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Brief Communication

Inpatient Hospice Care in Korea during the COVID-19 Pandemic: A Preliminary Study

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Purpose: This study examined the quality of life (QoL) and quality of care (QoC) in inpatient hospice settings in Korea before and during the coronavirus disease 2019 (COVID-19) pandemic. **Methods:** Data were obtained from three institutions that participated in two prospective cohort studies. The primary outcomes measured were the QoL of patients with terminal cancer and their family caregivers (FCs), as well as the QoC as perceived by the FCs. **Results:** Multivariable regression analysis revealed that during the COVID-19 pandemic, both patients and FCs experienced better QoL than before the pandemic, and FCs reported a higher QoC. **Conclusion:** Health policymakers should consider our findings when planning for future pandemics.

Key Words: Hospice care, Quality of life, Quality of health care

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INTRODUCTION

Coronavirus disease 2019 (COVID-19) has disrupted cancer care worldwide, and Korea is no exception [1]. Specifically, inpatient hospice care in Korea experienced substantial adverse changes during the COVID-19 pandemic. First, to improve the efficiency of medical resource allocation, some hospitals that provided inpatient hospice services were repurposed to offer dedicated COVID-19 care in response to the surge in cases [2]. Second, volunteer work and therapeutic activities, such as music therapy, art therapy, and laughter therapy, were suspended, and visitation was severely restricted—allowing few family members even at the time of a patient's death—in accordance with social distancing guidelines. The impact of this limited hospital access and reduced communication on hospice patients and their family caregivers (FCs) in Korea is not yet fully understood. In this preliminary study of inpatient hospice care in Korea, we compared the quality of life (QoL) of patients with terminal cancer, the QoL of their FCs, and the quality of care (QoC) as perceived by the FCs between two periods—before and during the COVID-19 pandemic.

METHODS

This study utilized QoL data from three institutions that participated in two multicenter prospective cohort studies of FCs of terminally ill cancer patients in Korea. One of these studies was conducted across seven institutions in 2014, prior to the COVID-19 pandemic, and aimed to identify factors associated with the QoL of FCs [3]. The other took place from June 2021 to May 2023 (during the pandemic) in nine institutions, focusing on the role of family function and spirituality in the QoL of FCs. Three institutions participated in both cohort studies, which included substantial overlap in the items measured. The detailed methodology of these investigations has been previously reported [3]. The protocol of each study received approval from the relevant institutional review board.

The details of the questionnaires are outlined in a study by Choi et al. [3] and include the following measures: 1) patient QoL, assessed with the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 15 for Palliative Care (EORTC QLQ-C15-PAL); 2) FC QoL, evaluated using the Caregiver Quality of Life Index-Cancer (CQOLC); 3) QoC, measured with the Quality Care Questionnaire-End of Life (QCQ-EOL); 4) family function, determined through the Family Adaptation, Partnership, Growth, Affection, and Resolve framework; 5) social support, gauged by the Medical Outcome Study Social Support Survey; 6) FC resilience, quantified with the Connor-Davidson Resilience Scale; and 7) self-rated health, which was based on the response to the question “How would you describe your general health?” and included options of “not good” or “good.” Additionally, we collected data on FC demographics, including age, sex, education level, employment status, and relationship to the patient, as well as the time spent caregiving.

This study was primarily focused on three instruments: the EORTC QLQ-C15-PAL, the CQOLC, and the QCQ-QOL. The EORTC QLQ-C15-PAL is comprised of 15 questions that include two multi-item functional scales assessing physical and emotional functioning, two multi-item symptom scales covering fatigue and pain, five single-item symptom scales addressing nausea, insomnia, dyspnea, constipation, and appetite loss, and one item evaluating overall QoL. Each question is scored using a 4-point Likert-type scale, except for the overall QoL item, which utilizes a 7-point Likert-type scale. The CQOLC is structured around four domains—burden, disruptiveness, positive adaptation, and financial concerns—and contains 35 items, each rated on a 5-point Likert-type scale. The total score is obtained by summing the scores of all items, while domain scores are calculated by totaling the scores within each respective domain. Higher scores are indicative of better QoL. Lastly, the QCQ-EOL encompasses four domains—dignity-conserving care, care by healthcare professionals, individualized care, and family relationships—with a total of 16 items. Each item is scored on a 4-point Likert-type scale, where a higher score signifies a greater perceived QoC.

