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RACIAL DISPARITIES IN UTILIZATION OF ASTHMA CONTROLLER MEDICATIONS

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OBJECTIVES: Despite the recommendations from national guidelines, under-use of controller drugs (corticosteroids and anti-inflammatory drugs) still persists among asthma patients. In this study we examined whether demographic disparities exist in utilizing controller drugs. **METHODS:** The data came from four states (California, Illinois, Texas and Alabama) sample of 2004 National Asthma Survey. Study population included asthma patients that reported occurrence of at least one asthma attack in a 12 months period and were able to produce their drugs at the time of interview. Multiple logistic regression was used to determine the relationship between predictor variables and odds of using controller drugs. **RESULTS:** A total of 1824 asthma patients that reported at least one asthma attack in a 12 months period had their drugs available at the time of interview. African Americans (OR = 0.829; 95% CI: 0.820, 0.838), Hispanics (OR = 0.826; 95% CI: 0.817 0.834) and Children (age 0–17) (OR = 0.575; 95% CI: 0.570 0.580), were less likely to utilize asthma controller drugs. When interaction effects between age and race were introduced, African American children had significantly less likelihood (OR = 0.499; 95% CI: 0.489 0.508) of using controller drugs. On the other hand, even though the Hispanic population was less likely to utilize controller drugs, Hispanic children were slightly more likely to utilize them. (OR = 1.078; 95% CI: 1.061 1.096). **CONCLUSIONS:** Although the underuse of controller drugs persists among overall asthma population, demographic disparities exist. Our results support attempts to increase access to controller drugs among African Americans, Children and Hispanic asthma population.

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QUALITY OF LIFE EVALUATION OF PATIENTS WITH NON-TRANSMISSIBLE CHRONIC DISEASES ENROLLED IN A PHARMACY BENEFIT MANAGEMENT

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OBJECTIVES: Evaluation of the quality of life of patients with non-transmissible chronic diseases (NTCD) enrolled in a pharmacy benefit management (PBM) program. **METHODS:** An adapted version of the 12-Item Health Survey (SF-12) questionnaire was performed on 9753 beneficiaries of a PBM program for patients with NTCD, among them 42.5% (n = 4149) answered the questionnaire. The results were analyzed considering diseases characteristics and a health service utilization and medical expenses. Variables were expressed in averages, standard deviation (SD) and confidence interval (CI) of 95%. **RESULTS:** The mean age was 62.9 years old. The female sex represented 52% of the total. Among the beneficiaries who filled out the questionnaire, 56.3% referred one NTCD, 30.7% referred two diseases and 13.0% mentioned three or more morbid conditions. High blood pressure was the more prevalent disease (86.5%), followed by diabetes (26.1%), coronary heart disease (25.1%), Chronic obstructive pulmonary disease (7.6%), congestive heart failure (CHF-7.4%) and cerebrovascular disease (CVD-6.2%). Physical functioning (41.6%) and vitality (45.5%) represented the SF-12 dimensions with the lowest scores. The highest scores were observed for social functioning (65.3%) and pain (65.2%). The mean values for the SF-12 physical component summary (PCS-12) was 39.9 (CI 39.6–40.2) and for the mental component summary (MCS-12) was 45.1 (CI 44.7–45.4). Age ($r = 0.93$ PCS / $r = 0.71$ MCS), number of morbidities ($r = 0.99$ PCS / $r = 0.96$ MCS), per capita annual expenses ($r = 0.99$ PCS / $r = 0.95$ MCS) and type of disease were the variables with higher correlations with SF-12 summary scores. **CONCLUSIONS:** Best results for quality of life were observed among the younger people and individuals with less number of chronic diseases. The CVD and CHF had the worst averages for PCS-12 and MCS-12 summary scores. The same was observed for individuals with multiple morbidities, higher health service utilization and medical expenses.

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SMOKING-ATTRIBUTABLE BURDEN OF FOUR TOBACCO-RELATED DISEASES IN COLOMBIA IN 2007

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OBJECTIVES: Estimating disease burden for lung cancer, chronic obstructive pulmonary disease (COPD), coronary heart disease (CHD) and stroke in the adult Colombian population during 2007, and the smoking-attributable fraction of such burden. **METHODS:** A systematic review was done to identify the incidence, prevalence and mortality of the studied diseases in Colombia. This was complemented with other sources of information, such as the Colombian statistical administrative department (DANE) and International Agency for Research on Cancer (IARC) databases. DisMod-II software was used to verify and integrate the obtained estimators. These estimators were used to calculate the number of years of life lost (YLL). Similar review procedures were used to estimate smoking prevalence by gender and age group. A set of relative risks for the four diseases according to smoking status and age group was used to estimate the smoking-attributable burden. Relative risks were taken from the BENESCO (Benefits of Smoking Cessation on Outcomes) model. **RESULTS:** Total burden for lung cancer in 2007 was estimated in 34,593 YLL, 127,982 YLL for COPD, 390,260 YLL for CHD and 161,715 YLL for stroke. The four diseases cause

