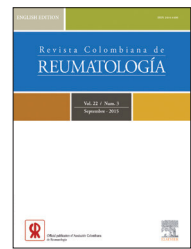


Revista Colombiana de REUMATOLOGÍA

www.elsevier.es/rcreuma



Editorial

Epidemiology of Rheumatoid Arthritis[☆]

La epidemiología de la artritis reumatoide

Rheumatoid arthritis (RA) is a chronic autoimmune disease, characterized by a strong impact on the functionality of the individuals, due to the inflammatory activity that generates on the joints.¹ Its prevalence varies according to the studied population but is in a range between 0.2% and 5% in the world.²⁻¹⁵

Among the risk factors associated with the development of RA there are elements common in the Colombian society such as cigarette smoking, female gender, presence of the HLA DRB1 with expression of shared epitope, and the educational level, among others.^{2,3} It should be noted that during the first year of illness, the costs attributable to the RA could reach 23,441 dollars per patient, which added to the fact that after 10 years 40% of these patients will suffer from occupational disability,^{16,17} this explains why we must be insistent in the study of its epidemiology.

Prevalence studies are an important tool when studying a disease, since they constitute the first step to estimate its social and economic burden and allow to compare it with other ailments, finding, by means of this method, a guide for decision-making in public health and a better addressing of resources.¹⁸

When reviewing the data of some of the studies conducted on the prevalence of RA in the world, we found that the percentage varies little across countries, although there are differences that are worth noting. In North America, data from Canada and the United States report prevalence rates between 0.8 and 1.1%,^{2,3,19,20} although with increases in special populations such as Native Americans, among whom the studies report prevalence rates up to 5.3%.² In Europe, in countries such as England, Holland, Finland, Sweden and Denmark, there are data of prevalence rates between 0.5 and 1%, slightly higher than those of the countries located at the southeast of this continent and those reported in Asia and Africa, where the prevalence is between 0.15 and 0.35% with the exception of the Republic of Congo, which has a prevalence of 0.9%.^{2,5,8,9,13,21}

In Latin America there are prevalence studies conducted in Argentina and Brazil where it has been reported to be 0.9 and 0.45%, respectively.^{14,15}

In Colombia there is a study in the Colombian Pacific that reports a prevalence rate of 0.01%, but with significant selection biases to which this result can be attributed.²²

In this edition of the REVISTA COLOMBIANA DE REUMATOLOGÍA (Colombian Journal of Rheumatology) we present a new and interesting study on prevalence of RA in our country, which was conducted by Dr. Machado and the Pharmacoepidemiology Group of the Technological and Pedagogical University of Pereira. This is a great effort because it brings together data from several major cities and includes a quite important number of individuals. However, it is necessary to make some notes about the environment in which this work is developed, in order to contextualize the reader and to facilitate a better analysis of the results, highlighting some factors of our health system which must be taken into account before generating conclusions.

Subsequent to the development and implementation of Law 100 in Colombia, there are basically 3 options to access healthcare service. The first, paying for each service that is provided in an independent manner in an account that is paid by the user without the help of any external agent. The second, belonging to the General System of Social Security in Health (SGSSS, for its acronym in Spanish), which we will describe later, and the third, not being affiliated to the SGSSS and not having money to pay for the service independently, in which case the State assumes the cost of the care, requesting the user a percentage of the total cost of the care according to his economic capacity.²³

The SGSSS, to which 92.69%²⁴ of the Colombian population is affiliated, is a system designed to insure the entire population through health promoting entities, which are responsible for managing the resources and provide to each of its members a healthcare provider institution where they can be

[☆]Please cite this article as: Muñetón GA, Quintana G. La epidemiología de la artritis reumatoide. Rev Colomb Reumatol. 2015.
<http://dx.doi.org/10.1016/j.rcreu.2015.09.001>

assisted as they require. According to the type of affiliation between the health promoting entity and the user, whenever an individual receives a healthcare service he shall, or not, pay a percentage of the cost of the service.

This SGSSS poses, in addition to the above, a division of the participants in this system, generating 2 main regimes, the subsidized and the contributory.

As affiliated to the contributory regime are the individuals who have the possibility to pay for healthcare services on a monthly basis, usually under the employment environment. This payment will include the cost of affiliation, plus a contribution that should serve for financing the health expenditures of the users of the subsidized regime.

In the subsidized regime, conversely, are affiliated all persons who do not have possibility for payment due to the lack of formal employment and, as explained above, the payment of the health services of this population will be made using the contribution of the people affiliated to the contributory regime and other State funds.²³

The impression between the users and the group of physicians of these two regimes of attention is that the healthcare system generates a division between the two groups described and people who are affiliated to the contributory regime are treated in hospitals with better infrastructure and technology, and have better programs of disease prevention and health promotion, as well as a greater availability of professionals, which makes that their examinations, consultations and treatments are developed in a more timely and effective manner.²⁴

By contrast, people in the subsidized regime have fewer infrastructures in their hospitals, less availability of appointments with the specialist and a large number of administrative problems that end up diminishing, in all aspects, the quality and the access to healthcare.²⁴

Taking into account what it was described on our health system we can highlight, then, some aspects of how it affects the interpretation of the results obtained in the study of prevalence of RA in Colombia, presented in this occasion.

