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Implementation of geriatric assessment and long-term care insurance system by medical professionals in cancer treatment: a nationwide survey in Japan

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Abstract

Background: A questionnaire survey was conducted to assess the implementation status of geriatric assessment in cancer treatment and the potential for collaboration between medical care and the long-term care insurance system.

Methods: Questionnaires were sent to 795 facilities in Japan. The questions were instructed to be answered via an online survey (SurveyMonkey®), which began in September 2020 and closed on 31 October 2020. The questionnaire consisted of 8 questions on the status of geriatric assessment implementation and 15 questions on the long-term care insurance system.

Results: In total, 631 departments in 340 (42.8%) of 795 hospitals and clinics provided responses. Approximately 81.5% of the departments did not perform geriatric assessment. The common reasons were lack of knowledge about geriatric assessment (54.0%) and lack of personnel (35.5%). Even if geriatric assessment was conducted, 63.6% of departments did not utilize geriatric assessment results in clinical practice. Approximately 61.7% of respondents were familiar with the long-term care insurance system and 62.9% with the certification process. Moreover, 28% of respondents used certification examination results in treatment planning.

Conclusions: Geriatric assessment is less recognized than the long-term care insurance system, and its results are rarely used in clinical practice. However, 28% of certification examination results are utilized in treatment decision-making. Notably, this survey first showed the incorporation of the long-term care insurance system into the medical care of vulnerable elderly patients with cancer.

Key words: long-term care insurance, geriatric assessment, elderly cancer patients

Introduction

The management of elderly patients with cancer who presented with declining physical and mental functions has become an important issue (1–3). The treatment of healthy elderly patients with cancer is similar to that of non-elderly patients, and it is associated with good cancer-specific treatment outcomes (4). However, cancer treatment is less beneficial for patients with poor general health and frailty. Thus, best supportive care is preferred for this patient group. Moreover, there are limited data and guidelines on cancer treatment among elderly patients as they are usually excluded from clinical trials (5). Therefore, cancer treatment guidelines that can be used in daily clinical practice for vulnerable elderly patients with cancer should be developed.

Elderly patients are susceptible to age-related decline in physical and mental functions, multiple comorbidities with polypharmacy and socioeconomic problems (6–8). Hence, geriatric assessment (GA) must be conducted to understand the physical, mental and socioeconomic conditions of elderly patients with cancer, which vary significantly. Systematic reviews have shown that GA could decrease mortality and improve function among elderly patients and orthopedic patients with hip fractures (9,10). The use of GA as a predictive tool for elderly patients with cancer has been increasingly recognized (11). In daily clinical oncology practice, GA is challenging to implement as it is associated with several barriers that are commonly experienced in a busy clinic. These include lack of manpower, time, economical support and training and other practical issues (12,13).

International guidelines do not provide sufficient information about GA, and they focus on reducing the time required to implement GA using screening tools. Information about practical, technical and logistical GA implementation is limited; thus, a more-detailed scientific analysis in this setting is required (14,15). Our previous study showed that few hospitals in Japan are implementing GA (16). However, the reasons for these results and the details of its application to clinical practice have not been investigated.

In Japan, the long-term care insurance (LTCI) law was implemented in 2000, and the insurance system was established to support the frail elderly individuals from the entire society (17,18). This is a system to determine the nursing care level according to comprehensive evaluation of physical, mental and social activities (geriatric assessment) by a certification investigator and opinions written by a primary care physician, and to support their daily activities and prevent further deterioration of geriatric problems, but not to treat diseases including cancer [Supplemental Table 1; (19,20)]. There are seven nursing care levels, including two levels of 'watching over' to provide some support and five long-term care levels [from 1 (partial care giving) to 5 (full care)]. The evaluation results can be shared with medical physicians through patients and their families. However, there have been few reports on the GA results assessed by medical personnel and nursing care levels examined by the LTCI system in relation to the oncologic medical management despite many cancer patients are diagnosed over 65 years of age. Thus, the purpose of this study was to conduct a questionnaire survey to clarify the implementation of GA in Japan for cancer treatment and perception of LTCI and understanding certifying process of the nursing care levels in the LTCI system by the medical personnel, and possible collaboration between the medical care and the nursing care.

