

Overview of Emergency Service, Palliative Care and Hospice Services in a Hospital

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ORIGINAL RESEARCH

Abstract

Background: Due to the number of patients increasing who are in their terminal life spans and need care, a new demand for health service provision has arisen, such as hospice and palliative care. Thus, it is aimed to discuss the relationship between palliative care, emergency room (ER), and hospice services in a hospital and offer recommendations on the improvements that can be made.

Material - Method: This research is a retrospective, descriptive cross-sectional study. Patients aged 18 years and older admitted to Sakarya Education, and Research Hospital ER between 01.01.2018-31.12.2019 were included in the study from cancer patient's follow-up in the last five years from SEAH medical oncology department.

Results: During the study period, 2480 cancer patients admitted to the SEAH adult ER. Of these patients, mean age was 61.87 (± 13.91) years, 1303 (52.5%) were male, men's mean age was higher than women ($p=0.001$), the mean age of patients hospitalized, taken to ICU, referred to another hospital, mortality in the ER was statistically significantly higher. There was no statistical correlation between this patient's age and recurrent ER admission ($p=0.326$). Forty-three cancer patients (1.7%) died in the ER, and all of them were performed cardiopulmonary resuscitation.

Conclusion: Coordination of palliative care with these units can decrease ER intensity and the necessity for ICU. Establishing the hospice system in areas without official hospice infrastructure and determining DNR procedures can reduce health costs; also lesser hospital densities.

Keywords: Emergency room, palliative care, hospice

I. INTRODUCTION

Due to the number of patients increasing who are in their terminal life spans and need care, a new demand for health service provision has arisen. In diseases including cureless cancer, dementia, cerebrovascular event, chronic pain, patients

may have to apply to the hospitals many times because of some persistent incurable symptoms. As cancers and comorbid diseases developing with age, such a necessity for healthcare will conceivably come to the fore in countries with an expansion in the elderly population [1,2].

Hospice and palliative care units have been established and started to serve to suffice these growing health requirements. Dame Cicely Saunders was founded for the first time in 1967 in England, a care center called hospice, and commenced to serve irremediable patients [3]. In the following years, this health service became widespread in different countries of the world, and the name of hospice care transformed to palliative care.

Although the notions of hospice and palliative care are occasionally used interchangeably today, they have used the system of assisting various patient groups. For instance, while palliative care can afford health services to all sufferers with serious illnesses, hospice service intends to serve a scantier patient population [3]. Palliative care is multidisciplinary health care that strives to accommodate patients' convenience, improve the condition of life, render moral and social support to patients and their families, reducing patients' symptoms [4]. Hospice aides are health services that are granted to patients who are not assumed to live for more than six months, lesser emergency room (ER) admissions and hospitalizations, enable these patients to spend their last time in their homes as conveniently as possible; moreover, assure a noble death at home preferably of dying in hospital [3-6].

In the last five years, the aged population in Turkey increased by 21%, as of 2019 ended 9.1% rate in the entire population [7]. The predictions show that this expansion will stretch moreover the elderly dependency rate, which indicates the number of older people per 100 people of working age, will rise from 13.4% in 2019 to 40.3% in 2040 [7]. In this situation, the role of hospice and palliative care in Turkey's health system should have been recognized, performed the required improvements, and defined its relationship with other disciplines.

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Hospice care does not yet have a one-to-one equivalent system in Turkey, and these patients provide the essential medical services from palliative services, home healthcare, and ER. However, in Turkey, there are no specific health services presented to patients who are thought to be in their last six months in the life span, a health system supporting a respectable death at home, furthermore patient identification algorithms for hospice.

Inspired by publications that reported that 1/3 of the patients receiving hospice services were cancer patients, this study aimed to examine the characteristics of the patients who were followed from the medical oncology outpatient clinic and admitted to the ER [6]. Thus, it is aimed to discuss the relationship between palliative care, ER, and hospice services in Turkey and offer recommendations on the improvements that can be made.

II. MATERIAL AND METHODS

This research is a retrospective, descriptive cross-sectional study.

Patients aged 18 years and older admitted to Sakarya Education, and Research Hospital (SEAH) adult ER in 01.01.2018-31.12.2019 were included in the study from cancer patient's follow-up in the last five years from SEAH medical oncology department.

Patients admitted to the SEAH adult ER are subjected to a triple triage:

Green Room: The unit where patients who do not have urgency have complaints that may be treated in primary care providers, such as the runny nose, sore throat, are examined.

