THE RELATIONSHIP OF ASTHMA AND GENERALIZED ANXIETY DISORDER IN ADULTS
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OBJECTIVE: To determine the association between asthma and generalized anxiety disorder for adults utilizing a PBM. METHODS: Adult participants (age 18–65 years) were retrospectively identified in Caremark’s PBM database and assessed for asthma and generalized anxiety disorder (GAD) from January 2002–September 2002. Using pharmacy algorithms, asthmatic participants and non-asthmatic participants were identified and compared as having GAD where anxiety medication supply exceeded 27 days. Sub-analysis of the asthma population compared the utilization of specific drug classes to the association of anxiety disorder. All populations were compared using odds ratio analysis. RESULTS: A total of 4,238,840 participants (58.5% female) were evaluated over the study period; 205,964 (4.86%) were identified as being asthmatic (60.2% female, mean age 51.5 years, std 15.7 years); 210,972 (4.98%) of the study population were being treated with anti-anxiety medications; and 16,912 (0.4%) of the participants were treated with both. Asthma was associated with a significant increased likelihood of anxiety disorder (OR: 1.77; 95% CI: 1.74 to 1.80). Treatment with steroid inhalants and/or leukotriene modulators was associated with a significant decrease in the likelihood of anxiety disorders among asthmatics (OR: 0.89; 95% CI: 0.87 to 0.92). While treatment with asthma combination medications was associated with a higher significant increased likelihood of GAD among asthmatics (OR: 2.22; 95% CI: 1.72 to 2.86). CONCLUSION: These findings are consistent with previously published self-reported data showing an association between asthma and GAD. In this study, participants treated for asthma were found to be 77% more likely to be treated for GAD than the general non-asthmatic population. Participants using steroid inhalants or leukotriene modulators were 11% less likely to be treated for GAD than other asthmatics. The use of asthma combination therapy was associated with 120% increased likelihood of GAD treatment, possibly indicating the severity of the asthma condition is correlated to an increased likelihood of GAD. Increased attention needs to be placed on the management of anxiety as a comorbidity of asthma.

EVALUATING THE ECONOMIC CONSEQUENCES OF EARLY SSRI DROP-OUTS IN DEPRESSION
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OBJECTIVES: HEDIS guidelines recommend patients with depression remain on antidepressant therapy for a minimum of six months to receive full clinical benefit. This study compared differences in healthcare costs based upon length of SSRI therapy. METHODS: Continuously eligible patients >18 years of age receiving SSRI therapy diagnosed as having depression in a managed Medicaid program from July 1, 1999 to December 31, 2000 were eligible for study inclusion. Length of therapy was defined as total SSRI days supply acquired within six months of the index date. Patients were placed into the following cohorts based upon length of therapy or drug utilization patterns: 1) <90 days; 2) 90–179 days; 3) >180 days; or 4) Switched/Augmented (SA). Differences in pharmaceutical, professional, hospital and total healthcare costs were evaluated across the four cohorts over a 1-year follow-up period. RESULTS: There were 2,250 patients meeting all inclusion criteria. Only 34% of patients received >180 days of therapy. While 24% had <90 days of therapy, 21% had 90–179 days and 21% had evidence of switching/augmentation. As expected, pharmaceutical charges increased as length of therapy increased, being highest in the SA cohort. However, as length of therapy increased from <90 days to >180 days, professional services and hospital charges decreased by an average of $816 annually per patient. Total monthly healthcare costs in the >180 day cohort remained stable after at least 6 months of SSRI treatment through the full 12-months that patients were followed. CONCLUSIONS: Pharmaceutical costs increased as SSRI length of therapy improves. However, healthcare costs decreased due to reductions in hospital and professional service charges for patients maintained on SSRIs for at least the recommended six months of continuous therapy.

