Abstracts

and 15-45% against pneumococcal pneumonia. Finally, the budget-impact associated with the percentage of people vaccinated was analyzed. RESULTS: The mean effectiveness of pneumococcal vaccination in the Turkish population was 31.611 LYC (95% CI: 30.736-32.467) in the elderly and 13.353 LYC (95% CI: 12.899-13.716) in at-risk adults. The vaccination program was found to be cost saving with mean incremental savings of 476 million (95% CI: 170 to 122) in the elderly and 635 million (95% CI: 74 to 59) in at-risk adults. Budget impact analysis showed that the total cost saved increased with increasing vaccine coverage rate. CONCLUSIONS: This analysis suggests that pneumococcal vaccination of elderly and at-risk adults is associated with a positive return on investment from a public payer perspective and supports the continued recommendation of pneumococcal vaccines, as well as their full funding.

APPLYING THE EFFICIENCY FRONTIER IN PHARMACEUTICAL POLICY MAKING. A CASE STUDY IN TREATMENT RESISTANT HIV/AIDS PATIENTS IN THE GERMAN SETTING

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OBJECTIVES: Recently, the German IQWIG has proposed the efficiency frontier approach to support decisions regarding reimbursed price levels, and published recommendations for the target population (POWER 1&2, RESIST 1&2, MOTIVATE 1&2, DUET 1&2, BENCHMARK 1&2), of which the following information was extracted for all arms: baseline characteristics; % of patients with a viral load <50 copies/mL, at week 48 or end of treatment (EOT); adherence (EN) use as co-medication and its impact on outcome and the use of antiretroviral therapies during the studies. Unit drug costs were obtained from Rote Liste®. A one year time horizon was chosen. The results of all treatment arms (average and < or = EN) were plotted on a coordinate system with annual drug costs per patient on the horizontal axis and response rates on the vertical axis, latter after adjustment for baseline characteristics using logistic regression on the pooled raw data of the DUET trials. RESULTS: Twenty-six cost-effectivity points were created representing all compared strategies. Drug costs per year per patient varied between €22,186 and €61,715. Response rates varied between 8.4% and 68.7%. All interventions appearing on the frontier were combinations including etravirine. The last line segment of the frontier had a slope of €1354 per extra percentage response. CONCLUSIONS: Constructing an efficiency frontier plot was feasible in this indication. However, detailed baseline characteristics and logistic regression were required for adjustment. Regions containing etravirine appear to be economically efficient. Longer term evaluation including all health care costs could add valuable information, but would require many assumptions given the limited available data for the 26 compared strategies.

ECONOMIC ANALYSIS OF PNEUMOCOCCAL VACCINATION FOR THE ELDERLY IN TAIWAN

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OBJECTIVES: Pneumococcal-infected diseases (PID) including pneumonia and bacteremia are responsible for 21% of mortality among the elderly aged over 65 in Taiwan. They are also the major causes of hospital admission for the elderly. Although proved effective in preventing elderly PID, the cost and effectiveness of pneumococcal vaccination (PV) has not been fully acknowledged in Taiwan. This study aimed to apply an economic analysis of PV in preventing elderly hospitalization due to PID. METHODS: In a payer’s perspective, we conducted a five-year cost-minimization analysis for the PV in preventing elderly PID hospitalization. The efficacy data of PV was extracted from the related results of clinical trials or systematic reviews, while the epidemiologic and cost data of elderly PID hospitalization were obtained from the reimbursement data base of National Health Insurance (NHI) of Taiwan in 2005. RESULTS: The elderly accounts for 33.3% of the PID hospitalization events in one year. The mean hospitalization days and mean cost for the elderly were 17.75  (13.78 days and 111.1217± 137.594 national Taiwan dollars (NTD), respectively, which were the longest and the most expensive among all age groups. PV was estimated to save the Bureau of National Health Insurance about 4,442 and 9,574,953,100 NTD per year for a single and all elderly respectively, even with the progressively decreased efficacy, PV is still a cost-saving approach for the elderly. CONCLUSIONS: Pneumococcal vaccination is cost-saving. Local cohort and pragmatic studies are needed for long-term follow up and cost-effectiveness analysis.

