

Using Radial Shock Wave Therapy to Control Cerebral Palsy-Related Dysfunctions: A Randomized Controlled Trial [Letter]

Sumyia Mehrin Omar , Aboma Zewude Abdissa , Maryam Mohammed Bashir 

Institute of Public Health, College of Medicine and Health Sciences, United Arab Emirates University, Al Ain, United Arab Emirates

Correspondence: Maryam Mohammed Bashir, Institute of Public Health, College of Medicine and Health Sciences, United Arab Emirates University, Al Ain, United Arab Emirates, Email 201890105@uaeu.ac.ae

Dear editor

We read with great interest the article by Hussein et al, titled “Using Radial Shock Wave Therapy to Control Cerebral Palsy-Related Dysfunctions: A Randomized Controlled Trial”.¹ The study concluded that the Radial shock wave therapy (rSWT) is an effective supplementation to the standard physical therapy in children with spastic cerebral palsy (CP) to improve muscle tone, range of motion (ROM), and gross motor functions (GMF). The authors also recommended that rSWT be incorporated into clinical practice. This vital study contributes to the growing research into evaluating the use of rSWT for a new indication; however, we should be careful in interpreting the results due to some methodological issues.

Some important factors could confound the effects of rSWT on the outcomes assessed in this study; however, at baseline, only age, height, and weight were assessed. Several research studies have established sports and physical activity outside routine therapy to improve CP patients’ quality of life and motor functions, including parameters like ROM and GMF.² Variations in this important confounder amongst participants should be measured and adjusted. In addition, allocation concealment (which protects the integrity of randomization to minimize selection bias and confounding) might have been compromised as it was not clear whether the physical therapist (who saw the allocation sequence) was also part of the recruitment team.³

Furthermore, based on the parameters described by the authors (effect size - 0.5, significance level - 0.05, and power - 80%), sample size calculation using the difference between two independent means (unpaired *t*-test) in G*Power software would yield 128 participants (64 in each group) and not 35 per group. Either there is a reporting mistake in the effect size (should be approximately 0.7), or other assumptions (such as paired *t*-test or repeated measures ANOVA) were used for the calculation, in which case the study is underpowered to test the effectiveness of rSWT between the two groups. We understand the challenges of having adequate sample size in some clinical trials and recommend that future researchers for similar studies consider including patients with other types of CP while maintaining methodological rigor. A robust sample size calculation is vital to improve the validity of trial results and increase certainty in the effectiveness of therapies like rSWT.⁴

Finally, we want to draw the authors’ attention to the possibility of having performance bias in this study. This trial was reported as double-blinded; however, blinding the assessor and statistician alone does not constitute true double-blinding. This error is seen in many reported RCTs. Authors of RCTs should report the trial as double-blinded if both participants and investigators were blinded. Double-blinding limits potential performance bias in RCTs.³

In conclusion, we applaud the efforts of the authors to contribute to such an important topic. We recommend ensuring methodological rigor at each stage of the trial to give evidence-based recommendations. We also recommend future similar studies to include the assessment of other clinical outcomes, like the quality of life of the children.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Hussein HM, Gabr AM, Aldhahi MI, et al. Using radial shock wave therapy to control cerebral palsy-related dysfunctions: a randomized controlled trial. *Int J Gen Med.* 2025;18:1439–1450. doi:10.2147/IJGM.S510383
2. Romeo DM, D'Amario G, Brunozzi G, et al. Sports activities in children with cerebral palsy: a narrative review. *Medicina.* 2024;60(3):457. doi:10.3390/medicina60030457
3. Higgins JP, Savović J, Page MJ, Elbers RG, Sterne JA. Assessing risk of bias in a randomized trial. In: *Cochrane Handbook for Systematic Reviews of Interventions.* Wiley Online Library; 2019:205–228.
4. Wang X, Ji X. Sample size estimation in clinical research: from randomized controlled trials to observational studies. *Chest.* 2020;158(1):S12–S20. doi:10.1016/j.chest.2020.03.010

Dove Medical Press encourages responsible, free and frank academic debate. The content of the International Journal of General Medicine 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the International Journal of General Medicine editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

International Journal of General Medicine

Publish your work in this journal

The International Journal of General Medicine is an international, peer-reviewed open-access journal that focuses on general and internal medicine, pathogenesis, epidemiology, diagnosis, monitoring and treatment protocols. The journal is characterized by the rapid reporting of reviews, original research and clinical studies across all disease areas. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/international-journal-of-general-medicine-journal>

Dovepress
Taylor & Francis Group

<https://doi.org/10.2147/IJGM.S535117>