Yellow Room: This is the area where patients who carry the symptoms of a severe disease that may require emergency intervention are examined. Patients can apply to this area either by ambulance or by their facilities.

Trauma Room: All kinds of traumatic events such as small, large incisions, accidents, falls, sprains are referred by their facilities or ambulance.

Critical Room: This is the room where the most severe patients, such as respiratory or cardiac arrest, shock, intubation, are required, in which people may die if they are not immediately intervened, are examined and intervened.

Only cases of cancer referred to the Yellow and Critical Rooms without trauma were included in this study.

Outpatient trauma cases or simple complaints entering Green Room were excluded from the research.

Patient data is obtained from patient files and the hospital automation system. Demographics of patients, the status of receiving home health care, hospitalization from the ER to hospital, palliative service, intensive care unit (ICU), referral to another hospital, and the ER's mortality status were examined.

Hospital Administration Permission was obtained on 01.02.2021 for this study.

Statistical Analysis

The data processed to IBM Statistical Package for the Social Sciences (SPSS) version 21.0.

For the suitability of the data for normal distribution, Skewness and Kurtosis's value needed to be in the range of ± 2 values [8].

In comparing categorical data, The Chi-square test was applied, and the results with $p < 0.05$ were estimated statistically significant.

An independent t-test was performed when comparing data containing two independent variables that match the normal distribution, and values with $p < 0.05$ were recognized as statistically significant.

A Mann-Whitney U test was performed when comparing two independent data groups that did not match the normal distribution, and the results with $p < 0.05$ were analyzed significantly. In the correlation analysis of these data, the Spearman correlation test was applied and the results with $p < 0.05$ were considered statistically correlated.

III. RESULTS AND DISCUSSION

A. Results

During the study period, 2480 patients monitored from the medical oncology outpatient clinic were applied to the SEAH adult ER. Of these patients, 1303 (52.5%) were male, and 1177 (47.5%) were female. Their mean age was 61.87 (± 13.91) years, and the median age was 63 years; also, the age range was 18-99 years. According to their gender, men's mean age was higher ($p = 0.001$). The patients' age was compared with hospitalization from the ER to the services and ICU, the status of referral from the ER to another hospital, and death in the ER. The mean age of patients hospitalized, taken to ICU, referred to another hospital, mortality in the ER was statistically significantly higher (see Table 1). There was no statistical correlation between this patient's age and recurrent ER admission ($p = 0.326$).

The patients have applied to the Seah ER an average of 2.32 times (± 2.63) through the research period; furthermore, they have been approved to the SEAH ER between 1-55 times. No significant difference between the genders was observed in comparing the amount of patients' emergency applications by gender. However, the patients including, hospitalized patients from the ER to the ICU or service, referred to another hospital, died in the ER, and home health care patients, have a significantly higher recurrent ER admission number (See Table 2).

Seven hundred seventy-six patients (31.3%) were hospitalized from the ER at least once; moreover, of these, 345 (13.9%) patients were confirmed to ICU, while just three patients (0.1%) admitted to the palliative care ward. Of whole 2480 sufferers, 284 (11.5%) were referred to ICU at another hospital.

Forty-three cancer patients (1.7%) died in the ER, and all of them were performed cardiopulmonary resuscitation (CPR).

Two hundred seventy-nine of the patients (11.3%) benefited from home health care during the study period. A statistically notable variation was found between patients' use

of home health services and gender, hospitalization, ICU admissions, referral to another hospital, and death in the ER states shown in Table 2. Besides, male patients receiving home health care, admission to service or ICU, another hospital referral, and dying in the ER resembled significantly higher home healthcare patients.

B. Discussion

The close connection of ER with palliative care and hospice has enhanced a championed view in recent years. Bridget et al. highlighted the effect of educating ER health care workers regarding hospice and reported that recognition to these training, hospice care could commence earlier [9]. On the other hand, Derrick and Tammie noticed that there could be an 88% rise in the number of patients attending hospice care if ER physicians received four-hour instruction in palliative care and hospice [10]. Sangeeta et al. also emphasized that integration with the ER and palliative care should be established to enhance palliative care (11). However, other countries' hospice services do not have an equivalent care system, also, legal basis, a specific algorithm in Turkey. In this regard, it is unlikely to talk about integrating hospice and ER in Turkey in today's conditions. Also, directly hospitalized from the ER to the palliative service patients were limited to only three out of 2430, betokening that the suggested integration within palliative and ER cannot be accomplished at least on the SEAH scale.

