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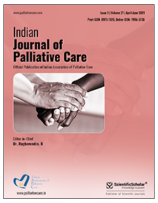

Original Article

Identifying the Needs Based on the Patients' Performance Status for Palliative Care Team: An Observational Study

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ABSTRACT

Objectives: The study aim was to determine the association between patient performance status (PS) and the contents of a palliative care team (PCT) intervention. Identifying intervention requirements for differing PS may help to provide appropriate palliative care in under-resourced facilities.

Materials and Methods: We collected data from medical records of inpatients (n = 496) admitted to PCT services at a centre for palliative care at Kindai University Hospital, Japan, from April 2017 to March 2019. We analysed the content of PCT activities according to each PS using Pearson's Chi-square test.

Results: The following PCT activities were provided in full regardless of PS: Gastrointestinal symptoms, depression, medical staff support, food and nutrition support and oral care. The following PCT responses were associated with PS: Pain, respiratory symptoms, fatigue, insomnia, anxiety, delirium, decision-making support, family support and rehabilitation. PS3 patients tended to receive those PCT interventions associated with PS, except for anxiety and fatigue. PS4 patients received PCT interventions for respiratory symptoms, delirium and family support. Patients with good PS (0–1) tended to receive PCT interventions for anxiety.

Conclusion: This study demonstrated that there were different needs for different PS. The results may allow for efficient interventions even in facilities with limited resources.

Keywords: Palliative care, Patient care team, Karnofsky performance status

INTRODUCTION

Cancer patients incidence and incidence rates go on increasing year to year.[1] Cancer patients experience many physical and mental distress, but there are not get adequate medical treatment because it have underdiagnosis.[2,3] For instance, other studies have reported that the pain of cancer patients may be misdiagnosed by the attending physician.[4,5] Therefore, patients are forced to cope with the intense stress of distress. Palliative care has been recognised as an indispensable treatment even at the time of diagnosis.[6] Systematic review has showed the positive effect of a multidisciplinary team approach on reducing symptom distress and improving quality of life among cancer patients.[7] Palliative care team (PCT) service is one of the most common types of palliative care services. The PCT is usually made up of interdisciplinary members who provide comfort care for patients with life-threatening illness and their families.[8] In recent years, the Japanese government has promoted PCT services at designated cancer centres across the nation, based on the Cancer Control Act established in 2006. The consultations to the PCT are varied. An observational survey of PCT activities in Japan showed that PCT identified more problems than the number of reasons consulted.[9] According to a certain survey, the need with PCT intervention for delirium, family support and support for decision-making was underestimated by hospital staff.[10] Palliative care benefits patients by providing a wide range of services, but it is not good that medical staffs are adequately picking up on their needs. We also suspect that some facilities may lack the resources to provide the services that patients truly need. In addition to the other than such a case of medical staff, intervention content may differ due to performance status (PS). Certainly, it has not become clear if there is a difference in the intervention content due to PS. The purpose of this study was to investigate the needs based on PS to adequately intervene in the needs of patients in facilities without adequate resources.

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MATERIALS AND METHODS

Participants

Between April 2017 and March 2019, we conducted a cross- sectional medical record at Kindai University Hospitals, Japan. Participant inclusion criteria included all inpatients (N=496) to PCT were consulted during their stay in the hospital. All procedures were reviewed and approved by the university's ethics committee.

Demographic information

The background information included age, sex, disease (cancer or non-cancer), Eastern Cooperative Oncology Group (ECOG) PS, current treatment and outcome. These data were obtained at the time of the first PCT intervention. This study was approved by the Kindai University Hospital Clinical Research Ethics Review Committee (Approval No. 2019-024). The research process and the preparation of this paper were guided by the Declaration of Helsinki ethical principles for medical research involving human subjects.[11]

PCT activities

The PCT at our facility is a consultation team comprising a range of multidisciplinary specialists, such as palliative physicians, certified clinical nurses, pharmacists, a clinical oncologist, a psychosomatic physician, a psychiatrist, clinical psychotherapists, occupational therapists, physiotherapists, social workers and a dental care specialist. Following the PCT service guidelines, our patients are usually referred for treatment by their attending physician or nurse.[12,13] The PCT activities were categorised into physical symptoms (pain, gastrointestinal symptoms, cancer-related fatigue and respiratory symptoms), psychological symptoms (anxiety, insomnia, depression and delirium), family support, support for decision-making, food and nutrition support, support for medical staff, rehabilitation and oral care. The content of these 16 PCT activities was determined in consultation with the attending physician, ward nurse and patient at the time of the first PCT intervention. Specifically, when requesting PCT, the patient selects a specific problem from a list of 16 items and orders PCT intervention. The PCT then reviews the patient's medical record, discusses the patient's intervention points with the attending physician or ward nurse and examines the patient to determine his or her needs. There was no set number of activities to be performed.

