PRS28

TRENDS IN PREVALENCE OF OBESITY AND MEDICAL COSTS IN ASTHMA PATIENTS IN THE UNITED STATES

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OBJECTIVES: To investigate trends in the prevalence of obesity and annual medical costs in normal and obese patients with asthma from 2001–2006. **METHODS:** This cross-sectional analysis utilized data from the 2001–2006 Medical Expenditure Panel Surveys. Self report of a diagnosis of asthma or ICD-9-CM code: 493, with exclusion of patients with pregnancy, malignancy, kidney dialysis, immunodeficiency, age <18 or ≥75 years old, or body-mass-index(BMI) of <18.5, identified 10,402 asthma patients. Patients with BMI's of ≥30 and 18.5 to <25 were classified as obese and normal, respectively. Medical costs included all treatment costs, except dental or injury costs, with costs related to the respiratory system being those associated with ICD-9 codes 460–516. Bootstrap method was used to calculate the standard error (SE) of medical costs, while t-test was used to compare medical costs. All costs were converted to 2006 U.S. dollars. Data were analyzed using SAS and STATA. **RESULTS:** Age adjusted prevalence of obesity was 25.9% and 26.4% among the total population, but 35.1% and 35.6% among asthma patients in 2001 and 2006, respectively. While average medical costs in asthma patients with normal BMI maintained a steady level from $2911 (SE:$492) in 2001 to $2630 (SE:$286) in 2006, those costs increased by 30% from $4442 (SE:$371) in 2001 to $ 5776 (SE:$401) in 2006 (P = 0.0101) in obese asthma patients. Costs related to the respiratory system in obese asthma patients did not change over time, with increases in medication costs but decreases in inpatient costs. **CONCLUSIONS:** Even though the prevalence of obesity remained consistent from 2001 to 2006, the average medical cost in asthma patients with obesity increased significantly, suggesting an upward trend in the economic burden of obesity. Effective strategies to prevent or reduce obesity should be introduced as a cost-effective intervention in asthma patients.

RESPIRATORY-RELATED DISORDERS – Patient-Reported Outcomes Studies

PRS29

CAN OLDER, CHRONICALLY ILL ADULTS USE ELECTRONIC DIARIES? COMPLIANCE RATES IN A PROSPECTIVE STUDY OF PATIENTS WITH COPD

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OBJECTIVES: Electronic data capture for daily diary and survey-style patient-reported outcomes (e-PRO) is becoming widespread. Concern has been expressed that older adults may have difficulty with this methodology, particularly e-diaries requiring independent completion and data transmission at home. Objective: To evaluate e-diary compliance rates in adults with stable and acute chronic obstructive pulmonary disease (COPD) using data from the EXACT (Exacerbations of Chronic Pulmonary Disease Tool) prospective item-reduction and validation study. **METHODS:** N = 410; 188 stable patients were asked to complete an e-diary for 7 days; 222 acute patients were to complete the e-diary for 28 days and again on days 60–67. Site coordinators provided standardized training, take-home instructions, and a toll-free helpdesk number. Patients were instructed to complete the 30-item diary each evening during a 6-hour variable window (based on bedtime) and upload data daily. Audible alarms were used as reminders. Compliance feedback (%) was provided via PDA each entry day. Site coordinators tracked compliance via web portal, contacting patients after two missed entries. Centralized compliance monitoring was performed to detect low rates and re-train sites. **RESULTS:** Mean age = 65 years (± 10); 48% male; 77% retired or disabled; 64% ≤ high school education; mean FEV-1% predicted = 51% (± 20); 92% moderate to severe disease; 75% of acute patients had moderate to severe exacerbations based on clinician rating. Study retention was 99% and 88% for the stable and acute groups, respectively; compliance rates were 96% for days 1–7 in stable patients and 94% for days 1–28 in acute patients. **CONCLUSIONS:** High compliance rates were observed in stable and acute patients with COPD participating in a study that included patient training, real-time reminders, and daily monitoring. Further study of compliance over longer periods of time and an evaluation of the most effective compliance enhancement methods within and across patient populations is warranted.

