ECONOMIC BURDEN OF PRIMARY IMMUNODEFICIENCY IN NATIONAL INSTITUTE OF PEDIATRICS IN MEXICO

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Background: Observational and retrospective study examining the economic burden of disease in children with Primary Immunodeficiency (PID) in the National Institute of Pediatrics in Mexico (INP).

Objectives: The aim of this study was to describe health care resource use (HCRU) and disease cost burden in both, children with PID in treatment and children with PID belatedly diagnosed.

Methods: 34 cases of PID were enrolled, registered from 2010 to 2015 in INP (47% agammaglobulinemic type and 29% with common variable immunodeficiency). Clinical histories were reviewed and it was developed a medical-economic model for register HCRU. Local sourced unit costs were used in the calculation for total costs and cost per capita was estimated by using INP attended reference population.

Results: Overall, the mean annual cost for patients with PID in treatment was in $11,564 USD and the mean annual cost for children with PID belatedly diagnosed was $16,019 USD. Main cost for patients with belatedly diagnosed were produced for infections: Pneumonia $6,785 USD, Acute Otitis Media $733 USD, Acute Respiratory Infection (upper tract) $843 USD, Sinusitis $609 USD, Septic Arthritis $1,242 USD and Infectious Gastroenteritis $5,805 USD. Cost per capita for patients with PID in treatment were estimated in $0.023 USD and cost per capita for patient with PID belatedly diagnosed was estimated in $0.031 USD.

Conclusions: Belatedly diagnosis for PID in INP has a significant impact on HCRU and associated costs. Timely and effective diagnosis and management of this group of diseases has the potential to reduce disease burden and health care costs.

Keywords: primary immunodeficiency, economic burden, cost of illness, health care costs, cost per capita.

It was determined to develop a Cost Analysis Model from the information contained in the clinical records of 34 patients from National Institute of Pediatrics (INP - Mexico). The economic evaluation methodology was designed for comparing: (1) Costs of No-treatment (infections) and (2) Costs of Standardized Treatment.

1. For the National Institute of Pediatrics, treatment delay represents annual direct costs for USD $16,019 (average per case), mainly for susceptibility to infections.

2. For the 34 cases of INP, the difference in treatment vs no-treatment implicates annual savings for USD $151,476.

3. Difference of USD $0.0088 per capita, implicates for Mexico annual savings for USD $1,050,093 (Reference population: 120 Million People)

4. Financially, expenses for each year of diagnosis delay only could be recovered 7.5 años later after starting treatment.

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