Nutrition in Major Burn Patients

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INTRODUCTION

- Major burns (burns >20% body surface area) can cause a patient's body to enter a hypermetabolic state, in which increased calories and protein are required to meet elevated nutritional demands.
- Adequate nutrition can help avoid severe consequences that arise from inadequate nutrients, such as weight loss, wound healing, and infections.
- Normally, patients are given a rate-based feeding regimen. However, this method often falls short of meeting the patient's nutritional demand.
- Recently, volume-based feeding has been introduced as a superior alternative.

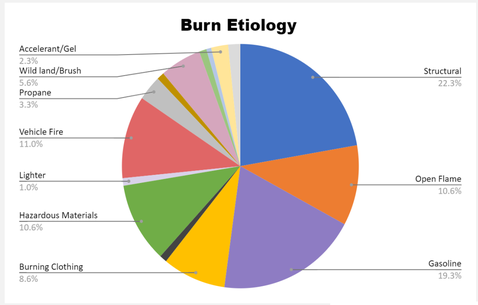
OBJECTIVE

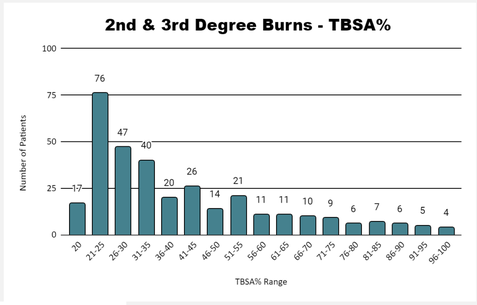
- To compare short term and long-term health outcomes in major burn patients receiving volume-based feeding and rate-based feeding regimens.

METHODS

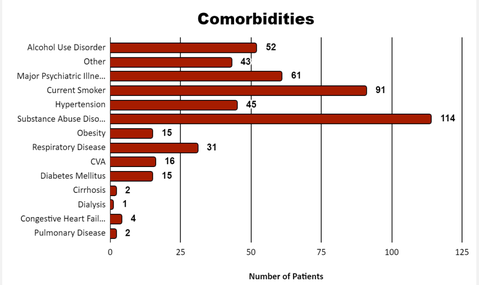
- Retrospective chart review of major burn patients admitted to UCDMC from 2016-2021 (n=331)
  - Inclusion Criteria:
    - Any patient admitted to UCDMC with a burn ≥ 20% TBSA ≥18 years of age
  - Exclusion Criteria:
    - <20%TBSA burn < 18 years of age

FIGURE 1 – Burn Characteristics



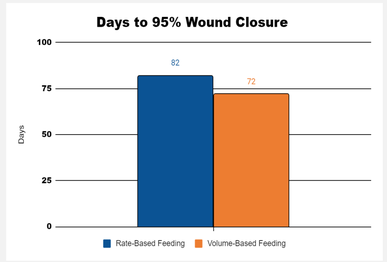


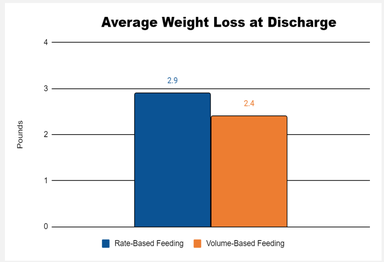
- **Average age was 46 years old**
- **21% of patients were female (n=70)**
- **79% of patients were male (n=261)**

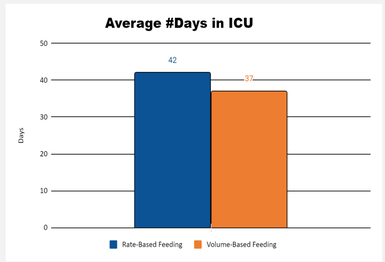


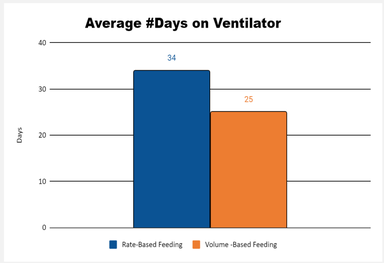
- **A total of 84 patients died from their injuries.** (N = 331)

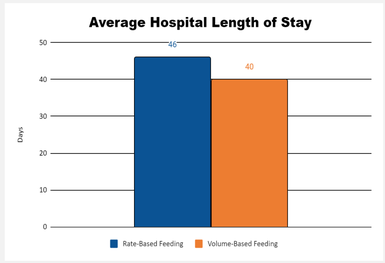
FIGURE 2 – Health Outcomes











RESULTS

- Patients receiving volume-based regimen vs rate-based regimen were found to have a decreased hospital length of stay, days in the ICU, and days on a ventilator.
- A volume-based regimen also reduced the days to 95% wound closure.
- On average, patients on a volume-based regimen experienced less weight loss.

LIMITATIONS

- Limited amount of time to collect all the relevant data such as
  - % caloric/protein needs delivered
  - lab values (albumin, transferrin, nitrogen)
- Unable to assess patient's long-term health years after discharge.

DISCUSSION

- While there isn't enough data to say that a volume-based feeding regimen is superior to a rate-based feeding regimen, our data suggests that there are fewer serious long term health outcomes when patients are on a volume-based feeding regimen.

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