



## Correspondence

## Letter to the editor, “Cerebellar repetitive transcranial magnetic stimulation for patients with essential tremor”

## ARTICLE INFO

## Keywords:

Essential tremor  
Letter to the Editor  
Repetitive transcranial magnetic stimulation  
Cerebellum

## Dear Editor,

We thank you for providing an opportunity to write correspondence or letter to the editor to the recent short communication titled, “Cerebellar repetitive transcranial magnetic stimulation for patients with essential tremor” by Shin and colleagues, published by the journal, Parkinsonism and Related Disorders. [1]. We have read the short communication with much interest and they have explained the benefit of cerebellar repetitive transcranial magnetic stimulation (rTMS) for the patients with essential tremor. Regarding the article we would like to elaborate few methodological and statistical part in detail.

First, we would like to appreciate the authors for clearly and concisely introducing the cerebello-thalmo-cortical involvement in essential tremor. The introduction part is more informative and interesting. [1].

Second, under methodology section randomization is not clearly mentioned, that how they performed and which method they have used for randomization. In the starting line of the procedure, the information related to randomization is inadequate. [1]. They could have explained about block randomization in detail, if they could have used them. We would like to add the information related to block randomization. According to it, there could have been four blocks, with the matrix design of  $4 \times 6$ , where 6 being rows. Each row could have four blocks, with one chit (SNOSE - sequentially numbered, opaque sealed, envelopes) in each block containing either the name of rTMS group or sham rTMS group. Total four chits (2 chits for each group) could have been assigned to each row in six possible permutations of allocation. The subjects could have been allotted to one of the two group based on the randomly chosen chit (SNOSE). Once the first row was allotted, then the next row block could have been opened for enrolment. But, in the sixth row, only two chits (1 chit for each group) could have been used, thus randomly assigning 22 subjects into two groups. The advantage of this method of randomization is that the number of subjects assigned to each group over time would have been approximately equal. By this the unequal allocation of sample size, 12 and 10 in rTMS group or sham rTMS group respectively could have been avoided. The concealed allocation of subjects to the treatment groups could have been explained by using SNOSE. If the above procedure could have been adopted, then PEDro score could have been 6/10, making it high quality RCT. Due to

the lacking of information related to, allocation concealment (1/10), failure to add p-value to confirm baseline similarity between groups (1/10), blinding of assessor and therapist (2/10), and intention to treat information (1/10). [2]. Thus, making only the total score of 5/10 (fair quality RCT), and adding 2A Level of Evidence to the existing literature. [2,3]. In addition to it, Study setting and sampling technique should have been explained briefly.

Third, in statistical analysis, Shapiro-Wilk test of normality should have been described for estimating normality because the sample size is less than 50. In Table 1, if the central tendency and dispersion of data were expressed in median (Inter Quartile Range) with range would be more appropriate, than expressed in mean  $\pm$  SD. [4]. As they have used the non-parametric test, Mann-Whitney *U* test, in which median, the middle most rank is being compared between the groups. [5]. In Table 1, they have mentioned the mean  $\pm$  SD between both the groups without their corresponding p-values and this would again not much helpful in determining the baseline similarity between the groups.

Finally, under result section, there is a typographical error in the last fifth line of results. The mean motor-evoked potentials (MEPs) before the intervention of rTMS should have been  $0.80 \pm 0.42$  mV instead of  $080 \pm 0.42$  mV. Moreover, from Figure 1, the baseline reading of Fahn-Tolosa-Marin tremor rating scale between rTMS group and sham rTMS group were not similar. [1]. Hence, this would have violated the baseline similarity before the beginning of intervention.

Considering the above discussion, we urge the reader to interpret the results with caution. Nevertheless, this is one of the few studies available in the row of scientific literature regarding rTMS in patient with essential tremor.

## References

- [1] H. Shin, M. Hallett, Y.H. Sohn, Parkinsonism and Related Disorders Cerebellar repetitive transcranial magnetic stimulation for patients with essential tremor, *Park. Relat. Disord.* (2019) 1–4, <https://doi.org/10.1016/j.parkreldis.2019.03.019> In Press <https://doi.org/10.1016/j.parkreldis.2019.03.019>, Accessed date: 25 May 2019.
- [2] PEDro Scale (English) [Internet]. [cited 2019 May 25]. Available from: <https://www.pedro.org.au/english/downloads/pedro-scale/>.
- [3] E. Ferluga, K. Archer, N. Sathe, S. Krishnaswami, A. Klint, M. Lindegren, et al., Table 5, Levels of evidence (adapted from Sackett) used in Snider review, [Internet], Interventions for Feeding and Nutrition in Cerebral Palsy, Agency for Healthcare Research and Quality (US), 2013[cited 2019 May 25]. Available from: <https://www.ahrq.gov/evidence/synthesis/feeding-nutrition-cerebral-palsy/>.

[ncbi.nlm.nih.gov/books/NBK132444/table/methods.t4/](https://ncbi.nlm.nih.gov/books/NBK132444/table/methods.t4/).

- [4] F. Habibzadeh, Statistical data editing in scientific articles, *J. Korean Med. Sci.* [Internet] 32 (7) (2017 Jul) 1072–1076. Available from: <http://synapse.koreamed.org/DOIx.php?id=10.3346%2Fjkms.2017.32.7.1072>.
- [5] J.L. Peacock, S.M. Kerry, R.R. Balise, *Introduction to presenting statistical analyses: presenting continuous data*, *Presenting Medical Statistics: from Proposal to Publication*, second ed., Oxford University Press, Croydon, United Kingdom, 2017, p. 59.

Navjyoti Gupta (BPT, MPT)

*Department of Neurological Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, 133207, Ambala District, Haryana, India*

Neha Sharma (BPT, MPT)\*\*

*Department of Pediatric and Neonatal Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, 133207, Ambala District, Haryana, India*

*E-mail address: [neha\\_sharma@mmumullana.org](mailto:neha_sharma@mmumullana.org).*

Asir John Samuel (MPT, (PhD))\*

*Department of Pediatric and Neonatal Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, 133207, Ambala District, Haryana, India*

*E-mail address: [asirjohnsamuel@mmumullana.org](mailto:asirjohnsamuel@mmumullana.org).*

\*\* Corresponding author.

\* Corresponding author.