Title: The use of benzodiazepines in COPD: A population-based study of Norway

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Body: Background: Due to the great sufferings and high mortality risk associated with COPD, such patients tend to have a higher risk of anxiety and depression. Given that benzodiazepines (BZD) may cause respiratory depression they should be used with caution among COPD patients. Aims: We investigated the use of BZD among persons suffering from COPD by analysing 3 relevant indicators: a) the sum of defined daily doses (DDD), b) the number of prescribers involved, and c) the number of different types of BZDs used. Methods: The study builds on a linkage of national prescription data and patient-administrative data, which includes all Norwegian drug prescriptions during 2009, amounting to a total of 595,333 observations. This allowed us to compare the COPD population with other chronic patient groups and the general patient population. Regression techniques were used to identify patient and clinical characteristics associated with BZD use. Results: BZD use was 81.64 DDDs higher in COPD than in the average patient, while the difference between COPD and other chronic illnesses (cancer, stroke, heart disease and diabetes) ranged from 72.46 to 87.42 DDDs. COPD patients furthermore used more prescribers and combined more medication types than both the average patient and other chronic patients. Conclusions: While the association between COPD and anxiety or depression has been well established, the research has almost exclusively dealt with patients actively seeking health care. This study suggests a high prevalence of depression and anxiety in persons with COPD outside of the clinic or inpatient setting. The results give cause for concern because of the potential adverse respiratory effects of BZD in COPD.