Review of: "Reduced Blood to Brain Glucose Transport as The Cause For Hyperglycemia: a Model That Resolves Multiple Anomalies in Type 2 Diabetes"

Nithar Ranjan Madhu

Potential competing interests: No potential competing interests to declare.

Reduced Blood to Brain Glucose Transport as The Cause For Hyperglycemia: a Model That Resolves Multiple Anomalies in Type 2 Diabetes

In general, the research paper with the interesting title "Reduced Blood to Brain Glucose Transport as the Cause for Hyperglycemia: a Model That Resolves Multiple Anomalies in Type 2 Diabetes" presents a novel hypothesis regarding the potential role of reduced blood-to-brain glucose transport in the pathophysiology of type 2 diabetes. In order to provide evidence for its assertions, the manuscript makes use of both theoretical modelling and empirical analysis. There are a few concerns that need to be addressed and clarified before the paper can be considered for publishing, despite the fact that the notion is intriguing and may have substantial implications for a better understanding diabetes. These points are as follows:

(1) It is recommended that you begin with a straightforward introduction that summarises the problem statement, the hypothesis, and the significance of the research. Before delving into the specifics of the model and the data analysis, this will provide readers with a better understanding of the context.

(2) The text does not contain a full overview of the relevant prior research. It is vital to provide some information on the previous research that has been done in relation to the transfer of glucose from the blood into the brain and its connection to diabetes. The reader will have a better time understanding the novelty and importance of the proposed paradigm as a result of this. There is a shortage of current references (2021, 2022 and 2023) in this article.

(3) The idea is given some mathematical evidence through the use of a model in the manuscript. It is of the utmost importance to articulately express the assumptions that the model is operating under and to offer reasons for these presumptions. In addition, you should think about talking about the constraints of the model, seeing as how every mathematical model has certain inherent simplifications.

(4) If statistical tests were run to verify the validity of the model or hypothesis, present the results and discuss the importance of those results. It is essential to provide statistical evidence that supports the validity of the findings.

(5) The discussion section has to be expanded in order to give a more in-depth study of the data, their significance for understanding type 2 diabetes, and the potential clinical uses of these findings. Take into consideration the possibility of responding to complaints or offering alternate interpretations of the results.

(6) The conclusion needs to provide a conclusion of the most important results and the importance of those findings. It is vital to clarify in a clear and concise manner, as noted in the title, how the suggested model resolves many irregularities that are present in type 2 diabetes.

(7) Check to see that the references in the paper have been brought up to date and cover any pertinent previous research. Cite all of your sources in the appropriate manner, and make sure the citation style is consistent across the entire text. There are some references appended to this message for your most recent citations.

Acharya, C.K., Das, B., Madhu, N.R., Sau, S., Manna De, M., &**Sarkar, B**. (2023). A Comprehensive Pharmacological Appraisal of Indian Traditional Medicinal Plants with Anti-diabetic Potential**. Advances in Diabetes Research and Management**, Chapter length: 163–193, Springer Nature Singapore Pte Ltd., Online ISBN-978-981-19-0027-3. https://doi.org/10.1007/978-981-19-0027-3_8

Biswas, T., Behera, B. K., & **Madhu, N.R.*** (2023). Technology in the Management of Type 1 and Type 2 Diabetes Mellitus: Recent Status and Future Prospects. 26 pages, Springer Nature Singapore Pte Ltd., DOI: 10.1007/978-981-19-0027-3_6

Roy, R., Chakraborty, A., Jana, K., **Sarkar, B.,** Biswas, P., & Madhu, N.R. (2023). The Broader Aspects of Treating Diabetes with the Application of Nanobiotechnology. **Advances in Diabetes Research and Management**, 137–162, Springer Nature Singapore Pte Ltd., 978-981-19-0027-3, https://doi.org/10.1007/978-981-19-0027-3_7

Sur, T., Das, A., Bashar, S., Tarafdar, S., Sarkar, B., & Madhu, N.R. (2023). Biochemical Assay for Measuring Diabetes Mellitus. 1–20, Springer Nature Singapore Pte Ltd. https://doi.org/10.1007/978-981-19-0027-3_1

Shrubawati Sarkar, Soumok Sadhu, Rupak Roy, Sambit Tarafdar, Nabanita Mukherjee, Moumita Sil, Arunava Goswami, **Nithar Ranjan Madhu*** (2023). Contemporary Drifts in Diabetes Management. *Int. J. App. Pharm.,* 15(2): 1-9. (Scopus) (ISSN: 0975-7058)