variables base case were robust in an interval of ±20%. CONCLUSIONS: Viscousp-lementation is a cost-saving alternative for the treatment of moderate osteoarthritis of knee compared to arthroscopy/lavage in the perspective of Brazilian’s Private Sector.

ECONOMIC BURDEN OF RHEUMATOID ARTHRITIS IN BRAZILIAN PRIVATE HEALTH SYSTEM

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OBJECTIVES: Assess RA health care resource utilization in a sample of Brazilian private health system beneficiaries. METHODS: Three Health Management Organization (HMOs) databases were analyzed retrospectively, involving 1,057,033 people, corresponding to approximately 3% of total private health system beneficiaries in Brazil. The analysis was done in 35 months (from January 2004 to November 2007). The following health care resources were considered: clinical appointment, hospitalization, emergency service, drugs and laboratory exams. All RA patients were compared to non-RA patients in terms of health care resource usage. RESULTS: From 1,057,033 people analyzed, 4,817 (0.46%) were classified as having RA, being the prevalence rate among women and men 3.5:1. Those patients concentrated 4.8% of the total costs of whole population analyzed. The cost per month/peer member (cost ppmpm) of RA patients was 6.6 times higher than non-RA population. In addition, RA patients compared to non-RA patients were hospitalized 3.4 and 11.3 times higher clinical appointments and hospitalization, respectively. Considering other chronic diseases (hypertension, heart failure, asthma, bronchitis and diabetes mellitus patients), RA patients demonstrated 1.4 and 3.1 times higher clinical appointments and hospitalization, respectively. Considering other chronic diseases (hypertension, heart failure, asthma, bronchitis and diabetes mellitus patients), RA patients demonstrated 1.4 and 3.1 times higher clinical appointments and hospitalization, respectively. CONCLUSIONS: Our results reinforce the importance of RA as the disease with the most impact on health care costs, showing that the patients with chronic disease undergoing systemic anti-tuberculosis medications. Considering health care resources the study showed that RA patients had a higher utilization than non-RA patients, confirming the literature about the important cost of the disease in the clinical practice. In addition we suggest an important association between RA and comorbidities, especially CVD. In conclusion, RA may require specific strategies by decision makers to optimize its management and reduce cost.

MUSCULAR-SKELETAL DISORDERS – Patient-Reported Outcomes Studies

PERCEPTIONS OF TREATMENT OUTCOMES AMONG NEW USERS OF TNF ANTAGONISTS FOR THE TREATMENT OF RHEUMATOID ARTHRITIS

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OBJECTIVES: To assess whether patients with rheumatoid arthritis (RA) who are newly initiated on tumor necrosis factor (TNF) antagonists adalimumab, etanercept, and infliximab experience different in treatment outcomes. METHODS: Study data were derived from the 2006 RA Survey (Waves 7 and 8), a nationally (United States) representative survey of adults with RA conducted by Consumer Health Sciences International. Only patients currently taking TNF antagonists were included. Patients within the sample that reported no prior use of any TNF antagonist were excluded to avoid potential response bias. Responses to 19 questions on various aspects of treatment related to effectiveness, safety, and patient convenience were collected and converted from an ordered-response scale to a binary scale (1 = favorable response [“strongly agree” or “agree”] vs. 0 = nonfavorable response (“neither agree nor disagree,” “disagree,” or “strongly disagree”). Chi-square tests identified significant differences between treatments in the percentages of patients reporting favorable responses (p < 0.05), and odds ratios (ORs) were determined using logistic regression, with controls for age and duration of RA. RESULTS: The study sample included 203 patients currently taking adalimumab (n = 83), etanercept (n = 113), or infliximab (n = 87). The odds of reporting favorable outcomes were approximately 2 times greater with adalimumab vs. etanercept for convenience (OR = 1.96), no long-term risks (OR = 1.93), no short-term adverse effects (OR = 1.84), symptom relief within 2 weeks (OR = 1.98), and increased energy within 2 weeks (OR = 2.29). The odds of reporting favorable outcomes with adalimumab vs. infliximab were greater for convenience (OR = 2.78), and no long-term risks (OR = 2.27). The odds of reporting favorable outcomes with infliximab vs. etanercept differed only for symptom relief within 2 weeks (OR = 2.27) and increased energy within 2 weeks (OR = 2.21, p = 0.03 for all comparisons). CONCLUSIONS: RA patients initiating TNF-antagonist therapy perceived adalimumab to be more convenient than etanercept or infliximab. Adalimumab was also perceived to offer rapid symptom relief and fewer risks compared with etanercept, and fewer long-term risks vs. infliximab.

