

COPD Patients Have Significant Disease Burden Before Diagnosis

Written by Charles Bankhead

Patients with chronic obstructive pulmonary disease (COPD) have a significant respiratory disease burden in the 2 years leading up to diagnosis, according to a report that was presented by Robert Suruki, ScD, GlaxoSmithKline, Research Triangle Park, NC.

A review of a large general practice database from the United Kingdom showed that 42% of COPD patients had one or more acute respiratory events in the 24 months prior to diagnosis. Women were more likely than men to have respiratory events prior to diagnosis, but age and Global Initiative for Obstructive Lung Disease (GOLD) stage at diagnosis were unrelated to the occurrence of acute events.

These findings offer insight into the disease burden of patients prior to COPD diagnosis and opportunities for earlier evaluation and diagnosis, said Dr. Suruki. The study also supports evidence that fewer than 20% of patients with spirometry-confirmed COPD have been diagnosed or treated by a primary care physician prior to diagnosis.

Several studies have documented a delay in the diagnosis of COPD, showing that COPD patients typically have one to four exacerbations a year. However, the nature and extent of respiratory disease burden prior to COPD diagnosis had not been well characterized. To address that issue, Dr. Suruki and colleagues performed a retrospective cohort study, using the General Practice Research Database (GPRD).

Investigators identified a cohort of 19,172 patients with new diagnoses of COPD between January 1, 2004 and December 31, 2007. Patients in the cohort had at least a 36-month history in the database, including the 24 months prior to COPD diagnosis. A new COPD diagnosis was defined as at least a 24-month COPD-free medical history prior to the entry of a COPD-related medical code into a patient's medical record. The investigators defined an acute respiratory event as a diagnosis of lower respiratory tract infection or a respiratory-related emergency room visit or hospitalization.

Patients aged 65 years and older accounted for 59% of the cohort, followed by ages 50 to 64 years (33.5%) and 35 to 49 years (7.4%). Men and women were equally represented in the cohort.

Overall, 41.8% of the cohort had one or more acute respiratory events that were documented in their medical records. Among patients who had an acute respiratory event, 23.7% had a single event in the 24 months prior to

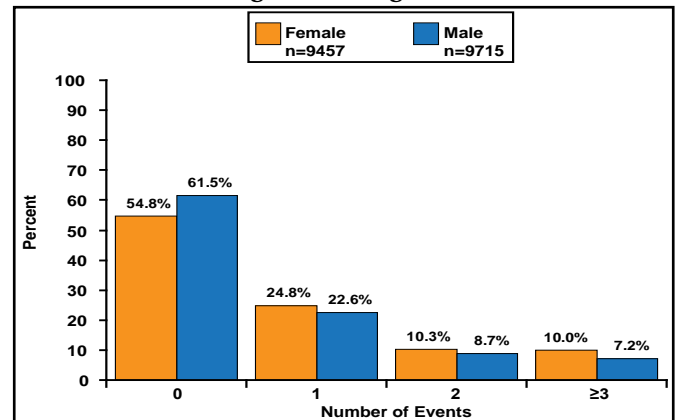
COPD diagnosis, 9.5% had two events, and 8.6% had three or more events.

Examination of the relationship between age and respiratory events showed that 23.2% to 24.6% of each age group had a single acute respiratory event prior to COPD diagnosis. Similarly, the proportion of patients who had two acute events (8.8% to 9.8%) and three or more events (8.6% to 9.1%) did not differ by age group.

Significantly more women than men had at least one respiratory event prior to COPD diagnosis (45.9% vs 38.5%; $p=0.002$). Dr. Suruki reported that 24.8% of women had one event, 10.3% had two events, and 10.0% had three or more events. The figures for men were 22.6%, 8.7%, and 7.2%, respectively (Figure 1).

The event rate did not differ by COPD severity at diagnosis, as 40.2% of patients with GOLD 2 severity had at least one acute respiratory event in the 24 months prior to diagnosis, as did 44.2% of patients with either GOLD 3 or GOLD 4 status.

Figure 1. Number of Acute Respiratory Episodes in the 24 Months Preceding COPD Diagnosis.



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The GPRD medical records showed that 90% of acute respiratory events prior to COPD diagnosis were treated with antibiotics or oral corticosteroids.

Dr. Suruki acknowledged several limitations of the study. The GPRD captures only diagnoses and procedures that are recorded by general practitioners. Additionally, pneumonia-related acute respiratory events were based on reported medical codes without confirmation by chest x-rays. Finally, respiratory events that occurred during hospital-based care might not have been recorded in the GPRD.