The data were analyzed using STATA MP 17.0 (StataCorp, College Station, TX, USA). Given that the dyads in each cohort represented independent samples, we employed the independent t-test or chi-square test to compare characteristics between the two periods. To evaluate changes in outcomes over time, we utilized multivariable logistic regression models, adjusting for all covariates.

RESULTS

The number of participants during the pandemic was approximately 40% of the pre-pandemic figure, despite the latter study extending for twice as long. Table 1 presents the differences in characteristics between the two periods examined. Patient characteristics displayed no significant differences. However, FCs during the pandemic were older, were more likely to be the patient’s spouse, and dedicated more hours per day to caregiving compared to those before the pandemic.

Table 2 presents the changes in QoL and QoC between the two periods. Significant differences in QoL were observed for

Table 1. Characteristics of Patients and Caregivers in the Two 1-Year Periods Examined (N=147).

Variables (range)	2014 (n=104)	2022 (n=43)	P-value
	n (%) or mean ± SD	n (%) or mean ± SD	
Patient factors			
Age (yr)	66.2 ± 12.2	66.3 ± 10.7	0.950
Female sex	46 (44.2)	21 (48.8)	0.610
Caregiver factors			
Age (yr)	48.1 ± 14.4	57.7 ± 10.8	<0.001
Female sex	75 (72.1)	32 (74.4)	0.775
Spouse of the patient	35 (33.7)	25 (58.1)	0.006
College or higher education	51 (49.0)	20 (46.5)	0.780
Currently employed	42 (41.2)	17 (39.5)	0.854
Subjective good health	33 (32.0)	10 (23.8)	0.325
Resilience score (0~100)	58.7 ± 13.5	58.3 ± 15.5	0.849
Environmental factors			
Social support score (0~100)	71.1 ± 13.9	70.7 ± 17.6	0.910
Family function score (0~10)	6.0 ± 2.6	6.5 ± 2.6	0.348
Time spent caregiving			
Days per week	5.4 ± 2.0	6.0 ± 1.9	0.110
Hours per day	14.6 ± 8.8	18.3 ± 8.1	0.017
Months of caregiving	6.7 ± 9.1	7.2 ± 10.5	0.753

SD: standard deviation.

Table 2. Quality of Life and Perceived Quality of Care in the Two 1-year Periods Examined (N=147).

Variable (range)	2014 (n=104)	2022 (n=43)	P-value*
	Mean ± SE or prevalence (95% CI)	Mean ± SE or prevalence (95% CI)	
Patient's quality of life			
Overall score (0~100)	41.5±2.1	51.0±3.3	0.020
Physical dysfunction	94.8 (86.0~98.1)	91.3 (74.5~97.5)	0.512
Emotional dysfunction	56.2 (45.1~66.7)	61.5 (44.1~76.5)	0.619
Fatigue	85.8 (75.7~92.1)	90.1 (75.2~96.4)	0.529
Pain	81.6 (71.0~88.9)	84.3 (67.7~93.2)	0.740
Nausea	42.0 (31.6~53.3)	39.0 (23.3~57.3)	0.783
Sleep	48.9 (38.0~59.9)	54.0 (36.8~70.3)	0.647
Dyspnea	28.0 (18.8~39.5)	42.9 (26.5~61.1)	0.177
Constipation	54.7 (43.2~65.8)	73.9 (56.3~86.2)	0.077
Appetite	74.1 (63.0~82.8)	64.0 (45.8~79.0)	0.321
Caregiver's quality of life			
Total (0~140)	65.3±1.7	74.7±2.7	0.006
Burden (0~40)	16.6±0.8	18.8±1.3	0.197
Disruptiveness (0~28)	13.9±0.5	16.0±0.9	0.051
Positive adaptation (0~28)	13.8±0.4	14.6±0.7	0.382
Financial concerns (0~12)	6.5±0.3	7.5±0.5	0.080
Quality of care perceived by caregiver			
Total (0~48)	22.7±0.8	30.1±1.2	<0.001
Dignity-conserving care (0~21)	8.2±0.4	11.5±0.6	<0.001
Care by healthcare professionals (0~9)	5.2±0.2	6.7±0.3	<0.001
Individualized care (0~12)	6.0±0.2	7.6±0.4	0.001
Family relationships (0~6)	3.4±0.2	4.1±0.3	0.020

