



# Integrity in research to maintain public trust. A critique of the manuscript by Vats V and coll. published in the Irish J Med Sci 2024; 193: 1787–95

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Received: 24 October 2024 / Accepted: 29 October 2024

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In the process of reviewing the evidence on the association between sleep disturbances and the risk of developing atrial fibrillation, we came across the study by Vats V et al. recently published in your journal [1]. We were surprised and rather disappointed at the bad quality of the review that should not have been published in the current format. Inappropriate, misleading, missing, and inaccurate citations pervade the biomedical literature [2] and integrity in research needs preserving to maintain public trust in health-related research [3, 4].

An array of errors in the manuscript renders the work difficult to understand and raises serious concerns about the quality and rigour of the research methodology used. There are also inconsistencies in the methods that suggest that the PRISMA criteria have not been applied rigorously.

The eligibility criteria include prospective and retrospective observational studies, as well as RCTs. Table 1 includes studies defined as cohort and observational. At a close look, however, Table 1 appears extremely problematic. All listed studies (from reference 6–13) do not match the description in the table. They are mostly review articles and one irrelevant publication (Sharma et al. #19) that should not have been detected by the reported search. With the exception of Genuardi et al. (the description of which in Table 1 is wrong as it was published in 2019 from the USA), none of those studies match the studies presented in Figs. 2–4 and Table 2 (referring instead to references 14–16 and 18–20). It is suspicious that ref. 17 (Gaffey et al.) and ref 25 (Arafa et al.) were not included in the analysis (although on page 1789 the authors declare inclusion of reference 17). The former is a retrospective analysis of a US cohort of over 1 million veterans followed up for 10 years. Insomnia was recorded and

associated with AF in over 4,000 incident cases. In the latter, Hazard Ratios are reported from The Suita Study, a very large (over 6,000 participants) prospective study completed in Japan. Both studies fulfil the inclusion criteria and should have been part of the meta-analysis. Conversely, we find a study by Allison et al. 2023 in Figs. 2 and 4 and Table 2, not listed in the references.

The analysis raises concerns too. The pooling in the meta-analysis of studies of different design (cross-sectional and prospective), and with different exposures (sleep duration and obstructive sleep apnoea), makes inference on causality impossible. In future meta-analyses, given the high risk of reverse causality of the association between sleep duration and atrial fibrillation, only prospective studies should be considered to help infer causality.

The work by Vats et al. is of poor standard and does not meet the minimum standards required for a scientific publication. Lack of rigour in research is becoming widespread [2]. The spread of misinformation in science is echoed through social media [5] that become platforms for low-quality research, posing a considerable threat to public health [6] and undermining public trust [3].

We would therefore respectfully recommend the retraction of this manuscript from the public domain until a fully revised and carefully peer-reviewed version be resubmitted for publication.

## References

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