Statistical analyses

We analysed the content of PCT activities according to each PS using Pearson's Chi-square test. The significance level was set at <5%, and adjusted residuals (cutoff set at ≤ -1.96 or ≥ 1.96) were used to guide analysis of the associations between categorical variables. An adjusted residual exceeding ±1.96 for a particular PCT activity indicated that the presence or absence of the intervention was more or less likely to occur. All statistical analyses were performed using SPSS version 25 (SPSS Inc., Chicago, IL, USA).

RESULTS

Patients characteristics

PCT interventions were performed for 496 inpatients during the study period. [Table 1] shows patient demographic data. The average patient age was 63.6 years (standard deviation: 15.2). The ratio of men to women was about 1:1. In cancer patients, the most common cancer types were uterine and ovarian cancer (17% of primary sites) in this population, followed by hepatobiliary and pancreatic cancer (16%), lung cancer (15%), oesophageal cancer (8%) and stomach cancer (8%). In non-cancer patients, heart failure was the most common disease (27%) in this population. The most of ECOG PS of the inpatients receiving PCT interventions was PS3 (42%), followed by PS1 (23%), PS4 (16%), PS2 (14%) and PS0 (5%).

Actual PCT activity and association with the presence or absence of intervention for each PS.

[Table 2] shows the proportions and contents of the PCT interventions. The most common PCT interventions were for pain (69%), family support (55%), anxiety (53%), decision-making support (36%) and insomnia (28%).

[Table 3] shows the association between PCT activities in the patient groups (PS 0–4) and the presence or absence of interventions for each PS. The following PCT activities were provided in full regardless of PS: Gastrointestinal symptoms ($P = 0.333$), other physical symptoms ($P = 0.517$), depression ($P = 0.255$), other mental symptoms ($P = 0.379$), support of medical staff ($P = 0.059$), food and nutrition support ($P = 0.711$) and oral care ($P = 0.168$). However, the following PCT activities were associated with PS: Pain ($P < 0.001$), respiratory symptoms ($P < 0.001$), fatigue ($P = 0.031$), insomnia ($P = 0.003$), anxiety ($P < 0.001$), delirium ($P < 0.001$), decision-making support ($P = 0.003$), family support ($P < 0.001$) and rehabilitation ($P < 0.001$). The PS3 patient group tended to receive those PCT interventions associated with PS, except for anxiety and fatigue. PS4 patients received PCT interventions for respiratory symptoms, delirium and family support. Patients with good PS (0–1) tended to receive PCT interventions for anxiety.

DISCUSSION

This study of 496 cancer patients suggested that some PCT involvement may be needed regardless of the patient's PS. Of the PCT activities associated with PS, interventions for anxiety may be required in patients with good PS. Interventions for pain, respiratory symptoms, insomnia, delirium, decision-making support, family support and rehabilitation may be required in patients with poor PS, and interventions for respiratory symptoms, delirium and family support may be required in patients with particularly poor PS. A substantial percentage of patients experience psychological distress as a result of being diagnosed with cancer.[14,15] Moreover, distress can increase or decrease with aggressive treatment and the passage of time.[16] In the present study, the presence or absence of a course of treatment was not recorded, as the treatment decision was based on the patient's PS at the time of the PCT intervention. These findings may suggest that patients with better PS are more likely to desire interventions for anxiety, because they are more likely to have been diagnosed with cancer early, to have treatment options such as surgery or chemotherapy or to be anxious about the future course of their treatment. Conversely, patients with worse PS may not want PCT interventions (because their physical condition has worsened as the cancer has progressed) and may prioritise relief of symptoms other than anxiety. One reason for the higher rate of PCT interventions for various symptoms in the PS3 group in this study may be deterioration in the patients' conditions. The American Society of Clinical Oncology indications for chemotherapy differ between PS 0–2 and PS 3–4. This is because the benefits of chemotherapy reduce as the patients' condition worsens.[17] The present findings are consistent with these assumptions, as we identified various requests for interventions in the PS3 group, including decision-making support and physical symptoms. Our findings have clinical implications for under-resourced medical practices, particularly the implementation of care tailored to patient PS. The American Society of Clinical Oncology Clinical Practice Guideline recommend that patients with advanced cancer, whether inpatients or outpatients, receive specialised palliative care services early in the disease course, along with aggressive treatment. Palliative care must be provided by an interdisciplinary team because palliative patients require comprehensive care.[18] However, despite these recommendations that palliative care services should provide a wide range of services for patients, few studies have linked PS in cancer patients to the need for each service.[19] Some studies have reported that single disciplinary palliative care should not replace specialised PCTs, but may play a role in resource-limited settings such as rural and developing areas.[7] However, we have yet to identify an appropriate intervention. This study raises the question of how to use limited resources. Although early palliative care referral is generally preferred, some investigators have insisted whether it is ever too early.