SE: standard error, CI: confidence interval.
*Determined using multivariable logistic regression models adjusted for patient factors (age and sex), family caregiver factors (age, sex, relationship to the patient, employment status, education level, subjective health status, and resilience), and environmental factors (social support, family function, and duration of caregiving).

both patients and caregivers. Furthermore, QoC scores—both overall and across all domains—differed significantly between the two periods.

DISCUSSION

In this preliminary study, we investigated the previously unexplored impact of the COVID-19 pandemic on QoL and QoC within the inpatient hospice setting in Korea. A small number of studies from other countries have reported on hospice utilization during the COVID-19 outbreak, with varying results [4,5]. In Korea, one recent study indicated that end-of-life (EOL) care for patients with cancer worsened during the pandemic [6]; however, that study relied on indirect indicators such as distressing symptoms identified through chart audits, medical procedures performed in the dying phase, consultations for hospice care, place of death, and aggressive care in the final months. The indicators we employed exhibit greater validity, considering that the primary objective of hospice is to provide comfort to patients and their families.

During the COVID-19 pandemic, social distancing and hospital policies, such as visitor restrictions, have left seriously ill patients isolated even during EOL care [7]. Many hospice patients have spent their final days and died in isolation, disconnected from family and friends. Loved ones have also endured forced separation and missed opportunities to share important feelings. Consequently, we hypothesized that the pandemic has severely compromised the QoL of patients and their FCs, while also jeopardizing the QoC in inpatient hospice settings. Interestingly, we found the opposite to be true. We attribute

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these unexpected results to an evaluation of relative conditions. Outside the palliative care unit (PCU) during the pandemic, conditions were dangerous, and patients had limited options for hospitalization. Tertiary university hospitals did not prioritize care for patients with terminal cancer, and some long-term care facilities were forced to close in response to the COVID-19 outbreak. Patients and FCs may have felt fortunate for the patient's opportunity to spend their EOL in a PCU. In South Korea, home hospice care is not common, as caring for patients with terminal cancer at home can be daunting and unfamiliar [8]. Therefore, inpatient care remains the cornerstone of hospice services. Another factor to consider is the steady development of hospice programs in Korea. Since 2015, the national health insurance service has reimbursed costs for hospice services, which has been instrumental in their utilization [9]. Along with academic advancements, the involvement of the Korean government has led to the establishment of hospice care standards, including quality control measures for care and training for professionals. Furthermore, one institution involved in this study has operated a professional caregiver system since 2017, substantially alleviating the financial burden on care recipients.

This study had several limitations. First, as the cohorts only overlapped at three institutions, the findings may not be generalizable. Second, the cohorts were separated by a substantial time interval, during which policy changes could have confounded the results. The Act on Hospice and Palliative Care and Decisions on Life-Sustaining Treatment for Patients at the End of Life was implemented in February 2018 [10] and may have led to greater insight among patients regarding their terminal status; in a recent report, over 80% of patients were aware of their medical condition [2]. However, the perceptions of FCs may not have been influenced by the Act. Despite these limitations, this study is the first to directly investigate QoL and QoC during the COVID-19 pandemic in Korea. Patients with terminal cancer and their FCs reported higher QoL and perceived better QoC for inpatient hospice care during the pandemic. Analysis of bereaved family survey data from the national registry [2] is necessary to confirm our findings. Should our results be replicated, this would suggest that hospice care should be preserved under all circumstances, as it represents critical support for this population in Korea.

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CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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AUTHOR'S CONTRIBUTIONS

Conception or design of the work: ICH. Data collection: all authors. Data analysis and interpretation: all authors. Drafting the article: YSC. Critical revision of the article: ICH. Final approval of the version to be published: all authors.

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