NEUROLOGICAL DISORDERS – Cost Studies

BUDGET IMPACT ANALYSIS OF FIXED DOSAGE COMBINATION (FDC) OF LEVODOPA/CARBDIOPA/ENTACAPONE IN PARKINSON DISEASE TREATMENT BY DISTRITO FEDERAL PUBLIC HEALTH CARE SYSTEM

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OBJECTIVES: To determine the budget impact of incorporating levodopa/carbidopa/entacapone FDC in Distrito Federal’s public reimbursement system for Parkinson disease treatment. METHODS: In present analysis, we considered the quantity reimbursed for Distrito Federal in 2007 in Parkinson Disease treatment, based on DATASUS (National public health care database). Results were converted in US Dollars ($52.27/USD 100). It was considered the medications costs used in Distrito Federal’s funding: USD 0.04/tablet for both combinations of levodopa/carbidopa; USD 0.33/tablet for both combinations of levodopa/benserazide; USD 0.19/tablet for entacapone. Levodopa/benserazide’s presentations have different prices, however to simplify the analysis, we took the price of the most used presentation (78% in units) and considered it for both. According to DATASUS, considering all levodopa’s combinations reimbursed in Distrito Federal in 2007, 62% was levodopa/carbidopa and 38% was levodopa/benserazide. The price of all levodopa/carbidopa/entacapone FDC’s were fixed in USD 0.97/tablet. A one-way sensitivity analysis was performed. RESULTS: In Distrito Federal, the quantities reimbursed in 2007 for entacapone were 43,180 and for all levodopa’s combinations were 395,110. Considering the prices used in Distrito Federal’s funding, the total of expenses was US$131,311. In this scenario, if levodopa/carbidopa/entacapone FDC is used in the place of free dosage combinations, then the total of expenses was estimated in US$122,369. The sensitivity analysis on cost variables in an interval of ±20% was robust with the base analysis. CONCLUSIONS: This budget impact analysis showed a potential economy of US$8942 if levodopa/carbidopa/entacapone FDC is incorporated in Distrito Federal’s public reimbursement system. Besides, the use of FDC can provide higher adherence of patients to the treatment, once it is easier administering one tablet instead of two or more; the patients prefer to take less quantity of tablets, the switches of dosage are cheaper.

BUDGET IMPACT ANALYSIS OF FIXED DOSAGE COMBINATION (FDC) OF LEVODOPA/CARBDIOPA/ENTACAPONE IN PARKINSON DISEASE TREATMENT BY SAO PAULO PUBLIC HEALTH CARE SYSTEM

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OBJECTIVES: To determine the budget impact of incorporating levodopa/carbidopa/entacapone FDC in Sao Paulo’s public reimbursement system for Parkinson disease treatment. METHODS: In present analysis, it was considered the quantity reimbursed...
for São Paulo’s state in 2007 in Parkinson Disease treatment, based on DATASUS (National public health care database). Results were converted in US Dollars ($2.27/USD1.00). It was considered the medications costs used in São Paulo state’s bidding: USD0.04/tablet for both combinations of levodopa/carbidopa; USD 0.51/tablet for the two combinations of levodopa/benserazide. The price of levodopa/benserazide’s presentations have different prices, however to simplify the analysis, we took the price of the most used presentation (89% in units) and considered it for both. According to DATASUS, considering all levodopas’ combinations reimbursed in São Paulo in 2007, 40% was levodopa/carbidopa and 60% was levodopa/benserazide. The price of all levodopa/carbidopa/entacapone FDC’s were fixed in USD 0.97/tablet. A one-way sensitivity analysis was performed. RESULTS: In São Paulo’s state, the quantities reimbursed in 2007 for entacapone were 1,431,692 for all levodopas’ combinations were 8,765,930. Considering the prices used in São Paulo’s bidding, the total of expenses was USD$4,217,586. In this scenario, if levodopa/carbidopa/entacapone FDC is used in the place of free dosage combinations, then the total of expenses was estimated in USD$3,771,147. The sensitivity analysis on cost variables in an interval of ±20% was robust with the base analysis. CONCLUSIONS: This budget impact analysis showed a potential economy of USD$446,438 if levodopa/carbidopa/entacapone FDC is incorporated in São Paulo’s public reimbursement system. Besides, the use of FDC can provide higher adherence of patients to the treatment, once it is easier administrating one tablet instead of two or more; the patients prefer to take less quantity of tablets; the switches of dosage are easier.

COST-EFFECTIVENESS ANALYSIS OF INTRAVENOUS IMMUNOGLOBULIN AND PLASMA EXCHANGE THERAPIES FOR THE TREATMENT OF GUILLAIN-BARRÉ SYNDROME IN A UNIVERSITY-BASED HOSPITAL IN THE SOUTH OF BRAZIL

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OBJECTIVES: Compare the cost-effectiveness of two distinct therapies, Intravenous Immunoglobulin (IVIg) and Plasma Exchange (PE) in the treatment of Guillain-Barré Syndrome, concerning the public health care system. METHODS: A cross-sectional, economical analysis was conducted, including patients treated for GBS in the period from June 2003 through June, 2008 in a public university affiliated hospital in south Brazil. The cost-effectiveness of the use of IVIg and PE in such patients was studied through the cost minimization method, considering direct medical costs only (albumin, IVIg, supplies, professional, hotel and capital costs; 2008 prices). Data were collected by chart reviews. RESULTS: The total treatment cost for PE in a single patient was USD$6,058.85 (±1,701.78 SD), and the same expense for IVIg was USD$18,344.57 (±12,259.56 SD) (p = 0.035). Total inpatient cost was USD$25,799.79 (±11,714.54 SD) in the PE group, and USD$34,768.16 (±27,766.01 SD) (p = 0.330) in the IVIg group. The main clinical outcome was improvement in the 7-point disability grade scale. The median of that measure in patients admitted with a severity grade 3 treated either with PE and IVIg was the same. Secondary outcomes, such as in-hospital stay, ICU stay, and number of days on mechanical ventilation revealed no statistically significant differences among the treatments. CONCLUSIONS: As the mean expenses of both therapeutic options are compared, one clearly stands-out as less onerous. We concluded that, in a public university affiliated hospital, plasma exchange is more cost-effective than intravenous immunoglobulin.