Table 1: Patient characteristics (*n*=496).

Age, mean (standard deviation; range)	**63.56 (15.28; 3–92)**
Sex, *n* (%)	
Men	256 (52)
Women	240 (48)
Cancer	
Primary site, *n* (%)	
Uterus and ovaries	79 (17)
Hepatobiliary pancreatic	77 (16)
Lung	69 (15)
Oesophagus	39 (8)
Stomach	36 (8)
Head and neck	28 (6)
Blood	28 (6)
Duodenum colon rectum	24 (5)
Urinary system	24 (5)
Breast	12 (3)
Osteosarcoma	11 (2)
Other	42 (9)
Non-cancer	
Heart failure	7 (27)
Other	19 (73)
Performance status, *n* (%)	
0	28 (5)
1	113 (23)
2	69 (14)
3	207 (42)
4	78 (16)
Current treatment, *n* (%)	
Palliative phase	224 (45)
Chemotherapy	234 (47)
Before treatment	38 (8)
Outcome, *n* (%)	
Death	114 (23)
Transfer to another hospital	97 (20)
Discharged to home	232 (47)
Solution of problem	52 (10)
During intervention	1 (0)

Table 2: Actual palliative care team activities (*n* = 496).

Contents of activities	**%**
Pain	69
Family support	55
Anxiety	53
Support for decision-making	36
Insomnia	28
Gastrointestinal symptoms	26
Delirium	24
Support of medical staff	22
Respiratory symptoms	19
Fatigue	14
Food and nutrition support	8
Rehabilitation	8
Oral care	6
Other physical symptoms	5
Depression	4
Other mental symptoms	1

Table 3: The association between palliative care team activities and the presence or absence of intervention for on the each PS.

Palliative care team activities	PS0				PS2		PS3		PS4		Chi-square value	*P* -value
	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention		
Pain	11	17	74	39	53	16	156	51	46	32	21.62	<0.001
Adjusted residual	−3.5*	3.5*	−0.8	0.8	1.6	−1.6	2.7*	−2.7*	−2.0*	2.0*		
Gastrointestinal symptoms	6	22	27	86	22	47	60	147	15	63	4.575	0.333
Adjusted residual	−0.6	0.6	−0.7	0.7	1.1	−1.1	1.2	−1.2	−1.5	1.5		
Respiratory symptoms	0	28	6	107	10	59	51	156	28	50	39.67	<0.001
Adjusted residual	−2.7*	2.7*	−4.3*	4.3*	−1.1	1.1	2.6*	−2.6*	4.1*	−4.1*		
Fatigue	2	26	7	106	8	61	35	172	15	63	10.58	0.031
Adjusted residual	−1.0	1.0	−2.6*	2.6*	−0.5	0.5	1.9	−1.9	1.6	−1.6		
Other physical symptoms	1	27	6	107	5	64	10	197	1	77	3.247	0.517
Adjusted residual	−0.3	0.3	0.4	−0.4	1.1	−1.1	0.2	−0.2	−1.5	1.5		
Insomnia	8	20	18	95	21	48	76	131	20	58	15.89	0.003
Adjusted residual	0	0	−3.5*	3.5*	0.3	−0.3	3.3*	−3.3*	−0.7	0.7		
Anxiety	25	3	75	38	39	30	104	103	22	56	43.14	<0.001
Adjusted residual	3.9*	−3.9*	3.1*	−3.1*	0.5	−0.5	−1.2	1.2	−4.9*	4.9*		
Depression	0	28	3	110	1	68	12	195	2	76	5.323	0.255
Adjusted residual	−1.1	1.1	−0.6	0.6	−1.0	1.0	2.2	−2.2	−0.6	0.6		
Delirium	1	27	14	99	16	53	62	145	26	52	22.5	<0.001
Adjusted residual	−2.6*	2.6*	−3.3*	3.3*	−0.2	0.2	2.6*	−2.6*	2.1*	−2.1*		
Other mental symptoms	0	28	0	113	0	69	3	204	0	78	4.199	0.379
Adjusted residual	−0.4	0.4	−0.9	0.9	−0.7	0.7	2.0	−2.0	−0.8	0.8		
SupportW for decision-making	10	18	26	87	31	38	88	119	24	54	15.37	0.003
Adjusted residual	−0.1	0.1	−3.3*	*3.3*	1.6	−1.6	2.5*	−2.5*	−1.1	1.1		
Family support	13	15	42	71	39	30	126	81	52	26	22.58	<0.001