Patients and methods

Questionnaires were sent to 795 hospitals in Japan, and this study was supported by the grant from the Ministry of Health, Labor and Welfare for research about infrastructures required to develop guidelines for cancer treatment among elderly individuals. The survey covered designated cancer and local hospitals and clinics that provide cancer treatment.

A request letter was mailed to the hospitals, and they were instructed to answer the questions via online survey (SruveyMonkey®), which was started in September 2020 and was closed by 31 October 2020. We asked each of the department heads to answer the questions using a smartphone or tablet or a personal computer. The questionnaire was divided into two parts. The first part was about the implementation status of GA. The second part was a survey about the LTCI system. Descriptive analysis, not statistical analysis, was performed as this type of analysis can provide us with future research questions to solve since issues in relation to cancer medicine and long-term care were never discussed previously in Japan.

Questions regarding GA

The following eight questions about GA were established:

1. Do you perform GA?
2. What is the percentage of patients who undergo GA (CGA7, G8 and VES13) if the facilities only conduct GA screening?
3. What is the percentage of patients who undergo regular GA if the facilities conduct regular GA?
4. What are the reasons for not implementing GA?
5. To what extent do you use the GA results in treatment decision-makings?
6. Do you have a multidisciplinary cancer board that can determine the treatment plan for vulnerable patients with cancer who present with physical and mental disabilities?
7. Is there a geriatric department where you can consult about problems faced by elderly individuals?
8. Is there a geriatric specialist who you can talk to about problems faced by elderly individuals?

Questions regarding the LTCI system

The 15 questions about the LTCI system are shown in Table 2 with response from the hospitals.

Results

Characteristics of patients

In total, 631 departments in 340 (42.8%) of 795 hospitals and clinics provided responses, which came from all over the country, thereby covering all regions of Japan (Supplemental Fig. 1). The breakdown of the departments was as follows: $n = 404$ (64.0%), designated cancer hospitals by the national government; $n = 149$ (23.6%), designated cancer hospitals by local governments; $n = 35$ (5.6%), municipal hospitals and medical institutions responsible for local cancer care; $n = 30$ (4.8%), home clinics and $n = 13$ (2.1%), others. Of the hospitals that responded, 369 (59.5%) had >500 beds; 196 (31.6%), 200–499; 18 (2.9%), 100–199; 6 (1.0%), <100 and 31 (5%), 0. The clinical departments that responded were as follows: surgery, $n = 170$ (27%); hematology, $n = 74$ (11.7%); radiology, $n = 116$ (18.4%); palliative care, $n = 95$ (15.1%); chemotherapy center, $n = 84$ (13.3%) and others, $n = 92$ (14.6%).

Geriatric assessment

There were 479 (81.5%) departments and clinics that did not implement GA (Fig. 1A). Of (9%) of those that performed screening only,