PRS30

MEDICATION NON-FULFILLMENT AND NON-PERSISTENCE AMONG 29,000 ADULTS WITH CHRONIC DISEASE: HOW OFTEN AND WHY

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OBJECTIVES: We identify commonly-reported reasons that patients with chronic disease either do not fill a new medication prescription (non-fulfillment) and/or elect to stop taking a medication without their physician telling them to do so (non-persistence). **METHODS:** Participants were sampled from a nationally-representative, internet-based panel of US adults with chronic diseases. 29,018 eligible respondents answered questions about medication fulfillment or persistence and their medication-related beliefs. We collected reasons for non-fulfillment or non-persistence. Statistical analyses were conducted to assess the association between reported reasons and chronic disease, demographics, or beliefs. **RESULTS:** Among the 11,301 respondents who had received at least one new prescription in the previous year, 3.8% reported never filling the prescription. Non-fulfillment rates ranged from 1.9% for diabetes to 11.0% for osteoporosis. Among the 28,973 respondents currently prescribed medication(s), 13.7% reported non-persistence for at least one prescription in the previous year. Non-persistence was highest for medications for osteoporosis (19.1%), and lowest for respondents with hypertension medications (5.6%). Three reasons were the most commonly reported for non-fulfillment and non-persistence: cost-related barriers (51% and 42%, respectively), medication concerns (47% and 50%), and low perceived need for medications (30% and 31%). The frequency of the reasons for non-persistence varied substantially by chronic disease (all P ≤ 0.02). **CONCLUSIONS:** Future efforts to improve medication adherence should address patients' medication concerns, perceived need for medications, and perceived medication affordability. The results of our study can inform the design and evaluation of adherence interventions.

PRS31

ASSOCIATION BETWEEN COMPLIANCE AND RESPIRATORY-RELATED COSTS FOR PATIENTS WITH COPD TREATED WITH MAINTENANCE THERAPY

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OBJECTIVES: Compare respiratory-related costs between cohorts of compliant and non-compliant patients with chronic obstructive pulmonary disease (COPD) initiated on maintenance therapy (tiotropium or fluticasone/salmeterol). **METHODS:** This retrospective cohort analysis used medical and pharmacy claims from a large national U.S. health plan. Patients were commercial health plan enrollees ≥40 years old with ≥1 tiotropium or fluticasone/salmeterol fill between December 1, 2004 and December 31, 2005, COPD, and ≥12 (up to 18) months continuous enrollment. Patients had no fills of tiotropium, fluticasone/salmeterol, salmeterol, or formoterol during a six-month pre-index period. Cohorts were "compliant" (medication possession ratio [MPR] ≥ 80%) or non-compliant" (MPR < 80%). Respiratory-related inpatient costs, medical costs, and total (medical + outpatient pharmacy) costs were modeled with generalized linear model (GLM) with log link and gamma distribution. Costs were adjusted to 2006 dollars. Covariates included cohort, demographics, and COPD severity, index pharmacy claim from pulmonologist (intensity of services), and comorbidities. **RESULTS:** The sample included 558 (12.3%) compliant and 3979 (87.7%) non-compliant subjects (total N = 4537). Compliance compared with non-compliance was associated with: higher total respiratory-related costs (cost ratio = 1.47, 95% confidence interval [CI] = 1.13–1.90, p < 0.01); lower respiratory-related medical costs (cost ratio = 0.64, CI = 0.44–0.92, p < 0.05); and lower respiratory-related inpatient costs (cost ratio = 0.49, CI = 0.32–0.75, p < 0.01). COPD severity, baseline oxygen use, and pulmonologist index claim were significantly associated with higher respiratory-related total costs and medical costs. When treatment (tiotropium vs. fluticasone/salmeterol) was added as a covariate, compliance remained significant and treatment was not. **CONCLUSIONS:** Compliance was associated with higher total respiratory-related costs, because sustained therapy was correlated with higher respiratory-related outpatient pharmacy costs, and likely also with higher respiratory-related medical services consumption. However, compliance was also associated with lower respiratory-related medical and inpatient costs. Costs were not linked directly with clinical outcomes, but outcomes may be indirectly inferred from medical and inpatient costs. Further research should examine compliance with respect to outcomes and costs.

PRS32

ADJUSTING THE NICOTINE DOSE: THE KEY TO A SUCCESSFUL, "TAILORED" METHOD OF QUITTING SMOKING

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In a recent report, AFSSAPS (the French Health Products Safety Agency) discussed to what extent the dose selected constitutes an important success factor. **OBJECTIVES:** Assess the impact of quitting smoking in subjects receiving treatment by nicotine patches, combined in some cases (and others not, depending on the practitioners' approach) with nicotine pastilles to suck. **METHODS:** Each of the subjects was included after they had expressed, during the spontaneous consultation, their desire to quit smoking. The cohort being pragmatic, no prescription advice was given, directly or indirectly, to the investigating doctors. The doctors were recruited by an independent service provider. **RESULTS:** A total of 215 subjects were recruited by 67 general practitioners. Two analysis groups were organised, the first group being treated with a transdermal device or skin patch (n = 93) and the second with a transdermal device combined with pastilles (n = 122). After 6 months, the rate of abstinence in the "Patch + Pastille" group was 62.1% versus 39.7% in the "Patch only" group, the difference observed being significant (p = 0.008). **CONCLUSIONS:** This cohort, carried out in real conditions, highlights – in subjects wishing to quit smoking – the relevance of adjusting the dose with the help of pastilles. Therefore, it would appear that, for subjects quitting smoking, combining pastilles with a transdermal nicotine substitute is indispensable. The role of the health professional initiating the quitting programme is therefore of prime importance.