DEFINITIONS, PREDICTORS AND OUTCOMES OF FEEDING INTOLERANCE IN CRITICALLY ILL CHILDREN: A SYSTEMATIC REVIEW

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CONCLUSIONS

Feeding intolerance (FI) is:

- Inconsistently defined in the current literature (n=31 studies)
- A prevalent problem in critically ill children
- More frequent with intermittent (vs. continuous) feeding
- Associated with higher mortality and infection rate

BACKGROUND

- Achieving adequate target intakes via enteral nutrition (EN) is associated with improved outcome
- Clinicians often attribute insufficient enteral intake to the term “feeding intolerance”
- A standardized and validated definition is needed for both the clinical and research setting to determine predictors and outcomes in short-term and long-term

AIMS

- 1) Evaluate feeding intolerance definitions in critically ill children
- 2) Report overall prevalence of feeding intolerance
- 3) Associate predictors and outcomes with feeding intolerance

METHODS

Systematic search: EMBASE, Medline, Cochrane, Web of Science

Keywords: Critical illness, children and feeding intolerance

Eligibility criteria:

- 1) Interventional, observational cohort or case-control study
- 2) Admission to PICU
- 3) Age: ≥ 35 weeks (GA) and < 21 year
- 4) Definition of feeding intolerance reported

Records identified

n = 3572

Screened

n = 3572

Excluded

n = 3471

Full text

n = 101

Excluded

n = 70

Included

n = 31

RESULTS

Three main categories of FI (n=31 studies)

- 1 Discontinuation of EN due to GI symptoms n = 7
- 2 Large GRV and/or GI symptoms, divided in
 - a. Large GRV and GI symptoms n = 12
 - b. Only GI symptoms n = 6
 - c. Only large GRV n = 3
- 3 Inability to achieve enteral target intake n = 3

Most reported GI symptoms

- 1 Diarrhoea
- 2 Large GRV
- 3 Abdominal distention
- 4 Vomiting
- 5 Constipation
- 6 Emesis

Prevalence

- FI reported in 17 studies and ranged from 0% to 57%
- Pooled prevalence 19% (95% CI 11% - 30%)

Predictors and Outcome

Predictors

- FI higher with intermittent versus continuous feeding
- No relation between feeding intolerance and feeding strategy (gastric vs. post-pyloric) or feeding type (standard formula vs. enriched with protein/energy, pre-/probiotics, or immunomodulation)

Outcome

- Associations between FI and mortality and infections