714,550 YLL each year, taking the smoker and non-smoker populations as a whole. Considering that about 20% of the adult Colombians smoke, after 20 years this group would have accumulated 661,825 YLL directly attributable to smoking; these YLL could have been avoided in a hypothetical situation in which smoking habit is completely eliminated. **CONCLUSIONS:** The smoking-attributable burden represents only a fraction of the total burden for these diseases; nevertheless, such percentage is important because it is at least partially preventable. With just 25% of smokers making an attempt to quit using the best available therapy in Colombia (varenicline efficacy after one year: 22.4%), then more than 4,600 deaths and 27,000 YLLs could be avoided by the end of the 20 years' horizon.

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ASSESSING ASTHMA MANAGEMENT IN AN URBAN COMMUNITY IN DELHI, INDIA

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OBJECTIVES: To investigate the basal quality of asthma management, quality of life, and asthma knowledge of asthma patients visiting a referral public Chest Hospital in Delhi, India. **METHODS:** Asthma diagnosis was confirmed by history and reversible airways obstruction in patients referred to chest clinic. Thirty-eight asthmatic patients were interviewed using three researcher-administered questionnaires on quality of asthma management; asthma quality of life questionnaire (AQLQ), and asthma knowledge. Of these, AQLQ is a standardized, widely available instrument. The other two questionnaires were based on guidelines-recommended management and were developed for an Indian clinical setting. **RESULTS:** Of the 38 patients, 24 (63%) had consulted more than two doctors before visiting the referral Chest Clinic. Only 22 (58%) patients received the diagnostic label of asthma; 10% were prescribed lung function tests, and 10% patients were aware of peak flow meter assessment. Forty-two percent of patients were prescribed inhalers, while 21% patients were aware of the purpose of each inhaler. No patients were provided any educational material. One patient advised to use peak flow meter at home, and 2 (4%) patients were given a written plan to manage the disease. AQLQ has four domains: symptoms, activity limitations, emotional function, and environmental stimuli. The mean scores in all the four domains indicated a moderate degree of impairment in quality of life. The Asthma Knowledge questionnaire revealed that patients had a poor knowledge of etiology, pathophysiology, and medication as well as assessment of severity of asthma. **CONCLUSIONS:** Study provides the evidence of ineffective patient-doctor contact, asthma management, and patient education at primary and secondary care levels. Implementation of standard asthma management is urgently needed in India. Prescriber education at all levels of health care may also improve quality of treatment. Proper patient education will enable patients to comply with treatment regimen and consequently, improve the quality of life.

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DATA ANALYSIS TECHNIQUES APPLIED TO DISCOVER TRENDS AND PATTERNS IN PEDIATRIC ASTHMA

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OBJECTIVES: To apply data analysis techniques to analyze data on pediatric asthma and discover the factors that were most related to pediatric asthma. **METHODS:** The data used for the analysis is HCUP (Health care Cost and Utilization Project) NIS (Nationwide Inpatient Sample) data. Data mining is the process of sorting through large amounts of data. In the current analysis, data analysis was done in two stages. The first step was data exploration where in statistical techniques like frequencies and kernel density estimation was used to explore data and establish basic knowledge about the data. Inference was done by forming hypothesis about data and establishing statistical significance of various factors in determining a variable by using techniques such as hypothesis testing, logistic regression and linear regression. SAS Enterprise Guide TM, a GUI based application that provides a guided mechanism to exploit the power of SAS, a powerful statistical analysis tool, was used to perform various data analysis tasks. **RESULTS:** Thirty-five percent of the Patients were of age two or less. Pediatric Asthma led to death only in 0.07% of Asthma Patients. Pediatric Asthma was more common in male than in female. Highest Number of patients was Whites and the Ratio of Number of patients to the total population of a race was found to be the highest for Black, followed by Hispanic. Eighty percent of the Asthma Patients had an Annual Household Income of \$60,000 or less. 5% of pediatric asthma patients being admitted through emergency department and 53% of admission types were "Emergency". **CONCLUSIONS:** Based on the analysis it could be concluded that various demographic factors had influence on Pediatric Asthma. The results of this study could be used to predict who have a higher probability of getting pediatric asthma based on various factors and preventive measures could be taken to avoid the disease.