Another issue "do not resuscitate" (DNR) procedures and selecting whom to implement these methods too. Mark and Lynne reported that 56% of the palliative care consultations inquired from the ER had DNR orders (12). Sangeeta and Tammie also asserted that DNR should not be stipulated as a state in presenting hospice care. Furthermore, these patients can proceed to apply to the ER if necessary (13). However, looking at cancer patients who died in the ER during the study period, it seems that CPR was applied to all patients because there is no legal basis for DNR in Turkey, and there are no procedures and regulations about it.

Derrick and Tammie reported that 77% of ER patients admitted in their last 30 days were hospitalized, and 68% died in the hospital (10). In its 2018 report, the National Hospice and Palliative Care Organization (NHPCO) stated that 48.2% of those receiving hospice services died in their homes, while the hospital death rate remained at 7% (6). When all these data are assessed together, it can be assumed that hospital mortality can diminish by hospice care. Turkey's health system does not provide doctors with adequate guidance about hospital deaths and to whom CPR should be performed.

As for the benefits of directing patients to palliative care in the ER at an early stage, Derrick and Tammie said hospital length was decreased, ICU admissions and health expenses were lessened (10). Ziad et al. also remarked that low prognosis cancer patients who endured hospice services were 10.7% less admitted to the ER than those who did not receive (14). As discussed earlier, there is no such service as a hospice in Turkey, and bed-dependent patients can be cared for in their homes by the "Home Health Services" unit. Although patients receiving hospice care reached a decrease in hospital

admissions in other studies, it is showed that there is a rise in ER admissions of patients receiving home health care. According to this, hospitalization rates, referral to another hospital, death in the ER states of these patients were high compared to those who did not receive home health care. Some of the reasons for this may be that hospice services are not implemented independently, DNR conditions are not set, and palliative care services do not provide the expected support to the ER. If any critical condition is detected in patients evaluated at home, patients are referred to the ER, then ICU or service admissions are decided from there. As a solution, assuring ER coordination with palliative care appointed in other studies can improve referrals and patients' hospitalization.

Paul and Sarah explained that anyone with a severe illness is acceptable for palliative care (3). It is currently essential that palliative care provides 24/7 services for sufferers with critical conditions and manifest the required multidisciplinary approach. In contrast, 13.9% of patients in this study were admitted to ICU; moreover, 11.5% were referred to another hospital ICU, inferring that palliative care did not represent the expected role for severe patients.

IV. CONCLUSION

ER is one of the busiest units in hospitals. Coordination of palliative care with these units can decrease both ER intensity and the necessity for ICU. Establishing the hospice system in areas without official hospice infrastructure and determining DNR procedures can reduce health costs; also lesser hospital densities. Furthermore, hospice care initiation can accommodate people with a comfortable and respectable death in their own homes.

TABLES

Table 1. Comparison chart of patient situations

Patient Status		Mean Age	p Value ¹	p Value ²
Gender	Male	63.97	0.001	0.127
	Female	59.54		
Hospitalization	Yes	63.33	0.002	0.001
	No	61.20		
ICU Hospitalization	Yes	64.63	0.002	0.001
	No	61.42		
ICU Dispatch	Yes	64.62	0.033	0.001
	No	61.33		
Ex at ER	Yes	64.53	0.016	0.002
	No	61.82		
Getting Home Health Care	Yes	65.31	0.001	0.001
	No	61.43		

¹ Comparison of patient conditions according to patient ages. Independent Samples T-test was used for statistical comparison.

²The number of emergency room visits, comparing patients according to their status. Mann-Whitney U test was used for statistical comparison.

Table 2. Comparison of patients by home health care status

	Home Health Care				p-Value
	Yes		No		
	Count	Percent% ¹	Count	Percent% ²	
Male	163	58.4	1140	51.8	0.037 ³
Female	116	41.6	1061	48.2	
Hospitalization	119	47.2	657	29.9	0.001 ³
ICU Hospitalization	51	18.3	294	13.4	0.025 ³
ICU Dispatch	56	20.1	228	10.4	0.001 ³
Ex at ER	19 ⁴	6.1	24 ⁴	1.1	0.001 ⁵

¹ It is the percentage of those receiving home healthcare services.

² It is the percentage of those who do not receive home healthcare services.

³ Pearson's chi-square tests were used for statistical analysis.

⁴ Number of patients who died in the emergency room.

⁵ Fisher's Exact Test was used for statistical analysis.

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Authors' Contribution:

ED: Led and conceived the project, and authored the manuscript, data collection, compiling, statistics and discussion.

FG: Contributed to design articles, collected and analyzed data, literature review.

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