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LETTER

Comments on "Development and Validation of a META-Algorithm to Identify the Indications of Use of Biological Drugs Approved for the Treatment of Immune-Mediated Inflammatory Diseases from Claims Databases: Insights from the VALORE Project" [Letter]

Fitri Rokhmalia[1], Dwi Krihariyani[2], Sari Luthfiyah[3], T Triwiyanto[4]

[1]Department of Environmental Health, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia; [2]Department of Medical Laboratory Technology, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia; [3]Department of Nursing, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia; [4]Department of Medical Electronics Technology, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia

Correspondence: T Triwiyanto, Department of Medical Electronics Technology, Poltekkes Kemenkes, Jl. Pucang Jajar Timur No. 10, Surabaya, East Java, Indonesia, Tel +628155126883, Fax +6231-5025609, Email triwi@poltekkesdepkes-sby.ac.id; triwiyanto123@gmail.com

Dear editor

With great interest, we read the article entitled "Development and Validation of a META-Algorithm to Identify the Indications of Use of Biological Drugs Approved for the Treatment of Immune-Mediated Inflammatory Diseases from Claims Databases: Insights from the VALORE Project" by Spini et al published in Clinical Epidemiology which discusses the development and validation of a META-Algorithm to identify indications for the use of approved biological drugs for the treatment of immune-mediated inflammatory diseases.[1] This study makes a significant contribution in the field of healthcare, especially clinical epidemiology, where significant levels of specificity and accuracy were achieved, with values exceeding 0.70 for each indication considered. The findings presented in this study shed light on the importance of follow-up and hindsight periods in accurately identifying indications for use, especially showing the impact of different time frames on sensitivity levels across different immune-mediated inflammatory diseases.

However, despite the strengths of this study, there are some important limitations to note. Firstly, the META-Algorithm was unable to identify the indications for use of approximately 5% of biologic drug users, which highlights potential gaps in the algorithm's coverage. Secondly, potential misclassification of indications, such as the use of certolizumab in patients with inflammatory bowel disease, poses a challenge to the accuracy of the algorithm. Additionally, the inclusion of codes for Juvenile Idiopathic Arthritis and Still's disease in the RA algorithm without separate identification may lead to potential confusion. Finally, the lack of consideration for censoring biological treatment discontinuation during follow-up raises concerns about the algorithm's ability to accurately capture ongoing treatment patterns.

For further research, we recommend several suggestions for improvement and future research efforts based on the findings of this study. First, improving the coverage and accuracy of the META-Algorithm to reduce the percentage of missing indications and minimize misclassification should be a priority.[2] Secondly, conducting further sensitivity analysis to explore the impact of different algorithm parameters on validity estimation may provide valuable findings for algorithm refinement.[3] In addition, considering the implications of treatment discontinuation and implementing strategies to address them in the algorithm design will enhance its applicability in real-world clinical settings.[4] Finally, collaborating with

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healthcare providers and stakeholders to validate the algorithm's performance in diverse patient populations and healthcare settings can strengthen its generalizability and utility.

In conclusion, the quantitative performance metrics and insightful findings from this study emphasize the importance of developing robust algorithms to identify indications for biologic drug use in clinical practice. By addressing critical limitations, implementing recommendations for improvement, and initiating future research efforts, the field of clinical epidemiology can continue to evolve towards more accurate and reliable methods to optimize patient care and treatment outcomes.

Disclosure

The authors declare no competing interests in this communication.

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