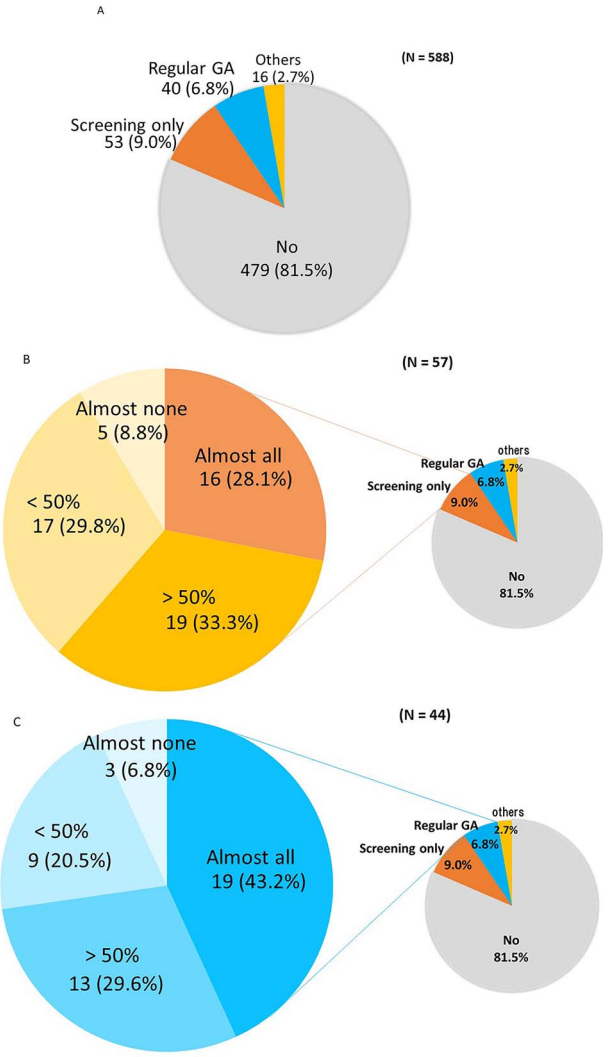

Figure 1. (A) Percentage of departments that responded to the question 'Do you perform geriatric assessments?' (B) Percentage of patients who underwent screening for GA only. (C) Percentage of elderly patients who underwent GA in hospitals with regular GA. GA, geriatric assessment.

(28.1%) conducted screenings in almost all cases (Fig. 1B). Of (6.8%) of those that performed regular GA, (43.2%) conducted GA in almost all cases (Fig. 1C). The main reasons for not implementing GA were lack of knowledge about GA (Table 1), followed by lack of manpower, time and belief regarding the importance and use of GA. Most hospitals did not utilize GA results in treatment decision-making (Fig. 2).

For the question (6) in the GA section, which asked about a multidisciplinary cancer board, ~58.1% of hospitals did not have a cancer board, although 21.1% of hospitals had a cancer board for less than half of patients, 11.5% for more than half of patients, and 9.2% for almost all patients.

In total, 55 (9.8%) hospitals had a geriatric department that could provide consultation services for elderly patients with problems. Moreover, 74 (13.3%) hospitals had an available geriatrician who can discuss problems for elderly patients.

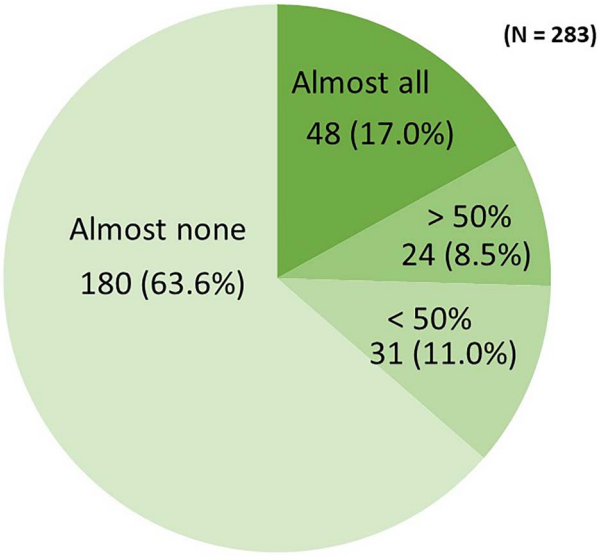

Figure 2. To what extent do you use the GA results in making treatment decisions? GA, geriatric assessment.

LTCI system

Table 2 shows the questions (except for 11) and answers. About two-thirds of the hospitals were familiar with the LTCI systems including the nursing care certification. A half the respondents were generally aware of the seven nursing care levels (Q4), whereas only a third knew the survey items in detail, i.e. GA for LTCI, used for determining the nursing care level by the board of review examination committee (Q5). Most had experience in writing a doctor's report (Q7), but only a half the physicians had initiated an LCTI application after the start of cancer treatment (Q10).

Table 3 depicts the reasons for not recommending an application for the LCTI system prior to the start of cancer treatment. The main reason was lack of knowing the LTCI system among doctors and patients.

Discussion

International and Japanese guidelines recommend the GA prior to treatment among elderly patients with cancer (14,15,21). The current study aimed to conduct a survey about the implementation of GA in the oncology field. As we reported previously (16), our study shows again only a few hospitals perform GA.

