SOHO ANNUAL MEETING 2024

A National Database Study on the trends of palliative care involvement in multiple myeloma

Shah P[1], Sanjeevi A[1], Shah R [2]
1Rochester General Hospital, Rochester, New York, USA; 2University of Kansas Medical Center, Wichita, Kansas, USA

INTRODUCTION

Early involvement of palliative care (PC) in people with cancer results in improved quality of life, lower symptom burden, and in some cases, prolonged life. Despite advancements in treatment, multiple myeloma (MM) remains incurable, with a variable clinical course and a considerable burden on patients' quality of life.

AIM

Assessing the effect of patient and hospital factors on PC involvement in MM patients. Association between PC involvement and inpatient mortality, hospitalization cost, length of stay.

METHOD

DESIGN: Retrospective cross-sectional study

SETTING: National Inpatient Database (2016-2020) using ICD 10 codes

PATIENTS: Hospitalized MM patients

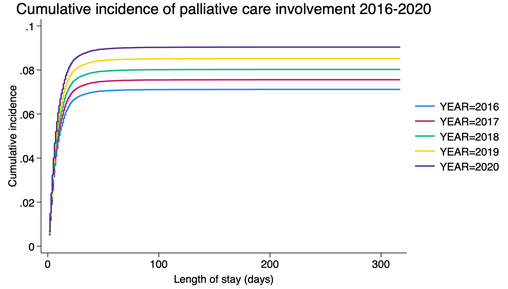
STATISTICS: Logistic regression assessed patient and hospital factors influencing PC involvement and its association with inpatient mortality using the STATA BE 18.0 software. Linear regression analyzed the association between PC involvement and hospitalization costs and length of stay. Results were adjusted for age, gender, race, insurance type, smoking, alcohol, diabetes, hypertension, chronic kidney disease (CKD), obesity, and congestive heart failure (CHF). Variance Inflation Factor measured multicollinearity.

RESULTS

Table 1: Patient and Hospital Characteristics

Variables (%)	N=108,686	N=9,683
Age (years)	69.23±11.41	72.44±11.53
Female	44.32	44.17
White	61.45	63.81
Black	22.04	20.48
Hispanic	8.28	7.91
Asian	2.15	2.17
Medicare	7.79	7.06
Medicaid	6.47	5.67
Private insurance	2.22	1.86
Self-financed	1.21	1.28
Other payment mode	2.12	3.71
Smoking	24.99	22.93
Alcohol use	0.83	0.73
Obesity	6.61	4.17
Diabetes	3.4	2.74
Hypertension	31.74	24.16
Heart failure	7.57	10.17
Chronic kidney disease	0.11	0.18
Central	30.59	30.46
Fringe	26.03	27.21
Less than million	43.09	42.03
Northeast	20.52	21.39
Midwest	22.72	23.85
South	38.52	36.12
West	18.24	18.64
Small	17.48	15.87
Medium	25.77	25.57
Large	56.75	58.56
Length of stay (days)	7.01±7.67	9.18±11.06
In-hospital death	2.63	31.59
Hospitalization cost (USD)	82,131.27± 120,312.5	108,108.30± 167,159.9

Cumulative incidence of palliative care involvement 2016-2020



Cumulative incidence of in-hospital deaths

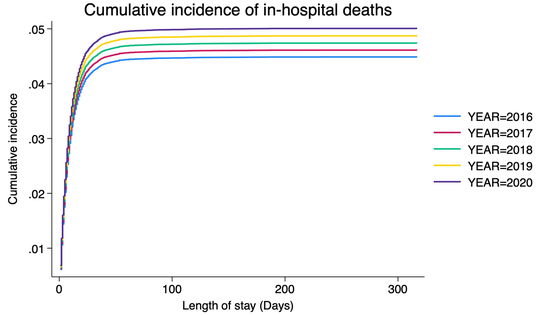


Table 3: Demographic factors affecting the length of stay in multiple myeloma patients with Palliative care involvement

	IRR	95% Confidence interval
Palliative care	1.31	1.29-1.34
Age	0.99	0.99-0.99
Female gender	0.98	0.97-0.99
White	0.9	0.88-0.92
Black	0.98	0.96-1.00
Hispanic	0.92	0.90-0.94
Asian	0.96	0.93-1.00

Table 2: Factors affecting the risk of death in multiple myeloma patients with Palliative care involvement

	Odd's Ratio	95% Confidence Interval
Palliative care	16.02	15.12-16.97
Age	1.01	1.01-1.02
Female gender	0.84	0.79-0.89
White	0.8	0.71-0.90
Black	0.91	0.80-1.03
Hispanic	0.86	0.74-1.00
Asian	1.09	0.88-1.34
Heart failure	1.55	1.42-1.69
Chronic kidney disease	2.01	1.07-3.75

Table 4: Demographic factors affecting the hospitalization costs in multiple myeloma patients with Palliative care involvement

	IRR	95% Confidence interval
Palliative care	1.31	1.29-1.34
Age	0.99	0.98-0.99
Female gender	0.94	0.93-0.95
White	0.92	0.89-0.94
Black	0.94	0.91-0.96
Hispanic	1.06	1.03-1.09
Asian	1.02	0.98-1.06

IRR = Incidence Rate Ratio
Bed size = Small (1to 250), Medium (50 to 450), Large (100+ to 450+)
Counties = Central & Fringe (>=1 million population), Less than million (<1 million population)

CONCLUSIONS

In MM, PC involvement is influenced by age, co-morbidities, and hospital location. Its association with higher inpatient mortality, increased hospitalization costs and length of stay, highlights the need for early and equitable PC integration to enhance MM patient outcomes. Longitudinal studies are required to evaluate the time to PC involvement and its effect on patient outcomes.

REFERENCES

1. Vidal M, Hui D, Bruera E. Palliative care in patients with leukemia: when and how? *Curr Oncol Rep.* 2018;20(12):95. doi: 10.1007/s11912-018-0743-5.
2. El-Jawahri A, Nelson AM, Gray TF, Lee SJ, LeBlanc TW. Palliative and end-of-life care for patients with hematologic malignancies. *J Clin Oncol.* 2020;38(9):944–953. doi: 10.1200/JCO.18.02386.

CONTACT INFORMATION

Purva Shah
Internal Medicine Pgy2
Rochester General Hospital, New York
purva.shah@rochesterregional.org