

REVIEWER'S REPORT

Manuscript No.: IJAR-56348

Title: Prevalence, incidence, and associated risk factors of hypoglycemia among patients with diabetes using insulin pump therapy: mini-review

Recommendation:

Accept as it is.....

✓ **Accept after minor revision.....**

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		✓		
Techn. Quality		✓		
Clarity		✓		
Significance	✓			

Detailed Reviewer's Report

Strengths of the Study:

- The manuscript addresses an important clinical issue relating to hypoglycemia risk in insulin pump users, a topic of high relevance for improving diabetes management.
- The review synthesizes data from multiple high-quality sources including observational studies, systematic reviews, and meta-analyses.
- The methodology includes a comprehensive literature search across multiple databases and relevant journals, enhancing the breadth of coverage.
- The findings highlight key risk factors and benefits of combining insulin pumps with continuous glucose monitoring (CGM).
- The paper provides practical insights into patient selection and device features that influence hypoglycemia risk.
- The inclusion of recent systematic reviews adds value to the current understanding of insulin pump outcomes.

Weaknesses of the Study:

- The review relies heavily on observational and registry data, which are susceptible to bias and heterogeneity.
- Definitions of hypoglycemia vary across studies, complicating direct comparisons and synthesis of prevalence estimates.
- The heterogeneity in detection methods (self-report vs. CGM) and outcome measures limits the ability to perform a quantitative meta-analysis.
- The search time frame in some parts appears inconsistent (e.g., up to 2025), which may be a typographical or referencing error.
- Little discussion is provided on the quality assessment and risk of bias of included studies.
- The manuscript could benefit from clearer organization in presenting results and risk factors.
- Limited discussion on the potential impact of newer closed-loop systems and technological advancements.
- Minor typographical and grammatical issues are present throughout the text.
- The references are comprehensive but need updating and consistent formatting.

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Reviewer Comments:

- **Title and Abstract:** The title accurately reflects the content. The abstract clearly summarizes the background, methods, key findings, and conclusions, although some sentences could be made more concise for clarity.
- **Introduction and Objectives:** The introduction sets the stage well but could more explicitly outline the specific objectives of the review, including the scope of hypoglycemia definitions and populations considered.
- **Methodology and Statistical Analysis:** The search strategy is thorough, encompassing multiple databases. However, specifics regarding inclusion/exclusion criteria, quality assessment tools used, and the narrative synthesis approach should be expanded for transparency. Clarify the reason for the apparent date cutoff at 2025, which may be a typographical error. The statistical analysis is primarily narrative; consistent justification for this approach is needed.
- **Results and Discussion:** Results are well summarized but could benefit from more structured presentation, such as clear subsections on prevalence, incidence, risk factors, and interventions. The discussion appropriately highlights the benefits of CGM integration but should acknowledge the limitations of heterogeneity across studies more explicitly. Addressing the role of newer technologies and future research directions in greater depth would strengthen the discussion.
- **Conclusion and Implications:** The conclusions rightly emphasize that insulin pump therapy reduces severe hypoglycemia but does not eliminate risk. Clearer recommendations for clinical practice and research priorities should be articulated.
- **Ethical Clearance:** As a review article, no ethical approval is typically required; however, a brief statement confirming this or noting that no primary data collection was involved would be appropriate.
- **Language and Presentation:** The manuscript contains minor grammatical errors and typos. A thorough language editing is recommended. Tables and references are generally adequate but should follow consistent formatting.

Note: Based on the content, there is no indication that it has been previously published on the internet or in other academic sources. However, to definitively confirm originality and prevent potential plagiarism issues, I recommend running the manuscript through a dedicated plagiarism detection tool or cross-referencing with established medical databases.