McKenzie et al. have shown that a whole system approach is required to improve GA implementation in cancer settings (11). They discussed the way of improving it at the service level by using information technology and non-specialist staff skills, and at the organization level to give rise to top-down incentives by realizing the cost benefit of GA, research opportunities and data generation for service improvement.

In Japan, the main reason for not implementing GA was lack of knowledge about GA as shown in this study. This fact is partly attributed to only a few designated cancer hospitals where only a few geriatric departments are established, and a small number of geriatricians are assigned there. Since medical health care is strictly managed by the health insurance under the government's control and every medical facility is not expected to treat patients with no health insurance coverage, most fast track to overcome this present status

Table 1. Reasons for not implementing GA

What are the reasons for not implementing GA?	Number (%)
I do not know much about GA.	280 (54.0)
No medical staff can perform GA.	184 (35.5)
GA is time-consuming.	132 (25.4)
There are no nearby hospitals that offer GA.	106 (20.4)
No one can promote GA implementation.	99 (19.1)
I do not know how useful GA is.	90 (17.3)
Does not fit into the flow of daily practice	88 (17.0)
It is unnecessary as the treatment plan was based on the empirical findings of the medical team.	86 (16.6)
There is no specialist to consult.	69 (13.3)
Does not meet the needs of the practice.	65 (12.5)
There are no guidelines supporting the use of GA results.	65 (12.5)
Difficult to evaluate.	60 (11.6)
No medical department to consult.	54 (10.4)
Low priority.	53 (10.2)
Lack of evidence regarding the use of GA in oncology.	51 (9.8)

GA, geriatric assessment.

Table 2. Questions about the LCTI system

Questions	Yes	> 50%	< 50%	Partial	No
(1) Do you know about the LCTI system?	346 (61.7)	–	–	204 (36.3)	11 (2.0)
(2) Have you ever recommended elderly patients with cancer or their families to apply for the LCTI system?	220 (39.7)	188 (33.9)	73 (13.2)	–	73 (13.2)
(3) Do you know anything about the certification process?	353 (62.9)	–	–	156 (27.8)	52 (9.3)
(4) Do you know about the status of each patient's level?	288 (51.3)	–	–	208 (37.1)	65 (11.6)
(5) Do you know the survey items to be conducted by the certified reviewer?	214 (38.6)	–	–	193 (34.8)	147 (26.5)
(6) Have you ever used the results for treatment decision-makings?	42 (7.6)	55 (9.9)	57 (10.3)	–	401 (72.3)
(7) Have you ever written a doctor's report for submission to the board of review examination committee?	498 (88.8)	–	–	–	63 (11.2)
(8) Have you ever had a direct consultation with a care manager about a patient?	352 (63.8)	–	–	–	200 (36.2)
(9) Have you ever consulted with a care manager to facilitate medical care?	348 (62.9)	–	–	–	205 (37.1)
(10) Have you ever initiated an application for the LCTI system for elderly patients with cancer who develop significant physical or mental disability during or after cancer treatment?	291 (52.8)	–	–	157 (28.4)	104 (18.8)
(11) What are the reasons for not recommending patients who are expected to apply for the LTCI system prior to the start of cancer treatment?	–	–	–	–	–
(12) Do you conduct a discharge conference with the patient/family, medical team and nursing care team?	199 (35.5)	170 (30.3)	93 (16.6)	–	99 (17.7)
(13) Do you know about community-based comprehensive care systems?	279 (49.8)	–	–	217 (38.7)	65 (11.6)
(14) Have you ever referred elderly patients with cancer and their families to the community-based comprehensive support center for various consultations?	341 (62.0)	–	–	–	209 (38.0)
(15) Do you know that the Frail Health Checkup was launched in April 2020?	26 (4.6)	–	–	230 (41.0)	305 (54.4)

LTCI, long-term care insurance.

in Japan is to raise a significant amount of reimbursement of cost on implementing GA in addition to a whole system approach presented by McKenzie et al.

