POSTER 37

Impact of Concomitant Use of Opioids and Benzodiazepines and Other Sedatives in Medicare Beneficiaries With Chronic Obstructive Pulmonary Disease

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This poster was originally presented at the International Conference on Pharmacoepidemiology, Montreal, Quebec, August 26-30, 2017.

BACKGROUND/OBJECTIVES: In 2016, the Food and Drug Administration issued a guidance that concomitant use of opioid analgesics and benzodiazepines is associated with adverse events, including respiratory depression. Concomitant use of opioids with non-benzodiazepine sedatives also may be associated with adverse events. Limited literature exists regarding concomitant use of these medications in older adults with chronic obstructive pulmonary disease (COPD). The objectives of the study were to determine the impact of concomitant use of opioids with benzodiazepines and other sedatives on adverse events among older Medicare beneficiaries with COPD.

METHODS: In this retrospective study of Medicare beneficiaries with COPD from 2010-2012, beneficiaries were required to be ≥65 and have 24 months of Medicare Parts A, B, and D coverage. Exposures included opioid, benzodiazepine, and sedative use, alone and in combination. Outcomes included respiratory depression-related ED visits and inpatient stays. We used logistic regression to assess the relationship between exposures and outcomes.

RESULTS: Among 836,725 eligible beneficiaries, 291,970 (35%) used opioids, 16,035 (2%) used benzodiazepines, and 68,266 (8%) used sedatives; 9,300 (1%) concomitantly used opioids and benzodiazepines, and 45,652 (6%) concomitantly used opioids and sedatives. Opioid use alone was associated with the greatest risk of respiratory depression-related ED visits (odds ratio [OR] 2.3; 95% confidence interval [CI] 1.9, 2.0) and inpatient stays (OR 2.0; 95% CI 1.9, 2.0). Increased risk of respiratory depression-related ED visits was seen in combined opioids+benzodiazepines (OR 1.4; 95% CI 1.3, 1.5) and sedatives (OR 2.2; 95% CI 2.1, 2.3). Similarly, use of opioids in combination with benzodiazepines (OR 1.4; 95% CI 1.3, 1.6) and sedatives (OR 2.0; 95% CI 1.9, 2.1) were associated with increased risk of respiratory depression-related inpatient stays.

DISCUSSION/CONCLUSIONS: This study reveals potential risks associated with use of opioids, benzodiazepines, and sedatives, alone and in combination, and provides valuable information to clinicians treating older adults with COPD.

Authors acknowledge that there was no funding accepted for this study.

POSTER 38

Utilization of a Peripheral Ultrasound Bone Density Scanner to Screen At-Risk Patients for Osteoporosis During Pharmacist-Led Wellness Clinics

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OBJECTIVE: Describe the Bone Density Screening Service and preliminary descriptive data from 2 years of wellness clinics provided by supervised student pharmacists.

METHODS: Student pharmacists under faculty supervision used a MiniOmni ultrasound peripheral bone density scanner to obtain patient's T-scores in various wellness clinics held throughout Western New York. T-scores compare an individual's scan with that of a healthy 30-year-old and categorize the scores as normal, low (osteopenic) and osteoporotic. Students were trained by faculty regarding proper use of the scanner and appropriate patient/physician follow-up as needed. Targeted participants included women greater than 40 years old and men greater than 60 years old that had not been previously diagnosed or treated for osteoporosis (OP). Participants volunteered to have their bone density measured and were given a copy of their results. Those with osteopenic and osteoporotic T-scores were referred to consult with their primary care provider for further evaluation.

RESULTS: Eighteen clinics were held between April 9, 2016 and April 21, 2018. Fourteen students were trained to operate the scanner. Student pharmacists performed 115 scans on volunteer participants. The cohort's mean age was 74.4 years (± 14.2 SD) with a median of 76 years with normal, osteopenic, and osteoporotic T-scores in 45 (39.1%), 37 (32.2%) and 33 (28.7%), respectively. There were 93 (80.9%) females scanned with a mean age of 73.6 years (median = 76 years). Female participants' results showed 24 (25.8%) osteopenic and 37 (39.8%) osteoporotic. In the males, 9 (40.9%) had T-scores indicating osteopenia and none were found to be osteoporotic.

CONCLUSIONS: Student pharmacist-led bone density screening identified nearly 61% of participants with T-scores indicating a risk of low bone mineral density necessitating further osteoporosis evaluation. Future projects will follow participants to evaluate confirmation of OP diagnosis and initiation of both pharmacological and non-pharmacological treatment interventions.

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