This study was conducted in the population affiliated to a health promoting entity, belonging to the contributory regime, responsible for administering the healthcare services for 858,045 Colombians who pay monthly for the services. The development of the study in this type of patients could generate a significant selection bias since this sample cannot be considered representative of the general population of the country, because the characteristics of the individuals that were not studied (among which are 48.5% of the Colombians affiliated to the subsidized regime) differ significantly from those of the individuals who were included.

The differences between the two populations (included and not included in the study) lie, mainly, in that the patients in the subsidized regime have lifestyles, educational levels and opportunities for health care very different to those found in the contributory regime. Differences that are present from the beginning of the system, since when the capacity to pay or not a monthly fee is used as a criterion of division, it could happen that in the group who has not a formal employment will appear, among other things, a higher prevalence of disabling diseases, lower socioeconomic status, less capacity to

attend prevention programs, less opportunity to access health services (laboratories for diagnostic confirmation, opportunity to get an appointment with Rheumatology for diagnostic confirmation, etc.) and other conditions that potentially affect the calculations of the burden of the disease based on a single regime of healthcare.

On the other hand, it should also be mentioned the form of registration of the cases of RA, which is carried out by using diagnostic codes of the International Classification of Diseases ICD10, which is completed by the Rheumatologists in their consultation. This registration model has some inconveniences that may generate selection and information biases, which will be mentioned below.

To register the case of a patient with RA is necessary that the patient seeks medical attention, but also that the general practitioner identifies the disease and refers the patient to the specialist in Internal Medicine, who according to his judgment will refer him to Rheumatology. These situations generate a selection bias that will end in underdiagnosis of the cases of RA by the rheumatologists, because the patients who suffer from the disease do not reach their consultation, or because they do not decide to consult to the healthcare provider institution, or in spite of doing so, it is not possible for them to access the consultation with the rheumatologist (even in the contributory regime).

The other factor to consider is the form of registration based in the classification of diseases ICD10, which does not specify which criteria were used by the professionals to make the diagnosis of RA and, in addition, generates the possibility to include in the code of unspecified arthritis cases of patients who do not suffer from the disease.

The above clarifications are addressed to highlight that the study can generate a underestimation of the prevalence of the disease in our country, which can be supported by the significant difference found when comparing the results of this study with data from Europe, North America and Latin America, where the prevalence is between 3 to 7 times higher.

To conclude, it should be noted that, despite the problems described, this study provides an important approach to the knowledge of RA in a country whose health system makes difficult the realization of prevalence studies with a more appropriate methodology. In addition, it describes important characteristics of our population with RA using a large sample of patients. This study opens the invitation to continue making efforts to get to know our population of patients with autoimmune diseases, demonstrating that although it is not easy to undertake a rigorous methodology, it is necessary to improve it in order to attempt to reduce the biases of selection and registration that are the most limiting obstacle for this type of research in our country.

REFERENCES

1. Firestein GS, Budd RC, Gabriel S E, McInnes I B, O'Dell R. Kelley's textbook of rheumatology. 9th ed. Philadelphia: Elsevier/saunders; 2013.
2. Yannis A, Alexandros AD. Epidemiology of adult rheumatoid arthritis. *Autoimmun Rev.* 2005;4:130-6.