AN ECONOMIC EVALUATION OF POSACONAZOLE IN THE TREATMENT OF INVASIVE ASPERGILLOSIS WITH REFRACTORY DISEASE IN KOREA

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OBJECTIVES: This study conducted the cost minimization analysis (CMA) of Posaconazole compared with currently licensed antifungal agents including Voriconazole (IV and oral), Caspofungin, and L-AMB in the treatment of confirmed infection of invasive aspergillosis with refractory disease in Korea. METHODS: Through a systematic review of preceding literature, we firstly figure out the factors that determine clinical success and clinical failure for each of the comparators and secondly investigate whether Posaconazole decreases infectious morbidity and mortality of the patients from RCTs with various conditions. Without clinical or observational data of Posaconazole and other comparators of the treatment for Korean patients, this study indirectly adopted the determinants and probabilities from the clinical results in all languages to decision tree model for antifungal treatment to estimate the clinical outcome and decision sensitivity analysis with a base case analysis. This study also estimated the direct costs associated with invasive aspergillosis treatment. RESULTS: For the antifungal treatment, the study showed that Posaconazole incurs smaller drug costs than Voriconazole depending upon the almost similar effectiveness between the two AF agents. Based on the derived drug price, patients being treated with voriconazole had a slope of 61.90/400mg and average KRW:6,934,591 (€4,387.30) would be saved compared with the expected drug cost of Voriconazole, Caspofungin, and L-AMB based upon their total drug costs. CONCLUSIONS: This study revealed that invasive aspergillosis treatment with Posaconazole is cost-saving method in Korea compared to Voriconazole and other licensed antifungal agents.

COST MINIMIZATION ANALYSIS FOR GENERIC AND BRAND NAME ANTIBIOTICS

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OBJECTIVES: Iatrogenic antibiotic usage is still common in Turkey; and antibiotics are still the most commonly prescribed drugs in Turkey. The aim of this study was to evaluate the effects of generic drug usage in inpatient clinics in Turkey, compared to brand names. METHODS: Data was collected from the inpatient clinic of the Infectious Disease Service of a University Hospital, in 2007. A total of 92 patients were treated during this period, and 73% of them received antibiotics. The name of the antibiotic, dosage and the duration of use were recorded by the researcher from patient records. The price of the antibiotics were extracted from the Ministry of Health’s official price list. The cost of the bio-equivalent and the cheapest generic drugs were compared with the original drugs. RESULTS: During 2007, the cost of the antibiotics used at the Infectious Disease inpatient clinic was $39,792.6, compared to the cheapest generics, which would have been $38,396.3. In this clinic, $20.8 per patient was saved for the brand name antibiotics each month. If the 2007 results were repeated, the cost for antibiotics in this hospital per year are considered, an average of $47,484,980.1 per year is being paid for brand name antibiotics. CONCLUSIONS: Considering antibiotics are the most commonly used medication in Turkey (17% of total drug usage), it can easily be understood how the use of brand name drugs rather than Generics would lead to a vast economic burden. This shows the importance of promoting the use of generic antibiotics and the need for cost-minimization analysis.

COST ANALYSIS OF THE MASS VACCINATION CAMPAIGN AGAINST HEPATITIS B IN ADOLESCENTS IN IRAN

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OBJECTIVES: A 3-round hepatitis-B immunization campaign covering 1989-born adolescents was implemented in 2007 in Iran. This study was conducted for cost estimation and analysis of this campaign. METHODS: This study was conducted applying health system perspective. The cost variables considered were recurrent costs, personnel costs, publicity costs, transportation costs and overhead costs. As the campaign was implemented using health system facilities, there is no marginal costs for capital items such as building and refrigerator. We provided the required data to estimate recurrent costs, national-level supervision and publicity from existing data and interview with experts. To estimate costs of vaccine administration, provincial supervision and outreach, we provided data from some of the provinces, then expanded the results to the country. We used WHO recommended proportions to estimate transportation and overhead costs. We used administrative data to estimate vaccination coverage. RESULTS: At the end of the third round, 70.0% of target population received full doses, 74.5% received at least 2 doses and 78.3% received at least 1 dose of vaccine. Total cost of the campaign was estimated as $8.991 million including 24% for recurrent, 42% for personnel, 31% for transportation, 0.1% for publicity and 3% for overhead. Total cost was estimated as $2.1 per dose-administered. Sensitivity analysis indicated that increasing the cost of 20 years old vaccine dosage will decrease the cost to $1.9 per dose-administered. Decreasing campaign coverage and using above 20 years old vaccine dosage will increase the cost to $2.5. Considering vaccine immunogenicity based on Iranian studies, the cost was underestimated $7.1-7.2 per person-vaccinated protected. CONCLUSIONS: The costs of this campaign are much lower than what in similar programs in developed countries. Acceptable campaign coverage and lower health service cost in Iran can be responsible. More attention is needed to publicity costs in further campaigns.