Asociación Colombiana de Reumatología

Revista Colombiana de REUMATOLOGÍA

www.elsevier.es/rcreuma

Original Investigation

Knowledge of medications and understanding of Mexican patients regarding the non-medical switch from originator to its biosimilar in inflammatory arthritis

Carlos Andrés Díaz-Garza[a], *Alejandro Garza-Alpirez*[a,b], *David Vega-Morales*[b,c,*], *Deshiré Alpizar-Rodríguez*[c], *Berenice Carrillo-Haro*[a]

[a] *School of Medicine and Health Sciences, Tecnologico de Monterrey, Monterrey, Mexico*
[b] *Rheumatology and Infusion Center, Mexican Institute of Social Security No 17, Monterrey, Mexico*
[c] *Research Unit, Colegio Mexicano de Reumatología, Mexico City, Mexico*

ARTICLE INFO

Article history:
Received 23 October 2023
Accepted 18 December 2023
Available online 5 March 2024

Keywords:
Biosimilars
Arthritis
Non-medical switch
Patient perspectives
Patient understanding
Biologics

ABSTRACT

Introduction/Objective: Our aim was to know patient's understanding and concerns about biosimilars, switching, and non-medical switch in Mexican population.
Materials and methods: A cross-sectional social media survey via the Mexican Foundation for Rheumatic Patients (FUMERAC) was conducted from November 2020 to January 2021. Patients were eligible if they were >18 years of age with any inflammatory rheumatic condition.
Results: A total of 165 participants completed the survey. The most frequent diagnoses were Rheumatoid Arthritis, Ankylosing Spondylitis, and Psoriatic Arthritis. Disease-modifying antirheumatic drugs as monotherapy was the most common treatment. Prior or current users of biologics were reported. Most participants had never heard the term biosimilar. Some would accept the change from an originator to its biosimilar and few would take legal measure or file a complaint if a non-medical switch were to happen. Patients had concerns on treatment effectiveness, adverse effects, reason for change, treatment duration, and other patient's experience.
Conclusion: In Mexico, the concept of biosimilars is barely known. Most patients would not take any measure if they were changed from an originator to its biosimilar.

* *Corresponding author.*
E-mail address: drdavidvega@yahoo.com.mx (D. Vega-Morales).
https://doi.org/10.1016/j.rcreu.2023.12.007

Conocimiento de los medicamentos y comprensión de los pacientes mexicanos sobre el cambio no médico del medicamento original a su biosimilar en la artritis inflamatoria

Palabras clave:
Biosimilares
Artritis
Cambio no médico
Perspectivas de pacientes
Comprensión
Biológicos

RESUMEN

Introducción/Objetivo: Nuestro objetivo fue conocer la comprensión y las preocupaciones de los pacientes mexicanos acerca de los medicamentos biosimilares, el cambio de tratamiento y el cambio no médico.

Materiales y métodos: Se llevó a cabo una encuesta transversal en redes sociales, por medio de la Fundación Mexicana para Enfermos Reumáticos (FUMERAC) en el periodo de noviembre del 2020 a enero del 2021. Los pacientes eran elegibles si tenían más de 18 años y presentaban alguna condición reumática inflamatoria.

Resultados: Un total de 165 participantes completaron la encuesta. Los diagnósticos más frecuentes fueron artritis reumatoide, espondilitis anquilosante y artritis psoriásica. La monoterapia con fármacos antirreumáticos modificadores de la enfermedad (FAME) fue el tratamiento más común. Se reportaron pacientes que fueron usuarios previos o actuales de agentes biológicos. La mayoría de los participantes no habían escuchado el término «biosimilar» anteriormente. Algunos pacientes aceptarían el cambio de tratamiento con un medicamento original por un agente biosimilar, mientras que otros tomarían acción legal o presentarían una queja si ocurriera el cambio no médico. Los participantes tenían preocupaciones acerca de la efectividad del tratamiento, sus efectos adversos, las razones para cambiar, la duración del tratamiento y las experiencias de otros pacientes.

Conclusión: En México, el concepto de «biosimilares» es poco conocido. La mayoría de los pacientes no tomaría ninguna medida si su tratamiento se cambiara de un medicamento original a un biosimilar.

