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Characteristics of Palliative Care patients who are more likely to die in hospital

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Background

Most patients prefer to die at home rather than in hospital, yet many palliative care patients still die in acute hospital. During the last phase of their lives, they may visit the Emergency Department more frequently[1,2] and be admitted despite their wishes and preferences.

Objective

The study aims to investigate the characteristics of palliative care patients who are likely to die in hospital. In doing so, to better identify patients who are in need of early discussion regarding their goals of care to facilitate their wishes and preferences.

Methodology

A retrospective study of all patients who were admitted to an acute hospital, Khoo Teck Puat Hospital, and were referred to Palliative Care between January 2021 – December 2021. Phone consults were excluded from this study.

Univariate logistic analysis was used to identify the risk factors associated with palliative care patients who were more likely to die in hospital. The variables identified as significant were subsequently included in a stepwise multivariate logistic analysis to identify independent predictors of palliative patients who were more likely to die in hospital. A p-value of <0.05 was considered statistically significant.

Results

A total of 682 patients were included in the study.

Table 1. Patient's characteristics and outcome of palliative patients who died in hospital vs. palliative patients who were discharged and univariate analysis of factors of palliative patients who were more likely to die in hospital.

Variables	Inpatient death (n = 366)	Discharge (n = 316)	Unadjusted odds ratio (95% confidence interval for exp(B))	p-value
Age	72.2 ± 12.1	71.3 ± 12.6	0.99 (0.98 – 1.01)	0.366
Gender				0.347
Male	200 (54.6%)	184 (58.2%)	1	
Female	166 (45.4%)	132 (41.8%)	0.86 (0.64 – 1.17)	
Race				0.603
Chinese	228 (62.6%)	210 (66.7%)	1	
Malay	96 (26.4%)	79 (25.1%)	0.89 (0.63 – 1.27)	
Indian	30 (8.2%)	20 (6.3%)	0.72 (0.40 – 1.31)	
Others	10 (2.7%)	6 (1.9%)	0.65 (0.23 – 1.82)	
Marital status				0.104
Single	43 (13.9%)	27 (9.8%)	1	
Married	167 (53.9%)	175 (63.6%)	1.67 (0.99 – 2.82)	
Widowed	81 (26.1%)	57 (20.7%)	1.12 (0.62 – 2.02)	
Divorced	19 (6.1%)	16 (5.8%)	1.34 (0.59 – 3.05)	
Eastern Cooperative Oncology Group (ECOG)				***0.004***
1	14 (4.6%)	5 (1.7%)	1	
2	66 (21.9%)	46 (15.8%)	1.95 (0.66 – 5.79)	
3	86 (28.5%)	69 (23.6%)	2.25 (0.77 – 6.54)	
4	136 (45%)	172 (58.9%)	3.54 (1.25 – 10.1)	
Diagnosis				***0.005***
Cancer	212 (58.7%)	150 (47.9%)	1.55 (1.14 – 2.10)	
Non-cancer	149 (41.3%)	163 (52.1%)	1	
Pain severity on 1st review				0.38
No	211 (67.8%)	204 (71.6%)	1	
Mild	48 (15.4%)	37 (13.0%)	0.80 (0.50 – 1.28)	
Moderate	44 (14.1%)	32 (11.2%)	0.75 (0.46 – 1.23)	
Severe	8 (2.6%)	12 (4.2%)		

Results (Continued)

Variables	Inpatient death (n = 366)	Discharge (n = 316)	Unadjusted odds ratio (95% confidence interval for exp(B))	p-value
Dyspnoea severity on 1st review				***0.018***
No	222 (71.2%)	179 (62.8%)	1	
Mild	47 (15.1%)	41 (14.4%)	1.08 (0.68 – 1.72)	
Moderate	39 (12.5%)	51 (17.9%)	1.62 (1.02 – 2.57)	
Severe	4 (1.3%)	14 (4.9%)	4.34 (1.40 – 13.4)	
Advance Care Planning/ End-of-life discussion	319 (87.2%)	271 (85.8%)	1.12 (0.73 – 1.75)	0.59
Days from admission to Palliative Referral	8.48 ± 17.72	8.51 ≥ 14.35	1.00 (0.99 – 1.01)	0.983
Days from Palliative Referral to Death/Discharge	10.48 ± 18.11	8.33 ± 12.33	0.99 (0.98 – 1.00)	0.118

Table 2. Multivariate analysis for independent factors of palliative patients who were more likely to die in hospital

Variable	Unadjusted odds ratio (95% confidence interval for exp(B))	p-value
Diagnosis		0.86
Cancer	1.03 (0.72 – 1.49)	
Non-cancer	1	
ECOG		0.07
1	1	
2	1.61 (0.53 – 4.92)	
3	1.81 (0.60 – 5.42)	
4	2.63 (0.89 – 7.82)	
Dyspnoea severity on 1st review		***0.025***
No	1	
Mild	1.16 (0.72 – 1.89)	
Moderate	1.58 (0.98 – 2.55)	
Severe	5.23 (1.47 – 18.6)	

Discussion and Conclusion

Palliative non-cancer patients have a less predictable course of illness trajectory due to the frequent variability in the progression of their disease. One other possibility for this outcome is that there is a lack of awareness of palliative care in non-cancer patients among healthcare professionals resulting in a lack of referral.

Palliative patients with poorer ECOG functional status are at risk of dying in hospital as they are frail and have increased risks of infections and complications. In addition, it may be difficult for their loved ones to care for them at home both physically and emotionally.

Whilst non-cancer palliative patients and poor ECOG functional status seemed to predict patients dying in hospital, the multivariate analysis showed that the severity of dyspnoea on 1st review was an independent risk factor.

Dyspnoea is a predictor of death from all causes, even when the symptom is episodic.[3] The presence of dyspnoea may indicate that patient is in the acute dying phase. Dyspnoea can be distressing to both patient and their loved ones, making it difficult to manage at home.

This study emphasized the importance of assessing and recognising dyspnoea in our palliative patients. Early establishment of the patient's goals of care is key to facilitate dying at home, if it is according to their wishes.

References

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