3. Abriel JT, Pierre Y, Alain S. The environment, geo-epidemiology, and autoimmune disease: Rheumatoid arthritis. *Autoimmun Rev*. 2010;9:A288-92.
4. Guillemin F, Saraux A, Guggenbuhl P, Roux CH, Fardellone P, Bihan EL, et al. Prevalence of rheumatoid arthritis in France: 2001. *Ann Rheum Dis*. 2005;64:1427-30.
5. Symmons D, Turner G, Webb R, Asten P, Barrett E, et al. The prevalence of rheumatoid arthritis in the United Kingdom: New estimates for a new century. *Rheumatology (Oxford)*. 2002;41:793-800.
6. Galushko EA, Erdes ShF, Bazorkina DI, Bol'shakova TI, Vinogradova IB, et al. Prevalence of rheumatoid arthritis in Russia (according to epidemiological findings). *Ter Arkh*. 2010;82:9-14.
7. Rossini M, Rossi E, Bernardi D, Viapiana O, Gatti D, Idolazzi L, et al. Prevalence and incidence of rheumatoid arthritis in Italy. *Rheumatol Int*. 2014;34:659-64.
8. Neovius M, Simard JF, Askling J. Nationwide prevalence of rheumatoid arthritis and penetration of disease-modifying drugs in Sweden. *Ann Rheum Dis*. 2011;70:624-9.
9. Carmona L, Viaverde V, Hernández-García C, Ballina J, Laffon A. The prevalence of rheumatoid arthritis in the general population of Spain. *Rheumatology*. 2002;41:88-95.
10. Zlatković Š, Svenda MI, Stojanović RM, B Šipetić-Grujić S, Guillemin F. Prevalence of rheumatoid arthritis in Serbia. *Rheumatol Int*. 2014;34:649-58, <http://dx.doi.org/10.1007/S00296-013-2897-7>.
11. Yamanaka H, Sugiyama N, Inoue E, Taniguchi A, Momohara S. Estimates of the prevalence of and current treatment practices for rheumatoid arthritis in Japan using reimbursement data from health insurance societies and the IORRA cohort. *Mod Rheumatol*. 2014;24:33-40.
12. Li R, Sun J, Ren LM, Wang HY, Liu WH, Zhang XW, et al. Epidemiology of eight common rheumatic diseases in China: A large-scale cross-sectional survey in Beijing. *Rheumatology*. 2012;51:721-9.
13. Malemba J, Mbuyi-Muamba J, Mukaya J, Bossuyt X, Verschueren P, Westhovens R. The epidemiology of rheumatoid arthritis in Kinshasa, Democratic Republic Of Congo—A population-based study. *Rheumatology*. 2012;51:1644-7.
14. Scublinsky D, Venarotti H, Citera G, Messina O, Scheines E, Rillo O, et al. The prevalence of rheumatoid arthritis in Argentina: A capture-recapture study in a city of Buenos Aires province. *J Clin Rheumatol*. 2010;16:317-21.
15. Senna ER, de Barros AL, Silva EO, Costa IF, Pereira LV, Ciconelli RM, et al. Prevalence of rheumatic diseases in Brazil: A study using the COPCORD approach. *J Rheumatol*. 2004;31:594-7.
16. Ma VY, Chan L, Carruthers KJ. Incidence, prevalence, costs and impact on disability of common conditions requiring rehabilitation in the United States: Stroke, spinal cord injury, traumatic brain injury, multiple sclerosis, osteoarthritis, rheumatoid arthritis, limb loss, and back pain. *Arch Phys Med Rehabil*. 2014;95:986-95e1.
17. Mora C, González A, Díaz J, Quintana G. Financial cost of early rheumatoid arthritis in the first year of medical attention: Three clinical scenarios in a third-tier university hospital in Colombia. *Biomédica*. 2009;29:43-50.
18. Londoño FJ. Metodología de la investigación metodológica. 5.^a ed. Colombia: Manual moderno; 2014.
19. Widdifield J, Paterson J, Bernatsky S, Tu K, Tomlinson G, Kuriya B, et al. The epidemiology of rheumatoid arthritis in Ontario, Canada. *Arthritis Rheumatol*. 2014;66:786-93.
20. Helmick C, Felson DT, Lawrence R, Gabriel S, Hirsch R, Kwoh CK, et al. Estimates of the prevalence of arthritis and other rheumatic conditions in the United States. *Arthritis Rheum*. 2008;58:15-25.
21. Slimani S, Ladjouze-Rezig A. Prevalence of rheumatoid arthritis in an urban population of Algeria: A prospective study. *Rheumatology (Oxford)*. 2014;53:571-3.
22. Anaya JM, Correa PA, Mantilla R, Jiménez F, Kuffner T, McNicholl JM. Rheumatoid arthritis in African Colombians from Quibdó. *Semin Arthritis Rheum*. 2001;31:191-8.
23. Ministerio de Salud y Protección Social [Internet homepage]. c2013 [updated 26 Aug 2015; accessed 26 Aug 2015]. Available from: [https://www.minsalud.gov.co/Normatividad Nuevo/Ley%20100%20de%201993.Pdf](https://www.minsalud.gov.co/Normatividad%20Nuevo/Ley%20100%20de%201993.Pdf)
24. Ministerio de Salud y Protección Social [Internet homepage]. c2013. Available from: <https://www.minsalud.gov.co/Documentos%20y%20Publicaciones/Informe%20al%20Congreso%202012-2013.pdf>

Gerardo Antonio Muñetón,^{a,*} Gerardo Quintana^b

^a Departamento de Medicina, Facultad de Medicina, Universidad Nacional de Colombia

^b Principal Professor, Departamento de Medicina, Facultad de Medicina, Universidad Nacional de Colombia

* Corresponding author.

E-mail address: gerard56_2@hotmail.com (G.A. Muñetón).

2444-4405/© 2014 Asociación Colombiana de

Reumatología. Published by Elsevier España, S.L.U.

All rights reserved.