DRUG UTILIZATION ANALYSIS OF THE SSRI CLASS IN A MEDICAID HMO: THE FLUOXETINE EXPERIENCE
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OBJECTIVE: There is little research describing the effects of the introduction of generic fluoxetine to the SSRI market. The purpose of this analysis is to examine utilization of the SSRI class in a Pennsylvania Medicaid HMO before and after the launch of fluoxetine (generic)
into the US marketplace. METHODS: Generic fluoxetine became available in August 2001. Pharmacy claims data from January 2000 to December 2002 were used to analyze utilization of the SSRI class (consisting of the following: Celexa, Zoloft, Paxil, Effexor XR, Prozac, and fluoxetine). Utilization data for each drug in the class were separated into two group periods, pre- and post-introduction of generic fluoxetine. The pre- and post-periods consisted of 19 and 17 months respectively. Utilization of Prozac and fluoxetine was used as a reference to compare utilization of other drugs in the class. T-test analysis was used to compare and show differences between pre- and post-periods for each drug. RESULTS: Prozac/fluoxetine average monthly prescription utilization for pre- and post-periods were 3434.16 and 4349.56 respectively (p < 0.001), which indicates an average increase in monthly utilization by 27%. Celexa average monthly utilization for pre- and post-periods were 1252.95 and 2848.4 respectively (p < 0.001), demonstrating an increase in utilization by 127%. Effexor XR average monthly utilization during pre- and post-periods were 908.58 and 2084.38 respectively (p < 0.001), indicating an increase of 129%. Paxil average monthly utilization for pre- and post periods were 2834.9 and 4059.6 respectively (p < 0.001), indicating an increase of 43%. Lastly, Zoloft's average monthly utilization for pre- and post periods were 3915.05 and 4615.88 respectively (p < 0.001), which resulted in an increase of 18%. CONCLUSION: In this managed care setting a significant increase in monthly utilization was seen for all drugs with the exception of Zoloft.

NEUROLOGICAL DISEASES/DISORDERS

COST-EFFECTIVENESS OF TOPIRAMATE AS ADJUNCTIVE TREATMENT IN REFRACTORY EPILEPSY—A PROBABILISTIC ASSESSMENT OF TREATMENT STRATEGIES

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OBJECTIVES: Adopting new medical therapies is a complex decision that must take into account many factors, including differences in efficacy, tolerability, safety, and costs. Long-term comparative trials, especially among newer antiepileptic drugs (AEDs), are lacking, therefore decision models are needed to guide treatment decisions. We aimed to develop an economic model of the treatment of refractory epilepsy in the UK, and to assess the cost-effectiveness of topiramate as adjunctive treatment in refractory epilepsy compared to other newer AEDs. METHODS: A Markov model was developed to combine data from published clinical trials, cost-of-illness studies, epilepsy-related mortality surveys, and utility studies. The expected costs and utilities associated with possible treatment strategies (1st and 2nd line add-on treatments) for newly diagnosed epilepsy patients with partial seizures were calculated and compared. In those patients requiring a second-line add-on, it was assumed that the first-line add-on treatment was stopped. A probabilistic analysis was undertaken and the cost-effectiveness frontier mapped. RESULTS: First and second-line adjunctive treatment with topiramate followed by levetiracetam was the least costly add-on strategy, and this strategy had the highest probability of being cost-effective at currently accepted values of the ceiling ratio (<£30,000/QALY). Levetiracetam first-line, followed by topiramate second-line generated additional QALYs, but was more expensive, and was optimal only if the ceiling ratio fell between £30,000 to £60,000/QALY. Scenarios combining sequences of topiramate and lamotrigine deliver a few additional QALYs at substantial additional costs (became optimal only if the ceiling ratio was >£60,000/QALY), while adjunctive treatment with levetiracetam and lamotrigine are both more expensive and generate less QALYs than the other scenarios, therefore cannot be preferred. CONCLUSIONS: This model suggests that topiramate first-line adjunctive treatment followed by levetiracetam second-line (or vice versa) are cost-effective treatment strategies in patients with partial seizures refractory to other treatments.

AN ESTIMATE OF THE DIRECT COSTS OF MIGRAINE IN THE UNITED STATES USING THE MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: As sales of anti-migraine prescription medications increased by more than 10-fold between 1994 and 1999, it is important to quantify the impact on the cost of migraine treatment. The objectives of this study were to determine the direct costs of migraine in the U.S. population and to stratify those costs by type of medical care. METHODS: Retrospective analysis was conducted of the 1999 Medical Expenditure Panel Survey. The survey provided data from a nationally representative sample of 24,618 respondents and their medical care and health insurance providers. Data utilized in this study included medical conditions and use and payments for medical care. Migraineurs were identified using ICD-9-CM codes and direct costs were calculated using patient and third-party payments for migraine related medical events by type of medical care. Sample estimates were projected to the population and 95% confidence limits were calculated using the Taylor expansion method. RESULTS: Direct costs incurred per migraineur were $293. Total direct costs of migraine were $1,429,053,413. The highest proportion of these costs