

## Letter to Editor: Effect of core stabilization exercises on cervical sagittal balance parameters in patients with forward head posture: a randomized controlled trial in Egypt

Ishika, Zaki Anwer

Department of Physiotherapy, Lovely School of Allied Medical Sciences, Lovely Professional University, Phagwara, India

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**Corresponding author:** Zaki Anwer

Department of Physiotherapy, Lovely School of Allied Medical Sciences, Lovely Professional University, Phagwara, Punjab 144411, India

**Tel:** +91-9816285755, **E-mail:** zakianwer.1974@gmail.com

Dear Editor,

The authors have provided important insights into forward head posture rehabilitation, and we appreciate their work. This study is on “Effect of core stabilization exercises on cervical sagittal balance parameters in patients with forward head posture: a randomized controlled trial in Egypt [1],” which explores core stabilization exercises for cervical sagittal balance, a relevant area of research. Postural correction for forward head posture can reduce pain and improve function, contributing to the growing evidence on non-invasive treatments and providing an alternative to more invasive or costly options.

However, we believe addressing these concerns could further strengthen the findings and improve the robustness of the study. Firstly, some important methodological concerns need to be addressed, even though the study used a randomized controlled trial, which is the gold standard for intervention-based research. Although the studies assume that core stability has a direct impact on cervical sagittal balance, the biomechanical rationale is yet unknown [2]. Further explaining how core activation impacts cervical alignment, beyond theoretical assumptions, could strength-

en the study’s rationale. Additionally, direct therapies like deep cervical flexor training and scapular control exercises should be considered for comparison [3].

**Measurement tool:** The diagnosis of forward head posture is made using the craniovertebral angle cut-off of  $\leq 50^\circ$ ; however, there is no explanation for its clinical applicability in this situation [4]. **Blinding:** Although block randomization was used appropriately, we suggest incorporating allocation concealment and blinding techniques for outcome assessment in future studies to reduce bias and improve rigor, particularly assessor blinding to ensure result validity [5]. **Sample size:** According to the paper, the effect size of 0.5 was used to compute the sample size using G\*Power (Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany); however, there is no explanation for this choice [6]. We recommend that the potential impact of dropout rates be considered in future sample size calculations, as this would help ensure the findings are generalizable [7].

Reporting the Shapiro-Wilk test for normality and Levene’s test for homogeneity of variance would clarify the assumptions for the two-way mixed-design multivariate analysis of variance and help assess the validity

of the results [8]. Effect sizes (Cohen's  $d$ , partial  $\eta^2$ ) are not consistently stated in the study, while  $p$ -values are reported [5]. It would be easier to understand the clinical importance of the findings if confidence intervals were included [7]. Although the experimental group's cervical sagittal vertical alignment and Neck Disability Index significantly improved, the study found no significant difference in Cobb's angle between the groups.

Clinical significance, which is crucial in rehabilitation research, is not addressed even if statistical significance is stated [9]. To find out if adjustments to cervical alignment truly decreased pain or impairment, no correlation analysis was conducted [4]. We look forward to seeing future studies that build on this work and address the points raised here, contributing even more to the understanding and treatment of forward head posture.

## Conflict of Interest

No potential conflict of interest relevant to this article was reported.

## ORCID

Ishika: <https://orcid.org/0009-0001-3411-9128>;  
Zaki Anwer: <https://orcid.org/0000-0002-3705-2782>

## Author Contributions

All the work for the preparation of this commentary was done by Ishika Jaiswal and Zaki Anwer.

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