Introduction to the issue

Biologics differ from traditional small molecules in medicine and are sensitive to manufacturing changes.[1] Unlike generic drugs, biologics requires both protein structure and folds to be similar. Thus, not generic per se but, since the concept has changed over the years, they can be considered interchangeable.[2] Due to the complex proceedings to produce biologics, they have a higher cost compared to traditional drugs.

Some patients switch from originator biologicals or biosimilars to others due to lack or loss of efficacy compared to the original treatment. Switching increases healthcare costs.[3] It can be prescribed by a physician or can follow economic reasons for diverse actors in the health system (non-medical switch).[4] Single switches have heterogenous opinions and regulations worldwide.

Healthcare professionals disagree on the non-medical switch due to safety, efficacy, and cost concerns.[5]

Patient's associations hold diverse opinions.[6] Patients who are currently on biosimilars or those who have been informed and switched are satisfied, but with concerns about safety and efficacy.[7,8]

Limited information exists about patient views on non-medical switch. Our study aims to understand Mexican patients' perspectives on biosimilars, switching, and non-medical switch.

Material and methods

We performed a cross-sectional, anonymized, self-administered, web-based survey among patients with self-reported inflammatory arthritis between October 2020 and January 2021. The protocol was presented to our local Ethics committee, that considered an approval was not required.

Study population

Inclusion criteria: (1) patients who accepted to answer the digital survey and (2) 18 years or older with self-reported inflammatory arthritis diagnosis. Exclusion criteria were participants reporting conditions other than inflammatory arthritis, e.g., osteoarthritis. Use of biologicals or biosimilars as a treatment was not mandatory.

Survey

We designed a three-part electronic survey based on previous works evaluating patient perspectives.[10] Participants were introduced to the survey's nature and were asked for consent. Demographic data were collected in the second part. The third part presented hypothetical scenarios regarding opinions on switching to biosimilars. Participants could choose treatments

from a list, or they could self-report them. The survey can be consulted in Supplementary Material 1.

The survey aimed to show different aspects on the perspective related to switching from originator to biosimilar, knowledge about the disease and therapeutic options, trust in healthcare providers, patient involvement in clinical decisions, and efficacy and safety perceptions.

Treatments were categorized as biologics and non-biologics. Non-biologic treatment was classified in one of the following groups: glucocorticoid monotherapy, single DMARD (disease-modifying antirheumatic drugs), combined DMARD, glucocorticoid plus DMARD, non-specific treatment, and unknown for the patient. Participants were questioned about their understanding of biologics and biosimilars.

The survey was initially tested with five patients who actively use biologics from a Rheumatology clinic. After they filled the survey, we considered their feedback to correct the survey and design the definitive version. It was then adapted to a Google Doc® survey format and distributed online.

Survey diffusion

The survey was distributed via social media from October 2020 to January 2021. A request was sent to the Mexican Foundation for Rheumatic Patients (FUMERAC)[9] to post the web survey advertisement and link in their social medial web pages (Facebook, Twitter). Additionally, health workers related to rheumatology shared the survey in their professional and personal accounts from social media (Facebook, Twitter, WhatsApp).

The survey requested voluntary participation and included an electronic consent question.

The survey answers were automatically collected through Google Doc®, and analyzed using SPSS version 25.0.0 for percentage and mean values.

Results

Out of 4416 patients eligible FUMERAC web followers 165 patients answered the survey. Of these, 134 (81% [CI 0.75–0.87]) were women, mean age was 39 [CI 0.36–0.42], and 131 (79% [CI 0.73–0.86]) completed a scholarity of high school or superior. The most common diagnosis was rheumatoid arthritis (RA) in 93 (56% [CI 0.48–0.64]) of the patients, followed by psoriatic arthritis (PsA) in 19 (11% [CI 0.6–0.16]) patients. Other self-reported diagnosis included Lupus, Idiopathic juvenile arthritis, mixed connective tissue disease, Sjögren syndrome, and Adult-onset Still's disease. The evolution time was 1–5 years in 35% [CI 0.28–0.43].

