CLINICAL RESEARCH SUMMARY

Malnutrition diagnoses and associated outcomes in hospitalized patients: United States, 2018

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Background

Malnutrition is prevalent in hospitalized patients in the United States and is associated with increased morbidity, mortality, and healthcare costs.

Objectives

The objectives of this study were: (i) to quantify the prevalence of malnutrition diagnoses in patients discharged from US hospitals, (ii) to compare clinical and demographic characteristics of malnourished patients who had coded diagnoses of malnutrition (CDM) with those who did not have a CDM, and (iii) to analyze risk for and cost of hospital readmissions. A review of trends over time was also conducted.

Methods

Data from the Agency for Healthcare Research and Quality (AHRQ) 2018 Healthcare Cost and Utilization Project (HCUP) were used to identify patients with a CDM diagnosis (based on ICD-10-CM codes) during their initial hospital admission and in readmissions up to 30 days post-discharge. This analysis focused on undernutrition and excluded diagnostic codes for nutrient deficiencies and obesity unless there was another qualifying diagnosis for malnutrition.

Results

Demographics

In the US in 2018, there were 2,480,930 hospital discharges with a CDM, which accounted for 8.9% of all discharges. Patients with a CDM were significantly more likely to be older, female, identified as black or other ethnicity, and within the lowest community-level income quartile.

Admission and discharge characteristics

Patients with a CDM had a significantly longer length of stay (LOS) [9.0 vs 4.7 days, $p<0.0001$] and higher hospitalization costs ($23,579 vs $13,610, $p<0.0001$) than those without a CDM. For those with a CDM, 89.2% were admitted to the hospital emergently or urgently vs 77.2% of patients without malnutrition ($p<0.001$). In-hospital mortality was 3.4 times higher for patients with a CDM than those without. Only 34.9% of patients with a CDM had a routine discharge compared to 62.3% of routine discharges among patients without a CDM.

Principal diagnoses

The most common principal diagnoses for patients with a CDM were sepsis, acute kidney failure, pneumonia, aspiration pneumonitis, and hypertensive heart and renal disease with heart failure. Infections (e.g. septicemia and pneumonia) were the most frequent diagnosis classification (10.7%) in patients with a CDM compared to those without a CDM (4.2%).

Hospital readmissions

Of 3,802,544 hospital readmissions, 12.7% of patients had a CDM during their original hospital stay. The mean cost for readmission stay was $25,532/patient for those with a CDM during their index stay vs $15,000/patient for those without. The aggregate cost for US patients with malnutrition diagnoses was associated with over 13% of the aggregate hospital costs, or over $58 billion in 2018.

Conclusion

- **Coded diagnoses of malnutrition in US hospitalized patients accounted for 8.9% of all discharges in 2018. This data likely represents only a fraction of the true prevalence of hospitalized patients with a CDM.**
- **Those with a CDM had poorer clinical and economic outcomes including longer hospital LOS, higher readmission rates, higher cost of hospital stay, greater emergency department admissions, lower routine discharges, and higher in-hospital mortality.**

The complete study may be accessed at:
https://pubmed.ncbi.nlm.nih.gov/34486169/

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