

Peer Review

Review of: "Evaluation of Antidiabetic Potential of *Gymnema Sylvestre* and Metformin Combination in Streptozotocin-Induced Diabetic Rats"

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This manuscript describes the potential contribution of *Gymnema sylvestre* in combination with Metformin to lowering FBG and its biochemical responses based on experiments carried out on high fat diet-STZ induced rats. The authors have reported relevant results and stated study limitations in the manuscript. The study outcome could help diabetic patients decide on herbal supplementation along with regular Metformin intake or to opt for only herbal treatment.

As far as scientific publication is concerned, recently, the research trend on diabetes using in vivo models is very much advanced with the inclusion of in vivo studies for mechanisms of action, in silico for potential structure-function claims using a metabolomics approach, and molecular docking and molecular dynamics at the least.

The present manuscript could be expanded by additional results to meet the requirements of high-impact factor journals and to present up-to-date datasets. Here are my sincere suggestions: It is necessary to elucidate a spectrum of active compounds in the extract using HPLC or higher chromatographic analysis such as LCMS/MS. Then, the selected elucidated compound (maybe Gymnemic acid) can be used in molecular docking to one or more known specific diabetic-ligand proteins in silico. By doing this, the author can firmly suggest the possible compound responsible for improving the condition. Furthermore, it is also interesting to see how metformin performs under molecular docking/dynamics along with this selected compound. By using LCMS/MS, this data could be further analyzed for its metabolomic pathway analysis using any suitable metabolomic software like Metaboanalyst.

Apart from the above, it is more attractive if the author could provide more data as described in the Limitation section. Those will bring more weight to the manuscript and could trigger wider interest among readers. If possible, the drug-herb interaction analysis should also be carried out to find the suitable combination dose of metformin and GS extract. It is necessary to do so since the current combination dosage might not be the best.

Declarations

Potential competing interests: No potential competing interests to declare.