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Catastrophic health expenses and impoverishment of households of patients with rheumatoid arthritis

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ABSTRACT

Background: The cost of certain diseases may lead to catastrophic expenses and impoverishment of households without full financial support by the state and other organizations.
Objective: To determine the socioeconomic impact of the rheumatoid arthritis (RA) cost in the context of catastrophic expenses and impoverishment.
Patients and methods: This is a cohort-nested cross-sectional multicenter study on the cost of RA in Mexican households with partial, full, or private health care coverage. Catastrophic expenses referred to health expenses totaling >30% of the total household income. Impoverishment defined those households that could not afford the Mexican basic food basket (BFB).
Results: We included 262 patients with a mean monthly household income (US dollars) of $376 (0–18,890.63). In all, 50.8%, 35.5%, and 13.7% of the patients had partial, full, or private health care coverage, respectively. RA annual cost was $ 4653.0 *per* patient (65% direct cost, 35% indirect). RA cost caused catastrophic expenses in 46.9% of households, which in the logistic regression analysis were significantly associated with the type of health care coverage (OR 2.7, 95%CI 1.6–4.7) and disease duration (OR 1.024, 95%CI 1.002–1.046). Impoverishment occurred in 66.8% of households and was associated with catastrophic expenses (OR 3.6, 95%CI 1.04–14.1), high health assessment questionnaire scores (OR 4.84 95%CI 1.01–23.3), and low socioeconomic level (OR 4.66, 95%CI 1.37–15.87).
Conclusion: The cost of RA in Mexican households, particularly those lacking full health coverage leads to catastrophic expenses and impoverishment. These findings could be the same in countries with fragmented health care systems.

Gastos catastróficos en salud y el empobrecimiento de los hogares de los pacientes con artritis reumatoide

Palabras clave:
Cuidado de la salud

RESUMEN

Antecedentes: El costo de ciertas enfermedades puede dar lugar a gastos catastróficos y el empobrecimiento de las familias sin apoyo financiero por los organismos del Estado y otros.

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Política de la salud
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Factores socioeconómicos

Objetivo: Determinar el impacto socioeconómico de la artritis reumatoide (AR) sobre costos en el contexto de los gastos catastróficos y el empobrecimiento.
Pacientes y métodos: Se trata de una cohorte anidada en un estudio transversal y multicéntrico sobre el costo de la AR en los hogares mexicanos con cobertura parcial, completa o privado de salud. Los gastos catastróficos se definieron como aquellos que ocupaban > 30% del ingreso total del hogar. Empobrecimiento se definió como los hogares que no podían pagar la canasta básica de alimentos de México (CBA).
Resultados: Se incluyeron 262 pacientes con un ingreso familiar promedio mensual (dólares americanos) de $ 376 (0-18,890.63). En total, el 50,8%, 35,5% y 13,7% de los pacientes tenían cobertura médica parcial, completa o privado, respectivamente. El costo anual de la AR fue de $ 5,534.8 por paciente (65% los costos directos, el 35% indirecto).La AR generó gastos catastróficos en el 46,9% de los hogares, que en el análisis de regresión logística se asociaron significativamente con el tipo de cobertura de salud (OR 2,7, IC 95% 1.6 a 4.7) y la duración de la enfermedad (OR 1,024, IC del 95% 1.002-1,046). El empobrecimiento se produjo en el 66,8% de los hogares y se asoció con gastos catastróficos (OR 3,6, IC 95% 1.04 a 14.1), los altos puntajes del cuestionario de Evaluación de Salud (OR 4,84 IC 95%: 1,01 a 23,3), y el nivel socioeconómico bajo (OR 4.66, IC 95%: 1.37-15.87).
Conclusión: El costo de la AR en los hogares mexicanos, en particular los que no tienen cobertura de salud completa lleva a los gastos catastróficos y el empobrecimiento. Estos hallazgos podrían ser los mismo en los países con sistemas de salud fragmentados.

Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory rheumatic disease affecting 0.5–1.0% of the population in some developed countries[1] and 1.6% in the Mexican population.[2] Short and long-term consequences of RA include chronic pain, impaired functioning,[3] significant comorbidity, and reduced life expectancy.[4] The cost of RA in some European countries has been estimated in €45.3 billion and in the United States of America (USA) in €41.6 billion.[5] Interestingly, the economic burden caused by the disease in the population is important[6–16] and paradoxically is high in countries with low gross domestic product (GDP).[17] Nevertheless, there is a paucity of information from developing countries, particularly those in which the health care system is fragmented and diverse.

In México, the state covers ∼47% of the population with full and ∼49% with partial health care services by means of institutions of social security and the public health care system. Affiliates to the former are provided with all health care services and resources, including medications, whereas patients attending the latter rely on out-of-pocket expenses (OPEs) to cover most of the cost of their medical care.[18–21] In the year 2000, 52% of the cost of health in México – which represented 5.8% of the GDP, corresponded to OPEs; public finances covered 46% and health care insurance companies 2%.[19,20] It is estimated that 25% of RA disease direct cost in México corresponds to OPEs.[21]

OPEs are linked to catastrophic expenses and household impoverishment,[18–22] yet the information on its effect in rheumatic diseases is scarce. It is remarkable that as consequence of RA, 2.4–19.2% of the household income is expended as OPEs in the USA.[23] Impoverishment ranges from 12.3% to 51.3% households and relates to low family income, severe disease, and poor health insurance coverage.[23] The USA and Mexican health care systems are alike at some extent. Both systems are fragmented in various types of coverage, but a variable proportion of individuals, usually those with the lowest income have no health coverage at all and rely on OPEs to cover medical costs. OPEs and their consequences – catastrophic expenses and impoverishment – may negatively influence patient's compliance, therapeutic adherence, and indeed RA outcome. Since the advent of biologic disease-modifying antirheumatic drugs (DMARDs) as part of the treatment of RA, the cost of the disease has notably increased.[5] While developed nations may increment the budget fraction of GDP to cover the cost of RA,[17] the situation in developing countries is critical. Neither health care dedicated GDP budget nor OPEs are enough to cover the cost of the disease.

In this context, we have investigated the burden of RA in households, particularly catastrophic expenses and impoverishment level across the Mexican health care system.[18–22] In the best scenario, the results of this study would influence local policies to take measures to provide the whole population with RA with full health care. In addition, they may also facilitate the recognition and understanding of the consequences of RA in countries with complex health care systems and limited resources for the medical care of patients with such disease. In this sense, we approached the consequences of RA in a deeper form, far beyond that the solely description of OPEs we made previously.[21]

Subjects and methods

This is a cross-sectional, multicenter cost-of-illness study with a prevalence-based, cost-estimated with the person-based approach of the baseline data of a cohort of patients with RA. OPEs data from the original cohort, including ankylosing spondylitis and gout have been already reported.[21] The RA[24] cohort consisted of consecutive outpatients with disease onset >18 years of age attending 11 institutional and private centers in five major cities. The Institutional Review Board at each center approved the study's protocol and patients agreed their participation in the study by signing an informed consent. The centers and patients that participated in the study were proportionally representative of each of the different health care systems in México.[21] Information was collected from 2003 to 2005.

In brief, the Mexican health care system consists of several vertically integrated providers covering all different segments of the population.[19] This study considered the three most important health care systems in the country:

(1) The full health care coverage system, which embraces institutions of social security that provide health care services, maternity leave, work disability, and retirement plans to wage-earners from the formal sector, their beneficiaries, and dependents. This system is financed by the federal government as well as by contributions from employees and their employers. The amount allocated to these institutions *per* family is almost two-thirds higher than that allocated by the public sector. The type and scope of services provided by institutions of social security depend on the availability of the resources.