The LTCI system has matured over the last 20 years and has been successfully carried out to prevent from further progression of the frailty in the elderly and keep them in a good condition by

Table 3. Reasons for not recommending patients to apply for the LTCI system prior to the start of cancer treatment

What are the reasons for not recommending the patients who are expected to apply for the LTCI system prior to the start of cancer treatment?	Number (%)
Patients and their families were not aware of the LCTI system.	140 (32.6)
Since we did not perform GA, we did not identify the patient's problem.	130 (30.3)
The attending physician was not aware of the LCTI system.	87 (20.3)
We believe that it was unnecessary because the patient's family could provide care.	83 (19.4)
Others	127 (29.6)

LTCI, long-term care insurance.

care services including support of daily activities and rehabilitation. Many doctors have experience in writing a 'doctor's report' for an applicant, which determines the degree of physical and mental disabilities after examination. Hence, a high number of physicians are more aware of the patients' frailty levels evaluated in the LTCI system than GA. However, based on the answer to question 5, only a few doctors knew in detail what items are used for certification. There were a number of patients who had already received the nursing care level certified by the LTCI before cancer diagnosis was made. In this setting, even though the members of the certification board do not include the patient's doctor or nurse in charge, 28% of oncologists had experience in using the nursing care level as a reference when deciding on a treatment plan for cancer.

Thus, the results of nursing care certification examination can be potentially used as a surrogate of comprehensive GA, which is expected to be conducted by medical personnel using established assessment tools within the framework of the National Health Insurance (Supplemental Table 1). Oncologists would be comfortable to treat patients who are under day care service where blood pressure and body temperature are monitored, exercise and occupational therapy-like works are offered and nutritionally balanced lunch is provided on request. Since it is directly correlated with nursing care and home health care, the oncologists cannot ignore the results of nursing care certification examination and may consider them as a reference to make a treatment plan. It is of course strongly recommended to undertake comprehensive GA by the oncology team before the start of treatment.

However, 80% of patients and their families who are supposed to be responsible for the patient's care, do not have sufficient knowledge about the LTCI system (22). When we, medical personnel, notice elderly patients in a possibly frail condition, patients and their families should be well informed of the LTCI system and recommended to apply for LTCI. Thus, early introduction of the LTCI certification process, while patients are prepared for cancer treatment, would facilitate obtaining the certification. It is of course that cancer treatment should be started without delay since it usually takes a couple of months to get certification, but starting the nursing care even late after certified will help the patient continue cancer treatment especially when general condition is deteriorated during treatment. Further research is warranted to facilitate effective coordination between medical treatment and nursing care provided by the LTCI.

The current study had some limitations. First, the questionnaire was mailed to the hospital director, who distributed it to the department heads in charge of cancer treatment (oncology, hematology, surgery and radiotherapy, and chemotherapy or cancer center within the hospital). There may have been differences in the interest level of respondents among cancer treatment groups with different efforts to gather necessary information to complete the survey, and this might have influenced their responses. Second, we kept the questionnaire short and simple. Thus, the respondents could fill it out quickly. Therefore, only simple answers such as Yes or No or more than 50% or less were collected. Third, the response rate from hospitals and clinics was 42.8%. This rate was better than that in the previous survey (16,23,24). Departments with an interest in geriatric oncology might have provided more responses than those without interest. However, to the best of our knowledge, this was the first national survey on oncologists' perception and understanding of the LTCI system and decision-making for treatment plan in relation to the nursing care level certified by the LTCI in geriatric oncology in Japan. Further, we received responses from >340 hospitals nationwide, which was a reasonable sample for validating the current status of geriatric oncology.

Conclusions

Lack of knowledge about GA among physicians is the main reason for not implementing such evaluation. Lack of knowledge about LTCI and operations among not only patients and their families but also medical personnel is the primary cause of not using the results evaluated by the LTCI system. Therefore, continuous education and encouragement with patience are required to promote the implementation of GA in clinical practice and the incorporation of nursing care and support determined by the examination committee for the medical treatment of cancer among elderly patients.

Supplementary Material

Supplementary material is available at *Japanese Journal of Clinical Oncology* online.

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Conflict of interest statement

Yoichiro Yoshida and Kazuo Tamura have no conflict of interests to declare.

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Appendix

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