Maine Medical Center
Department of Emergency Medicine

Journal Club / Research Article Summary - (Adapted from Schultz Table)

Date: 8/15/2012
Presenter: Laura Klouda

ARTICLE:
- Citation: Jo, S., Kim, K., Jung, K. Rhee, J., Cho, I., Lee, C., Singer, A., (2012), The Effects of Incorporating a Pneumonia Severity Index into the Admission Protocol for Community-Acquired Pneumonia, The Journal of Emergency Medicine, 42(2), 133-138
- Country: USA
- Funding Sources:

PURPOSE:
- Research Question(s): Will incorporation of the PSI score reduce admission rates and medical costs for CAP?
- Hypothesis: Using the PSI score to help determine the need for hospitalization reduces admission rates and medical costs for CAP patients who present to the ED.

DESIGN:
- Study Design: before-and-after
- Dependent / outcome Variable(s): admission rates and medical costs
- Independent / research Variable: None

SETTING / SUBJECTS:
- Research Setting: 950-bed urban academic tertiary-care hospital with an annual ED census of 65,000 with a full electronic medical record system.
- Subjects:
  - Study population: all patients 18yrs or older whom were diagnosed with CAP and assigned to a PSI I,II, or III category (low-risk).
• Inclusion / Exclusion criteria: None

• Number (control / intervention groups): Before group—365pts, After group—174pts

• Demographics: Included: Sex, SBP, HR, RR, Temp, Hgb, WBC, Plt, CRP, Cr, # of PSI I, # of PSI II/III, Mean score of PSI II/III – Baseline demographics were similar in both groups.

• Attrition: N/A

METHODS:

• Interventions: Admission to hospital, antibiotics


• Instruments: None

• Data Collection: Performed by trained abstractors using standardized data collection forms and the patients’ electronic medical records.

DATA ANALYSIS:

• Level of Data:  Categorical  Ordinal  Interval

• Statistics Used: Student’s t-tests, chi squared or Fisher’s exact test

• What, if any, confounding variables were controlled for / adjusted for: None

RESULTS:

• Brief answers to research questions: The PSI is a useful tool to determine the need for hospitalization for CAP. It reduced the rate of admission and resulted in medical cost savings.

• Additional findings: When compared to another study by Seymann et al. which had a higher subsequent admission rate, they identified that the choice of antibiotics for outpatient management may play a role in subsequent admissions.

• Other possible explanation for findings: N/A
• **Limitations?:** 1. Study conducted in a single ED which limits its generalizations to other settings. 2. They did not assess the patient’s health-related quality of life. They note a previous study by Carratala et al that demonstrated outpatients were overall more happy with their care than inpatient (91.2 vs 79.1% satisfaction, p=0.03). 3. Follow up care was conducted by searching electronic medical records from that hospital only, no surrounding hospitals.

**IMPLICATIONS FOR PRACTICE:**
- **Applicable to this clinical practice:** Yes
- **Feasibility (cost, resources, etc):** Feasible
- **Clinically Relevant:** Yes

**LEVEL OF EVIDENCE / DECISION FOR USE:**
- Background
- Consider Replication
- Ready for use
- **Level of Evidence:**
  - Ia Evidence obtained from meta-analysis of randomized controlled trials
  - Ib Evidence obtained from at least one RCT
  - IIa Evidence obtained from at least one well-designed controlled study without randomization
  - IIb Evidence obtained from at least one other type of well-designed quasi-experimental study
  - III Well-designed non-experimental studies
  - IV Expert committee reports, opinions of experts