Implementing Pneumococcal Vaccination in Hospitalized Adults With COPD, Asthma, Current Smokers, And / Or Over Age 65 Years. A Performance Improvement Project.

Sandeep Jerath MD, Faraan Atoom MD, Ajay Parat MD, Shrenu Patel MD, Specter Tatoo MD, Shreya Specter MD, Trishna Cemcor MD, T S Dhumairajan MD, MACP, AGSF
Department of Medicine, Montefiore Medical Center, Wakefield Campus

LEARNING OBJECTIVES

- Each year in the United States, pneumococcal disease kills thousands of adults, including 18,000 adults 65 years or older.
- Vaccination against pneumococcal disease has shown remarkable reduction in infection by Streptococcus pneumonia, decreasing both morbidity and mortality nation wide.

METHODS

- In March 2017, Internal medicine house staff initiated a performance improvement (PI) project to improve the vaccination status of hospitalized patients.
- Education was provided to in patient care providers on medical floors regarding pneumonia vaccination and prevention guidelines.
- Questionnaire based data regarding pneumonia vaccination status were collected prospectively from the admitted patients.
- Patients included were those with documented diagnoses of COPD, Asthma, current smokers or age ≥ 65 years in April to May, 2017.
- Pneumococcal conjugate vaccine (PCV13) or Pneumococcal polysaccharide vaccine (PPSV23) was offered to patients meeting the indications for immunization prospectively.
- Faculty from divisions of Pulmonary Medicine and Geriatrics supervised the PI team.

RESULTS

- Our study group had 267 patients in whom pneumonia vaccine was indicated as per our inclusion criteria.
- 130 patients were current smokers, diagnosed with COPD and/or Asthma or a combination of these irrespective of age.
- 96 patients were confirmed not up to date with vaccination, out of which 55 were vaccinated prior to discharge.
- 42 patients were not vaccinated, 39 refused vaccine where as 3 was not vaccinated due to provider miss.
- Primary reason for refusal was risk of adverse reaction.
- Status of 68 patient's vaccination was uncertain or their type/year of prior vaccination was unknown; hence they were not vaccinated.

DISCUSSION

- Pneumococcal disease can cause severe infections of the lungs (pneumonia), bloodstream (bacteremia), and lining of the brain and spinal cord (meningitis).
- Of the approximately four million cases of pneumonia each year in the United States, pneumococcus (Streptococcus pneumonia) is the most common agent leading to hospitalization in all age groups.
- Patients with lung disease such as COPD, Asthma, or those who are current smokers are at an increased risk for infection.
- The best way to prevent pneumococcal disease is by getting vaccinated.
- The indications for pneumococcal vaccination are several and represented in Figure 5.
- Our project showed that vaccination status of our patients was below par.
- Refusal to be vaccinated and vaccination not being offered were two prevalent reasons for reduced vaccination status.
- Patient education regarding knowledge of vaccination was also remarkably deficient.
- Efforts to increase the awareness of recommended pneumococcal prevention and control strategies are important to decrease morbidity and mortality; education and such efforts lead to better vaccination rates.

CONCLUSIONS

- Optimization of vaccination status requires a multidisciplinary collaboration of primary care providers, infectious disease personnel in addition to patient awareness and willingness to accept vaccination.
- This PI project's results indicate that most patients were not aware of the difference between the vaccine they received or when they received it; this made successful vaccination difficult and cumbersome to providers of care.
- Majority of patients agreed to receive vaccination once counseled regarding indications and rationale, demonstrating that meaningful provider-patient discussions did matter.

BIBLIOGRAPHY

- CDC: MMWR Aug 2015, 64(35): 1-3
- https://www.cdc.gov/features/adult-pneumococcal