

Comment on “Hyperglycemia in pregnancy: sleep alterations, comorbidities and pharmacotherapy”

Rui Guo¹ , Xiaoyu Zhang^{1*} 

Dear editor,

We are pleased to read the article entitled “Hyperglycemia in pregnancy: sleep alterations, comorbidities and pharmacotherapy.” This cross-sectional study examined sleep alterations and related factors in pregnant women with diabetes mellitus¹. In this study, the authors found that poor sleep quality was detected in 58.8% of patients, regardless of the cause of hyperglycemia. In addition, another interesting finding was that metformin treatment and higher parity were associated with poorer sleep quality only in patients with gestational diabetes. Undoubtedly, the conclusions of this study will help further improve the sleep quality of diabetics. However, in our point of view, there are still some issues that deserve further discussion.

First, the purpose of this study was to explore the factors associated with poor sleep quality in patients with diabetes. However, some potential important factors have been overlooked. Obviously, the duration of diabetes is related to sleep quality, which has been confirmed in previous studies^{2,3}. In a study² involving 198 participants, the authors found that the duration of diabetes was significantly associated with poor sleep quality (AOR 4.88; 95%CI 1.27–18.66; $p=0.021$), implying that longer duration of diabetes results in a significant reduction in sleep quality. Furthermore, although this study reported glycemia level, it was still inadequate. Another retrospective

study³ indicated that nocturnal glycaemic variability was associated with poor sleep quality in patients with type 1 diabetes, indicating that it is still obviously insufficient to use only glycemia level to judge the sleep quality of patients. Therefore, it is suggested that it is necessary to include the duration of diabetes and nocturnal blood glucose variables for subsequent analysis when exploring the influencing factors related to sleep quality in diabetic patients.

Second, metformin treatment was found to be associated with poorer sleep quality only among patients with gestational diabetes. However, given that type 1 diabetes, type 2 diabetes, and gestational diabetes belong to different disease subtypes, there may also be significant differences in the dose and use of metformin. One possible hypothesis is that metformin affects sleep quality in all three diabetic subtypes, but is ignored due to different doses and usages. Thus, from our perspective, to further determine the effects of metformin on sleep quality in patients with different diabetes subtypes, it is necessary to provide more information about metformin.

AUTHORS' CONTRIBUTION

RG: Conceptualization, Writing – original draft. **XZ:** Conceptualization, Writing – original draft

REFERENCES

1. Façanha C, Bruin V, Bruin P, Façanha A, Rocha HC, Araujo M, et al. Hyperglycemia in pregnancy: sleep alterations, comorbidities and pharmacotherapy. *Rev Assoc Med Bras* (1992). 2021;67(1):45-51. <https://doi.org/10.1590/1806-9282.67.01.20200216>
2. Jemere T, Mossie A, Berhanu H, Yeshaw Y. Poor sleep quality and its predictors among type 2 diabetes mellitus patients

attending Jimma University Medical Center, Jimma, Ethiopia. *BMC Res Notes*. 2019;12(1):488. <https://doi.org/10.1186/s13104-019-4531-6>

3. Martyn-Nemeth P, Phillips SA, Mihailescu D, Farabi SS, Park C, Lipton R, et al. Poor sleep quality is associated with nocturnal glycaemic variability and fear of hypoglycaemia in adults with type 1 diabetes. *J Adv Nurs*. 2018;74(10):2373-80. <https://doi.org/10.1111/jan.13765>

¹Shiyan Maternal and Child Health Hospital – Hubei, China.

*Corresponding author: 15926191812@163.com

Conflicts of interest: the authors declare there is no conflicts of interest. Funding: none.

Received on April 17, 2022. Accepted on April 28, 2022.

