

Suicidal ideation in patients undergoing treatment with 5 α -reductase inhibitors

Ana Silva^{1,2,3*}, Crisália Barbosa^{4#}, Joana Sousa^{5#}

¹Centro de Investigação em Saúde e Ambiente, Escola Superior de Saúde, Instituto Politécnico do Porto, Rua Dr. António Bernardino de Almeida, 4200-072, Porto, Portugal, alu@ess.ipp.pt

²UMIB - Unit for Multidisciplinary Research in Biomedicine, ICBAS - School of Medicine and Biomedical Sciences, University of Porto, Porto, Portugal

³ITR - Laboratory for Integrative and Translational Research in Population Health, Porto, Portugal

⁴Centro Hospitalar Universitário de Santo António (CHUdSA), 4099-001 Porto, Portugal, u09384@chporto.min-saude.pt

⁵Centro Hospitalar do Tâmega e Sousa, E.P.E., Penafiel, Portugal, 74245@chts.min-saude.pt

*Corresponding author

#All authors contributed equally to this work.

Background: There have been concerns raised by patients and regulatory agencies after the emerging of reports on men who had used finasteride and developed psychiatric adverse effects such as suicidal ideation.

Objectives: Our aim was to critically review the literature on the risk of suicidal ideation and suicide during or after use of 5 α -reductase inhibitors. **Methods:** In November 2023, we conducted a search of the PubMed database using the search equation ("5-alpha Reductase Inhibitors" [Pharmacological Action]) AND "Suicidal Ideation" [Mesh]. The available scientific publications were analyzed by the authors, collecting pertinent information on the association of testosterone 5- α reductase inhibitors and suicidal ideation. **Results:** In total, 12 publications were obtained and 8 were excluded (three were commentary articles, two had no full-text available, one was a letter to the editor, one was a meta-analysis, and one was a pharmacovigilance note). One additional publication was included after analyzing the references of the studies obtained. The analysis of the 5 original articles included revealed that there is no apparent difference in the presence of suicidal ideation when comparing different 5 α -reductase inhibitors (finasteride and dutasteride) [1–5]. However, there seem to be contradictory results when comparing different doses of finasteride [2,4] and patients age or therapeutic indications (alopecia and benign prostatic hyperplasia) [4]. One of the studies also revealed that there is a greater risk of suicidal outcomes only in patients with a history of mood disorders, reinforcing the importance of psychiatric history as a confounding factor in the analysis of studies [3]. **Conclusion:** In sum, more studies are needed to understand suicidal ideation in patients undergoing treatment with 5 α -reductase inhibitors, clarifying potential confounding covariates, to improve evidence-based clinical practice.

Keywords: Adverse Effects; Benign Prostate Hyperplasia; Dutasteride; Finasteride; Pharmacovigilance.

Acknowledgements

Funding: This research did not receive external funding.

References:

- [1] Ali AK, Heran BS, Etminan M. Persistent Sexual Dysfunction and Suicidal Ideation in Young Men Treated with Low-Dose Finasteride: A Pharmacovigilance Study. *Pharmacotherapy* 2015;35. <https://doi.org/10.1002/phar.1612>.
- [2] Kim JA, Choi D, Choi S, Chang J, Park SM. The Association of 5 α -Reductase Inhibitor with Suicidality. *Psychosom Med* 2020;82. <https://doi.org/10.1097/PSY.0000000000000784>.
- [3] Laanani M, Weill A, Jollant F, Zureik M, Dray-Spira R. Suicidal risk associated with finasteride versus dutasteride among men treated for benign prostatic hyperplasia: nationwide cohort study. *Sci Rep* 2023;13. <https://doi.org/10.1038/s41598-023-32356-3>.
- [4] Nguyen DD, Marchese M, Cone EB, Paciotti M, Basaria S, Bhojani N, et al. Investigation of Suicidality and Psychological Adverse Events in Patients Treated with Finasteride. *JAMA Dermatology* 2021;157. <https://doi.org/10.1001/jamadermatol.2020.3385>.
- [5] Welk B, McArthur E, Ordon M, Anderson KK, Hayward J, Dixon S. Association of suicidality and depression with 5 α -reductase inhibitors. *JAMA Intern Med* 2017;177. <https://doi.org/10.1001/jamainternmed.2017.0089>.