cancer. Indeed, studies have reflected criticisms from families regarding the failure of health support systems to address patient distress associated with changes in dietary preferences and the inability to eat<sup>16</sup>.

A previous study concluded that home visits by palliative care teams are required for patients in the

terminal phase of cancer. In the present study, 29 of 37 (78.4%) patients with cancer had only received an one-time home visit for nutritional and dietary guidance, which was more frequently provided for non-cancer patients. The most common reason for not continuing with additional home visits was that they were 'unable to eat'. In current healthcare system in Japan, a nutritional care plan is designed with doctors' instructions via collaboration with healthcare professionals following multiple service disciplines, and is implemented by a long-term care support specialist. Before embarking on such a complex procedure, a patient's condition can change dramatically owing to their high level of reliance on medical care, such as pharmacological pain management<sup>6,7,17,18</sup>. Our findings suggest that an early consultation with a dietitian upon approval by a doctor and the provision of multidisciplinary care in the home setting would be highly beneficial for both the patient and their family.

Cooking instructions and meal for difficulty swallowing were more commonly provided for non-cancer patients, than cancer patients. That's why many of the non-cancer patients had intractable neurological diseases, dementia, or a history of cerebrovascular disease, increasing their risk of dysphagia and aspiration<sup>19,20</sup>. We found that many of the caregivers were using a mixer for the first time, and that they felt anxious about preparing dysphagia meals similar to those provided in the hospital; this highlighted the importance of providing appropriate menus and advice on cooking methods<sup>21</sup>. Non-cancer patients were also found to have a high utilisation rate for home care and day services; this may account for the increasing provision of dysphagia meals by home care and day services in recent years. These results suggest that non-cancer patients have a greater need for long-term support in terms of dietary planning and cooking instructions compared with cancer patients.

This study has several limitations. First, the sample size was small, which resulted in weak statistical power and limited the interpretation of the results.

Second, we were unable to obtain body weight and other parameters assessing nutritional status for all patients; therefore, our conclusions were solely based on blood test results.

## 5. Conclusion

This study compared the features of home-visit nutritional and dietary guidance for patients with cancer and non-cancer diseases. Patients with cancer exhibited significant changes in symptoms owing to cachexia and had a shorter duration of home medical care. As cancer patients treated at home are increasing, the results of this study suggest the need for a home-visit nutritional and dietary guidance system that can provide specific advice at an early stage following doctors' instructions. This contrasts with the current health care system, in which interventions should be implemented following a protracted process that involves a nutritional assessment, provision of a nutritional care plan, and obtaining consent from the patient and their family.

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《原著》

## 在宅療養中のがん患者に対しての訪問栄養食事指導のあり方の検討

熊谷琴美<sup>1,2)</sup> 長尾強志<sup>2)</sup> 矢須田侑兵<sup>1)</sup> 伊藤勇貴<sup>1)</sup> 岡田希和子<sup>1)</sup>

### 要旨

【目的】在宅医療の緩和ケアが推進される中、がん患者の訪問栄養食事指導のあり方について、非がん患者と比較して検討した。

【方法】訪問栄養食事指導を実施した患者101名を対象とした。非がん患者とがん患者について比較検討した。解析項目は、サービスの使用状況、医療処置、血液検査、栄養食事指導内容、栄養食事指導訪問開始後から死亡または診療中断までの期間、等である。

【結果】がん患者と非がん患者の2群間において、がん患者は非がん患者と比較して、中心静脈栄養による栄養管理、麻薬による疼痛管理を実施している頻度が有意に高く、血液検査では、総タンパク、アルブミン、血糖、ヘモグロビンが有意に低値であった。また、がん患者では訪問栄養食事指導の回数が有意に少なく、栄養指導訪問開始から死亡または訪問指導中止までの期間が有意に短かった。

【結語】在宅療養中のがん患者に対して非がん患者と比較しての訪問栄養食事指導の特徴について検討を行った。その結果、がん患者の特徴である悪液質により在宅療養期間が短く、症状の変化が大きかった。近年最期を在宅で療養するがん患者も増えており、特に終末期がん患者においては、医師から指示後、患者、家族の意思を尊重した上で、早期に具体的な支援を行うことができる訪問栄養食事指導の体制が必要であることが示唆された。

キーワード：がん患者、在宅栄養管理、訪問栄養指導

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1) 名古屋学芸大学大学院栄養科学研究科

2) 正翔会クリニック