Editorial

Enhancing self-medication practices in the era of infodemic: the role of pharmacovigilance

Carlos-Alberto Calderon-Ospina

Background

The COVID-19 pandemic has represented one of the most important public health events of the last century, with more than 6.9 million deaths attributable to the disease.[1] Fortunately, the advent of vaccines for this disease, almost a year after the appearance of the pandemic, drastically changed the global panorama, preventing at least 14 million additional deaths just in the first year of vaccination.[2]

The combination of knowledge from many areas of expertise has allowed humanity to overcome the pandemic in an incredibly short period of time. Apart from the fundamental problem of finding preventive and therapeutic strategies to control the disease – something practically solved thanks to the vaccines – the pandemic has been characterized by an avalanche of information, often incorrect and lacking in scientific evidence, about potential new therapies that did not provide any benefit, but did have an associated risk of adverse effects, sometimes serious or even fatal.[3]

Likewise, the appearance of vaccines in record time compared to the usual times of clinical research generated mistrust in some sectors of the population, who viewed with concern the appearance of some serious but at the same time very infrequent adverse events (e.g. cavernous sinus thrombosis).[4]

This excessive concern was largely due to not having a clear idea of the risk-benefit ratio of vaccines for COVID-19, based on ignorance of the extreme rarity of this type of event, as well as a lack of awareness of the high effectiveness of these vaccines in preventing serious or fatal forms of the disease – even though it doesn't have a significant effect to diminish the contagion risk. This clearly favorable risk-benefit ratio has made it possible to offer the vaccination (and application of booster doses) to practically all population groups, from 6 months onwards.[5]

A special collection with 10 brilliant articles

Based on this problem, I have proposed this special collection in Therapeutic Advances in Drug Safety entitled 'Self-Medication and Pharmacovigilance in the Era of Infodemic', which finally sees the light with 10 published articles from 3 different continents.

The World Health Organization (WHO) defines self-medication as: 'the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms'[6]; and pharmacovigilance as 'the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other medicine/vaccine related problem'.[7] Hence, it is evident that these two concepts are closely intertwined, emphasizing that pharmacovigilance plays a crucial role in enhancing self-medication practices, promoting responsible and safe self-medication.

On the topic of characterizing the problem, three original studies that identify the potential risks associated with self-medication for COVID-19 stand out. One of them was a Colombian study using a mystery shopping methodology, which found that pharmaceutical establishments played a critical role in contributing to inappropriate

Correspondence to:
Carlos-Alberto Calderon-Ospina
Research Group in Applied Biomedical Sciences (UR Biomed), School of Medicine and Health Sciences, Universidad del Rosario, Carrera 24 # 63C–69, Bogotá 111221, Colombia
carlos.calderon@ urosario.edu.co

self-medication for COVID-19.[8] Two additional studies, one of them conducted in the United States, and the other in Colombia, found that self-medication for COVID-19 was a relatively frequent behavior during the pandemic, which included potentially dangerous drugs (e.g. chloroquine), and that to a large extent it was determined by the influence of social networks.[9,10]

Regarding risk characterization, I wish to highlight the contribution of Baracaldo-Santamaría *et al.*[11] on the adverse effects of frequently self-medicated drugs for COVID-19, while the article on how the WHO Uppsala Monitoring Centre rose to the challenge of the global vaccination campaign for COVID-19 is an excellent contribution by Rudolph *et al.*[12] In line with these publications, Eslait-Olaciregui *et al.*[13] present an interesting review on neurological adverse reactions associated with COVID-19 vaccines.

Risk communication in pharmacovigilance is one of the most critical and delicate aspects of this important discipline, and in particular the communication to the general public of the risk associated with COVID-19 vaccines for the aforementioned reasons. This topic was clearly addressed by Colombian, Moroccan and Middle Eastern colleagues in a brilliant review,[14] as well as by Fermont *et al.*,[15] who share the successful experience of Israel in this special collection.

In this order of ideas, Quintero-Hernández synthesizes in a magnificent editorial the importance of assertive communication not only in, but also arising from pharmacovigilance, to promote mass vaccination for COVID-19.[16]

Finally, and keeping in mind that self-medication is a central theme of this special issue, my colleagues and I at the Universidad del Rosario in Bogotá, Colombia carried out a scoping review on the concept of self-medication, and we took it upon ourselves to propose a new definition of self-medication, which we submit for discussion by the global scientific community.[17]

Conclusion

As editor, I hope that the special issue will be of great interest to the readers, and especially to all those who played a part in overcoming this global emergency from different areas of knowledge,

and that, it will leave valuable insights in terms of the appropriate use of medicines, risk communication and pharmacovigilance, which may be applicable to future global health emergencies.

Declarations

ORCID iD
Carlos-Alberto Calderon-Ospina (iD) https://orcid .org/0000-0002-7305-8727

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