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LETTER TO THE EDITOR

Incidence of systemic lupus erythematosus in Colombia: data from the National Health Registry 2012–2016

Sir,

Fernandéz-Ávila et al. provided valuable data on the prevalence of systemic lupus erythematosus (SLE) in Colombia.[1] Data were collected by the Colombian Ministry of Health as part of the SISPRO-registry and cover approximately 95% of the Colombian population. The analysis included SLE patients registered between 2012 and 2016, and revealed comparable results to other studies.[2,3]

Prevalence serves as an important measure for health-care demand planning. Its driving forces are survival and incidence rate (IR), with the IR providing information regarding individual risk. Furthermore, the comparison of IRs in groups with different exposure allows for the formulation of aetiological hypotheses. Unfortunately, exact determination of IRs in rare conditions such as SLE is difficult, as it requires time-consuming and costly follow-ups of healthy young cohorts. Hence, current numbers on incidence in SLE are scarce and much needed, especially in low- and middle-income countries. Therefore, we would like to contribute to this work by estimating IRs from the provided data.

In case of chronic conditions, the illness-death model provides a method to estimate IRs if prevalence, general mortality of a population and the hazard ratio (HR) are known.[4] The HR is defined as the ratio of the mortality rate of people with versus those without SLE. We used the age-specific prevalence from Fernandéz-Ávila et al., together with the general mortality of Colombia provided by the World Health Organization.[5] Since the HR of SLE for Colombia was not available, we simulated the model with typical HR trends, adapted from Bernatsky et al.[6]

The results are shown in Figure 1. The different curves arise from the various scenarios simulated. However, the divergence seems only minor, and the lack of data on the Colombian-specific HR does not relevantly affect the IRs. Among women, the IR peaked in their 30s, with 20 cases per 100,000 person-years (py), and returned to one case per 100,000 py by the age of 45. Men showed a rather flat curve, with two minor peaks in their early 20s (2.5 cases per 100,000 py) and beyond 75 years of age (2.8 cases per 100,000 py).

IRs in other countries differ slightly from our results. Data from Germany and France confirm the peak in women in their thirties, although at lower numbers (3.6 cases per 100,000 py and 9.11 cases per 100,000 py, respectively).[7,8] German data show a second maximum of 2.6 at menopausal age.[7] In the UK, the highest incidence in women is found around 50 years of age, with 13 cases per 100,000 py.[9]

Men in Germany show the highest IR at the age of 65–70 years (2.2 cases per 100,000 py), with only a minor peak in their 20s.[7] Similarly, in France, the IR of men peaks at 50–59 years of age (1.78 cases per 100,000 py)[8], with the IR in the UK peaking in men in their seventies (4.36 cases per 100,000 py).[9]

There could be many reasons for these discrepancies, including the purpose of data collection, data sources and the age of the data. In addition, ethnical differences play a major role in SLE and surely influence the results.[10]

Nonetheless, we show that the illness-death model provides a feasible method for estimation of much-needed IRs in rare chronic conditions such as SLE.

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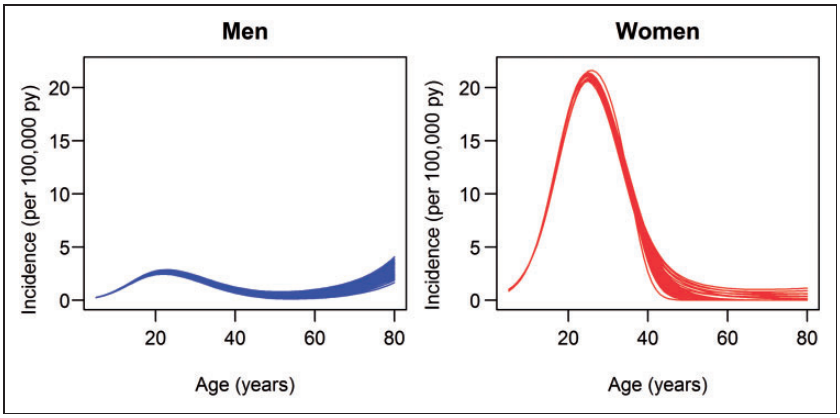

Figure 1 Age-dependent incidence rates of systemic lupus erythematosus for men (left) and women (right) in Colombia.

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References

1 Fernández-Ávila DG, Bernal-Macías S, Rincón-Riaño DN, Gutiérrez Dávila JM, Rosselli D. Prevalence of systemic lupus erythematosus in Colombia: data from the national health registry 2012–2016. *Lupus* 2019; 28: 1273–1278.
2 Petri M. Epidemiology of systemic lupus erythematosus. *Best Pract Res Clin Rheumatol* 2002; 16: 847–858.
3 Pons-Estel GJ, Ugarte-Gil MF, Alarcón GS. Epidemiology of systemic lupus erythematosus. *Expert Rev Clin Immunol* 2017; 13: 799–814.
4 Brinks R, Hoyer A, Landwehr S. Surveillance of the incidence of non-communicable diseases (NCDs) with sparse resources: a simulation study using data from a National Diabetes Registry, Denmark, 1995–2004. *PLoS One* 2016; 11: e0152046.
5 World Health Organization. Global Health Observatory data repository, http://apps.who.int/gho/data/view.main.LT62020?lang=en (2019, accessed 30 April 2019).
6 Bernatsky S, Boivin J-F, Joseph L, *et al*. Mortality in systemic lupus erythematosus. *Arthritis Rheum* 2006; 54: 2550–2557.
7 Brinks R, Hoyer A, Weber S, *et al*. Age-specific and sex-specific incidence of systemic lupus erythematosus: an estimate from cross-sectional claims data of 2.3 million people in the German statutory health insurance 2002. *Lupus Sci Med* 2016; 3: e000181.
8 Arnaud L, Fagot J-P, Mathian A, Paita M, Fagot-Campagna A, Amoura Z. Prevalence and incidence of systemic lupus erythematosus in France: a 2010 nation-wide population-based study. *Autoimmun Rev* 2014; 13: 1082–1089.
9 Somers EC, Thomas SL, Smeeth L, Schoonen WM, Hall AJ. Incidence of systemic lupus erythematosus in the United Kingdom, 1990–1999. *Arthritis Rheum* 2007; 57: 612–618.
10 Izmirly PM, Wan I, Sahl S, *et al*. The incidence and prevalence of systemic lupus erythematosus in New York County (Manhattan), New York: The Manhattan Lupus Surveillance Program. *Arthritis Rheumatol* 2017; 69: 2006–2017.

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