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Table 3: *(Continued).*

Palliative care team activities	PS0				PS2		PS3		PS4		Chi-square value	*P* -value
	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention	Intervention	No intervention		
Adjusted residual	−0.9	0.9	−4.3*	4.3*	0.3	−0.3	2.2*	−2.2*	2.3*	−2.3*		
Support of medical staff	5	23	21	92	15	54	50	157	20	58	2.133	0.711
Adjusted residual	−0.6	0.6	−1.1	1.1	−0.1	0.1	0.8	−0.8	0.7	−0.7		
Food and nutrition support	3	25	4	109	8	61	21	186	5	73	5.865	0.209
Adjusted residual	0.5	−0.5	−2.1	2.1	1.1	−1.1	1.3	−1.3	−0.7	0.7		
Rehabilitation	0	28	1	112	5	64	30	177	5	73	21.64	<0.001
Adjusted residual	−1.6	1.6	−3.2*	3.2*	−0.3	0.3	4.2*	−4.2*	−0.7	0.7		
Oral care	0	28	4	109	4	65	18	189	3	75	6.438	0.168
Adjusted residual	−1.4	1.4	−1.2	1.2	0.0	0.0	2.3	−2.3	−0.8	0.8		

*Adjusted residuals (cutoff set at ≤−1.96 or≥1.96)

Many randomised controlled trials involve specialist palliative care referral within 3 months of advanced cancer diagnosis regardless of symptom burden. However, this model of care is currently impossible given the limited international palliative care infrastructure.[20,21] Although an interdisciplinary palliative team is desirable, the size of the hospital and the level of medical care available in a particular country may limit the range of health professionals in such teams.[22,23] Such problems make it difficult to meet the various needs of cancer patients when attempting to implement palliative care. For example, if it is known that a response to anxiety is required at an early stage, as shown in the present results, it is possible to meet the palliative care needs of cancer patients (albeit minimally) by first providing a palliative care response that reduces their anxiety at the early stage. Such cases do not require a multidisciplinary team; rapid collaboration between social workers, psychologists, nurses and other specialists is sufficient. Therefore, even if the PCT is not complete, the available members can provide cost-effective palliative care. It is important for both the patient and the quality of medical care to promote palliative care by quickly determining the needs of patients from their PS.

There are some study limitations. The first is that the study population was limited to patients from a single institution. According to national cancer incidence data from Japan, men are more likely to have stomach, trachea, bronchus and lung (TBL) and colorectal cancer, and women are more likely to have breast, colorectal and stomach cancer, in that order.[1] According to global cancer incidence data, men are more likely to have skin, TBL and prostate cancer, and women are more likely to have non-melanoma skin, breast and colorectal cancer, in that order.[24] Although these proportions are slightly different from those of the study population, we believe that all these cancer types were covered by the data and the difference is unlikely to have affected the validity of the results. Second, outpatients were not sampled. Our facility's PCT only serves inpatients and did not follow up with outpatients at the time of this study. However, as several previous studies point out, there is a need to develop a system of interventions to provide early palliative care services, regardless of whether the patient is in an inpatient or outpatient setting. Third, we did not assess the distress level associated with patients' symptoms; we had only data on issues that were considered a problem by the physician or nurse and addressed by the PCT interventions. Further investigation is needed to assess symptoms and PCT intervention activities using validated tools such as the Edmonton symptom assessment system and the support team assessment schedule.[25,26] Finally, it was difficult in this study to evaluate the effectiveness of simultaneous interventions for patients with overlapping needs. As there are no previous studies that have conducted interventions based on the present method of determining needs, we recommend that additional clinical research be conducted.

CONCLUSION

This study demonstrated that there were different needs for different PS. PCT involvement in areas such as gastrointestinal symptoms, depressive symptoms, support of medical staff, dietary support and oral care may be needed regardless of the patient's PS. It also seems likely that good PS may require a response to anxiety and poor PS may require a response to respiratory symptoms, delirium and family support in particular. We believe that the study outcomes will help palliative care services to be proactive in providing care tailored to the patient's condition and requirements. As a result, efficient interventions in facilities with limited resources, which we believe will be beneficial to patients receiving services, will be possible. However, intervention requirements for different symptom levels remain to be clarified, so further assessment of symptoms and investigation of intervention methods for each level are needed.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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