RESPIRATORY-RELATED DISORDERS – Clinical Outcomes Studies

TOBACCO AND INCOME LEVEL: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: The association between income level (IL) and tobacco consumption, and its consequences, varies over time and between regions of the world. The aim of this study was to assess this association. METHODS: We included observational studies, published in the last 20 years, with direct assessment of IL. We searched in the main literature databases, conferences index, tobacco control agencies, and contacted experts. Two independent researchers screened titles and abstracts (agreement > 90). The full text of selected studies and its risk of bias (using a STROBE checklist) were assessed by two researchers. One reviewer extracted data, and a second one checked it. Disagreements were solved by consensus. We performed a random effects meta-analysis based on adjusted ORs using Stata 9.0. We performed pre-planned subgroup and sensitivity analysis to evaluate heterogeneity (I2 > 50%) by calendar decade, continent, WHO region, country standardized mortality rate, risk of bias, gender, and age. RESULTS: Out of 9375 references we finally included 137 articles (86% cross-sectional studies). A total of 125 papers (N = 51,146,096 subjects) reported smoking prevalence, being higher among people with Low-IL than High-IL (OR 1.48, 95%CI 1.38-1.59). This finding was marked especially after the ‘90s decade –except for the Eastern Mediterranean Region. Considering only studies with the three IL categories, a gradient was observed (for both genders): Low-IL vs. High-IL OR 1.34 (1.39-1.72), and Middle-IL vs. High-IL 1.23 (1.16-1.33). Twenty studies (N = 987,885) reported adjusted data for tobacco attributable diseases (coronary heart disease; pulmonary disease; low birth weight, cardiovascular and all cause death). All studies, except three with null effect, exhibited statistically significant higher ORs of tobacco outcomes as household income decreased. The median proportion of tobacco to household expenditures was 10.7%, 3.7%, and 1.8% in Low-IL, Medium-IL and High-IL respectively. CONCLUSIONS: This meta-analysis confirmed and quantified an inverse relationship between IL and smoking prevalence and consequences.

The additional costs incorporation of fluticasone/salmeterol (SERETIDE®) in SUS were between US$70,438 and US$5 millions. The best scenario (20%) was 20% patients in usual care and 80% in Fluticasone/salmeterol (SERETIDE®). In sensitivity analysis some parameters (price, effectiveness) were changed and the scenario 2 remains the best. In this scenario occurred in the incremental cost per patient was US$2.21 and incremental cost per reduction exacerbation was US$43.13. If we analysed only medication costs the incorporation is cost saving (US$9 millions). CONCLUSIONS: SERETIDE® offers the protection against exacerbations at low cost compared with TIO. If all costs are computed is needed an incremental budget of US$2.21 per patient. Their incorporation is cost saving and can to extend the pharmacotherapy for more patients. The results showed the need of guidelines to assure the best resource allocation.

A MICROSIMULATION ECONOMIC MODEL TO EVALUATE THE DISEASE BURDEN ASSOCIATED WITH SMOKING IN ARGENTINA

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OBJECTIVES: To perform a comprehensive evaluation of tobacco-related disease burden in Argentina, including both its health effects and its economic impact. METHODS: A first order Monte Carlo, or probabilistic microsimulation of individual patients was built, incorporating the natural history, costs and quality of life impact of all the tobacco-related adult diseases: coronary and non-coronary heart diseases, cerebrovascular disease, COPD, pneumonia/influenza, lung cancer as well as 9 other neoplasms. Systematic searches were performed in bibliographic database, grey literature and experts. RESULTS: The model showed adequate internal validity, with all simulated events rates falling within ±10% of the source publications. R2 between predicted and observed values ranged from 0.758 to 0.999. Third order validation showed an excellent correlation between published data and model results. Health conditions related to smoking were responsible of 129,630 annual deaths in Argentina, 25% of them (32,167) attributable to tobacco. The annual costs for the country were of about $9.5 billion pesos (Argentinian pesos, 2006s), smoking being responsible for 34%. Male smokers lost 3.5 years of life expectancy as compared to their non-smoking counterparts. A total of 721,285 total annual DALYs were attributable to tobacco, among which the main conditions were cardiovascular disease, lung cancer and COPD. Premature deaths accounted for three quarters of DALYs. CONCLUSIONS: These results confirm the local relevance of smoking as an important health economic burden in our country. They may be of great importance as strategic inputs for decision-makers, facing the ratification of the Framework Convention on Tobacco Control goals.