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Letter to the Editor

Comments on "Effectiveness of sustained natural apophyseal glides in females with cervicogenic headache: A randomized controlled trial"

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Dear Editor,

After having read the conclusion of the systematic review of Bini et al. who recommended to conduct additional trials on the effectiveness of manual therapy in patients with cervicogenic headache [1], we read with interest the study by Kashif et al. [2] who investigated the effect of sustained natural apophyseal glides (SNAGs) in similar patients. Besides the fact that this study is not really original as the experimental protocol is nearly identical to the one of Shin et al. [3], we want to point out that caution should be taken when reading the conclusions of the article by Kashif et al. As motivation, we would like to highlight the following points in particular:

Firstly, analysis of the results section reveals several inconsistencies. Notably, discrepancies are observed in the data concerning the height in centimeters of the participants of both groups (i.e., 5.37 ± 20 and 5.33 ± 0.16, respectively). Additionally, the cervical extension range of motion changed from 32.45° at week 3 to 0.87° at week 4 of the treatment. More concerning is the presence of implausible data in the results section, specifically the entirely identical data, including means and standard deviation, in both groups at baseline and week 1 for the NDI score (i.e., 22.10 ± 7.77).

Secondly, the analysis of the results relies exclusively on the p-value. However, current consensus suggests the utilization of the effect size as the primary metric for interpreting observed changes following a treatment. This preference stems from the limitation of the p-value, which fails to provide information on the magnitude of the effect [4]. Another notable limitation is the absence of an explanation regarding the methodology for calculating the sample size. Furthermore, certain analyses provide confusing results; for instance, the comparison between groups concerning the pre-measurement of VAS produces different p-values results in Tables 1 and 2.

Thirdly, important information is lacking regarding the outcomes. Specifically, a clearly identified primary outcome is not identified. Additionally, the nature of the pain VAS is ambiguous – whether it assesses present pain, average pain over the last 24 hours or 7 days remains unclear. Furthermore, it is uncertain whether the NDI score is expressed in percentage terms. The interpretation of the result (1.4 ± 0.11) for the question "Does your headache aggravate with physical activity" is also unclear. Moreover, the provided information regarding the clinimetric properties of the assessment tools is incomplete and inadequate. For example, the VAS tool used in the present study is reported to have an excellent intra-rater and inter-rater reliability ($r =$ 0,99 and $r = 1$) based on the study of Wagner et al. [5] who focused on acute mountain sickness. The use of

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a numeric rating scale, which has been tested in such patients, would have been more appropriate [6].

Considering these substantial limitations, we find the conclusions drawn in this article to be potentially misleading.

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