Treatment and exposure to biologics

The following results refer to participants' understanding of their treatment, distinguishing between monotherapy and combined therapy. Also, encompasses the percentage of patients who acknowledge their use of biologicals. The most common group was single DMARD with 51 patients (34% [CI 0.27–0.42]). Seventy-five (46% [CI 0.38–0.53]) named a drug considered as a biologic as a part of their treatment. Additionally, we directly asked if they use or used a biologic drug, sixty-seven (57% [CI 0.48–0.66]) said yes, thirty-seven (31% [CI 0.23–0.40]) said no, and twelve (10% [CI 0.4–0.15]) said they were not sure.

Understanding about biologics and biosimilars

The following paragraph corresponds to the total number of participants regardless of treatment. Out of the 165 participants, thirty-six (21% [CI 0.15–0.28]) had never received an explanation about what is a biologic, 59 (35% [CI 0.28–0.43]) had some idea about it, and 70 (42% [CI 0.34–0.50]) said they clearly understood the explanation. 76 (60% [CI 0.51–0.68]) said biologics had a stronger effect than traditional drugs. One hundred-six patients (73% [CI 0.66–0.80]) have never listened the term biosimilar before. When they were asked about the differences between a biologic and a biosimilar, 48 (33% [CI 0.25–0.41]) responded that the biosimilar was a low-cost biologic.

Non-medical switching

We asked about three different switching scenarios and how they would feel. The whole section had multiple-choice answers. In the first one, the physician offers biologic to biosimilar switch. 56 (38% [CI 0.3–0.46]) patients accepted after they doubts were cleared. In the second, the patient discovered their physician switched the drugs without explicit consent. 87 (60% [CI 0.52–0.68]) said they would not be upset because they trust in their physician, and 22 (15% [CI 0.9–0.21]) would change to another doctor, fill a complaint, or take a legal measure. In the third one, the patient discovered than "someone" (for example the pharmaceutical or the administration) switched the drugs without informing the patient or the physician. 41 (28% [CI 0.20–0.35]) would accept the decision, 64 (44% [CI 0.36–0.52]) would try to switch back to the original drug, and 35 (24% [0.17–0.31]) would complaint or take a legal measure.

Safety and efficacy of biosimilars

Forty-four (30% [CI 0.22–0.37]) thought biosimilars were as effective as the originator. Thirty-three (22% [CI 0.15–0.29]) thought biosimilars had more adverse effects than the originator. Seventy-seven (53% [CI 0.45–0.61]) and 86 (59% [CI 0.51–0.67]) answered "I don't know" in both questions, respectively.

Economic aspects of biosimilars

Two questions asked about the personal and community effect of switching to biosimilars with an economical perspective. In the personal aspect, 47 (32% [CI 0.25–0.40]) would feel comfortable if they were switched because that would allow them to save money, and 59 (41% [CI 0.33–0.49]) thought than a cheaper drug could not be as good as the original. In the community sphere, 72 (50% [CI 0.41–0.58]) thought than more people would be benefited from better treatments if they were economical and 33 (22% [CI 0.16–0.29]) said it could affect the disease control if the patients are switched.

Concerns about biosimilars

The last question had multiple-choice answers without open options. We asked about which topic they would like to receive more information. The answers were classified in five groups. Effectivity and safety were the most common topics.

Key factors for consideration

- Most participants had never heard the term biosimilar.
- The survey was designed to show different aspects of the perspective of switching from originator to a biosimilar.
- Patients had concerns on treatment effectiveness, adverse effects, reason for change, treatment duration, and other patient's experience.

Recommendations

Involve patients in the process of choosing their treatment for inflammatory rheumatic conditions.

Discussion

In this web-based survey, over half of the population does not understand rightly what a biologic treatment is, and the rest had never listened about biosimilars before. Our populations represent, the most common rheumatological disease in our setting.[10] Since 79% of our participants had a high-school or higher degree, the educational level was not a barrier.

Mismatch occurred when we asked directly if the patients used biologics and comparing this with their self-reported medications. The concept of biosimilar was intuitively understood as a low-cost version of a biologic drug.

Acceptance was higher when the decision was priorly discussed with the patients. Switching without explicit concern was slightly less accepted. Non-medical switch is perceived as the worst-case scenario, and at this point, legal measures, dropping the treatment, and complaints start to take a more important impact.

Our study considered any patient with an inflammatory arthritis diagnosis. Acceptance was higher among active biosimilar users.[10–12] We believe this can be due to their larger experience of patients requiring more treatment adjustments, whether has been with biosimilar drugs. Safety and efficacy seem to be universally detected as a concern issue in every population asked.

