

# The Impact of Frailty and Malnutrition on In-hospital Outcomes in Patients with Acute Myocardial Infarction

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## BACKGROUND

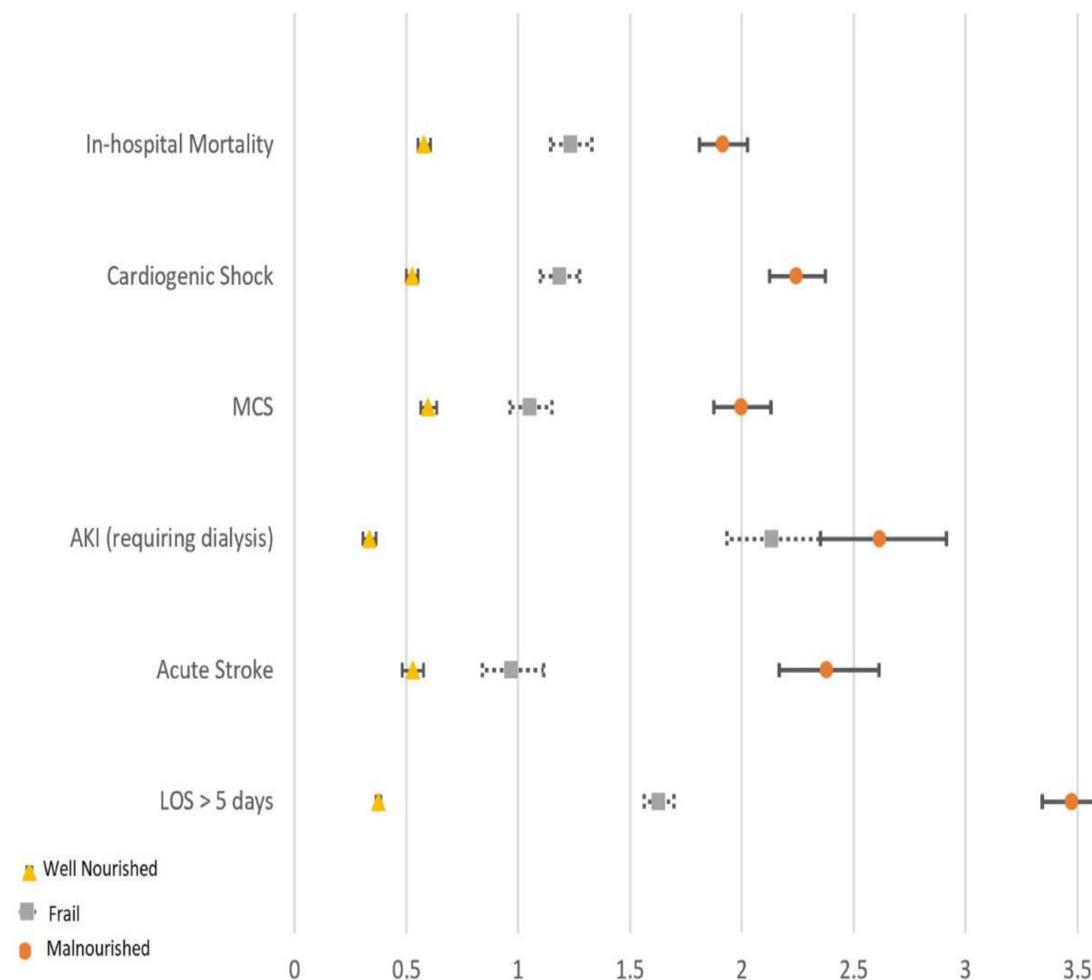
- The prevalence of malnutrition among all hospitalized patients in the US is estimated to be around 40-54%.
- The separate impacts of malnutrition and frailty on early outcomes after myocardial infarction is not well studied
- We sought to identify the prevalence and outcomes of diagnosed malnutrition, and compared them to frailty among a contemporary cohort of patients with AMI in the United States.

## METHODS

- We queried the National Inpatient Sample (NIS) from January 2012 to September 2015 (26,859,889 hospitalizations)
- A frailty index was constructed if patients had 4 or more of the following conditions: diabetes mellitus, congestive heart failure, chronic lung disease, peripheral vascular disease, depression, fluid & electrolyte disorders, chronic kidney disease, anemia, or unintentional weight loss.
- Using complex survey analysis, multivariable models were used to assess for in-hospital mortality, mechanical circulatory support (MCS) use, cardiogenic shock, acute kidney injury (AKI), and length of stay (LOS)
- Statistical significance for p values was set at < 0.05.
- The Pearson Chi-square test was used to compare categorical variables, while continuous variables were compared with the student's t test or one-way Analysis of Variance (ANOVA), as appropriate.

## RESULTS

Adjusted Odds Ratios for In-hospital Outcomes Based on Nutritional Status and Frailty



## RESULTS

- Out of 2,260,425 AMI hospitalizations, 78,095 (3.5%) had diagnosed malnutrition
- 80,440 (3.6%) had no diagnosis of malnutrition but were frail
- Malnutrition and frailty were both associated with increased mortality (12.1% vs 7.5 vs 3.9%,  $P < 0.001$ )
- Malnourished patients were more likely to develop cardiogenic shock, require MCS, and to develop AKI requiring dialysis compared to both frail and well nourished patients.
- Similar, but less severe trends were seen in frail patients

## CONCLUSION

- Malnourished patients hospitalized with AMI have higher rates of in-hospital mortality, cardiogenic shock, MCS use, and AKI requiring dialysis.
- Frail patients also exhibited an increased risk for adverse in-hospital outcomes.
- Identification of frail and malnourished patients early in their hospital course could result in improved outcomes
- Further studies should evaluate the role of nutritional interventions in malnourished and frail patients with AMI.

## REFERENCES

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