Biosimilar Drugs: Knowledge and Perceptions Among Pharmacists in Algeria

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Introduction

In Algeria, the market saw the introduction of three biosimilar recombinant erythropoietins and two monoclonal antibodies between 2006 and 2012. However, the adoption of biosimilars involves several critical issues, including substitution, interchangeability, immunogenicity, traceability, and the extrapolation of therapeutic indications. These areas remain points of contention and caution across many countries. Pharmacists, as key experts in medication management, play an essential role in supporting biosimilar use and enhancing awareness among healthcare professionals and patients. In Algeria, despite the growing adoption of biosimilar medications, no study has yet explored pharmacists' perspectives on this topic. This study, aims to assess the knowledge and perceptions of Algerian pharmacists regarding biosimilar medicines.

Population and methods

Data were collected through an anonymous, self-administered questionnaire distributed online via Google Forms®. Participants received no incentives for participating in this study.

To develop the questionnaire, a literature review of previously published studies in various countries was conducted, with several questions adapted to reflect the Algerian context. A 5-point Likert scale was used to measure the perceived importance of various steps in the biosimilar approval process and to gauge pharmacists' levels of agreement with several statements regarding these medications.

The questionnaire was sent to pharmacists using email lists from scientific societies and professional pharmacist organizations in Algeria.

Results

- **Pharmacists' Knowledge Level Regarding the Structure, Origin, Regulatory Framework, and Cost of Biosimilars (N=224)**

	True	False	Correct answer
A biosimilar medication is structurally identical to its reference medication.	89 (39.7%)	135 (60.3%)	False
A biosimilar medication is identical to a generic medication.	9 (4%)	215 (96%)	False
A biosimilar medication is similar to a reference medication whose patent has expired.	141 (62.9%)	83 (37.1%)	True
A biosimilar medication has no significant differences from its reference medication in terms of physicochemical characteristics.	134 (59.8%)	90 (40.2%)	True
A biosimilar medication is approved based solely on a pharmacokinetic bioequivalence study with its reference medication.	55 (24.6%)	169 (75.4%)	False
Prescribing biosimilar medications helps reduce healthcare expenses.	192 (85.7%)	32 (14.3%)	True

- **Attitudes des pharmaciens concernant l'importance des modalités d'approbation des biosimilaires en Algérie.**

		Not important	Neutral	Important	Extremely important
Studies directly comparing the clinical efficacy and safety between reference products and biosimilars.	7 (3.1%)	26 (11.6%)	6 (2.7%)	54 (24.1%)	131 (58.5%)
Studies showing pharmacokinetic similarities between reference products and biosimilars.	14 (6.3%)	32 (14.3%)	20 (8.9%)	91 (40.6%)	67 (29.9%)
Studies demonstrating chemical/physical similarities between reference products and biosimilars.	28 (12.5%)	50 (22.3%)	47 (21%)	63 (28.1%)	36 (16.1%)
Studies providing clinical data on the immunogenicity of both the biosimilar and reference product.	12 (5.4%)	21 (9.4%)	13 (5.8%)	75 (24.1%)	103 (46%)
Studies comparing in vitro activity and functional tests between reference products and biosimilars.	29 (12.9%)	34 (15.2%)	34 (15.2%)	68 (30.4%)	59 (26.3%)
Studies on the interchangeability between biosimilars and reference products.	15 (6.7%)	29 (12.9%)	24 (10.7%)	76 (33.9%)	80 (35.7%)

Key findings

1.Knowledge of Biosimilars: 87.5% of pharmacists knew the definition of biosimilars according to the World Health Organization (WHO). However, 62% were unaware of the regulatory framework governing their approval in Algeria, and 20.2% mistakenly believed that such a framework exists for their prescription.

2.Training and Experience: 63.4% of pharmacists had dispensed biosimilars, and 61.1% had received specific training on them.

3.Perceptions of Biosimilars: While the majority of pharmacists acknowledged the importance of studies comparing biosimilars with reference drugs, a significant proportion (34.8%) expressed concerns about the safety and efficacy of biosimilars approved in Algeria. This suggests a lack of trust among pharmacists.

4.Interchangeability and Substitution: A majority of pharmacists had negative views on the interchangeability of biosimilars, though many agreed that interchangeability might be acceptable in cases of drug shortages.

5.Extrapolation of Indications: Pharmacists expressed negative views on the extrapolation of indications for biosimilars, contrasting with more favorable opinions in other countries like Tunisia.

6.Perceived Advantages and Disadvantages: Pharmacists recognized the potential advantages of biosimilars, such as lowering medication costs, reducing stock shortages, and improving access to biologic drugs.

Conclusion

In conclusion, while Algerian pharmacists are generally knowledgeable about biosimilars, there are notable gaps in understanding regulatory procedures, and concerns about the clinical implications of their use persist.

References

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