Strengths of our study are than our results represent correctly the most common population who could be candidate to use a biosimilar drug: patients with rheumatoid arthritis with less than five years of disease duration. And our survey was promoted in social media by the biggest patient association in our country. Limitations included potential underrepresentation of biologic users. Self-reported disease data may interfere in the understanding of questions. We tried to limit this by testing the survey in a small group before distribution.

In conclusion, patients require more information to improve biosimilar acceptance. Switching decision must be taken as an informed decision and not just unilaterally.

Consent to participate

Informed consent was obtained from all individual participants included in the study.

Conflict of interest

All authors (Carlos Andres Diaz-Garza, Alejandro Garza-Alpirez, David Vega-Morales, Deshire Alpizar-Rodriguez, and Berenice Carrillo-Haro) declare that they have no conflict of interest.

Authors contribution

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Carlos Diíaz-Garza, Alejandro Garza-Alpirez and David Vega-Morales. The first draft of the manuscript was written by Carlos Diíaz-Garza. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.rcreu.2023.12.007.

REFERENCES

1. Ramanan S, Grampp G. Drift, evolution, and divergence in biologics and biosimilars manufacturing. BioDrugs. 2014;28:363–72, http://dx.doi.org/10.1007/s40259-014-0088-z.
2. Dranitsaris G, Amir E, Dorward K. Biosimilars of biological drug therapies. Drugs. 2011;71:1527–36, http://dx.doi.org/10.2165/11593730-000000000-00000.
3. Rashid N, Lin AT, Aranda G Jr, Lin KJ, Guerrero VN, Nadkarni A, et al. Rates, factors, reasons, and economic impact associated with switching in rheumatoid arthritis patients newly initiated on biologic disease modifying anti-rheumatic drugs in an integrated healthcare system. J Med Econ. 2016;19:568–75, http://dx.doi.org/10.3111/13696998.2016.1142448.
4. Glintborg B, Loft AG, Omerovic E, Hendricks O, Linauskas A, Espesen J, et al. To switch or not to switch: results of a nationwide guideline of mandatory switching from originator to biosimilar etanercept. One-year treatment outcomes in 2061 patients with inflammatory arthritis from the DANBIO registry. Ann Rheum Dis. 2019;78:192–200, http://dx.doi.org/10.1136/annrheumdis-2018-213474.
5. Aladul MI, Fitzpatrick RW, Chapman SR. Healthcare professionals' perceptions and perspectives on biosimilar medicines and the barriers and facilitators to their prescribing in UK: a qualitative study. BMJ Open. 2018;8:e023603, http://dx.doi.org/10.1136/bmjopen-2018-023603.

6. Vandenplas Y, Simoens S, Van Wilder P, Vulto AG, Huys I. Informing patients about biosimilar medicines: the role of European patient associations. Pharmaceuticals (Basel). 2021;14:117, http://dx.doi.org/10.3390/ph14020117.
7. Aladul MI, Fitzpatrick RW, Chapman SR. Patients' understanding and attitudes towards infliximab and etanercept biosimilars: result of a UK Web-based survey. BioDrugs. 2017;31:439–46, http://dx.doi.org/10.1007/s40259-017-0238-1.
8. Chau J, Delate T, Ota T, Bhardwaja B. Patient perspectives on switching from infliximab to infliximab-dyyb in patients with rheumatologic diseases in the United States. ACR Open Rheumatol. 2019;1:52–7, http://dx.doi.org/10.1002/acr2.1007.
9. FUMERAC. Este mes de diciembre se cierra esta encuesta; no dejes pasar la oportunidad para participar. Facebook status uploaded; Published 2020. https://www.facebook.com/Fumerac/posts/3549533875141660.
10. Peláez-Ballestas I, Sanin LH, Moreno-Montoya J, Alvarez-Nemegyei J, Burgos-Vargas R, Garza-Elizondo M, et al. Epidemiology of the rheumatic diseases in Mexico. A study of 5 regions based on the COPCORD methodology. J Rheumatol. 2011;38 Suppl. 86:3–6, http://dx.doi.org/10.3899/jrheum.100951.