

# Correspondence: Skeletal Maturation and Mineralization of Children with Moderate to Severe Spastic Quadriplegia

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Sir,

We read with great interest the original article by Sharawat IK, et al., in the June 2016 issue of your journal [1]. At first, we would like to commend the authors for their endeavour but at the same time feel that few clarification are required and also would like to make the following comments which would benefit the general reader of JCDR:

1. The authors aimed to evaluate the Bone Mineral Density (BMD) of children with moderate to severe spastic quadriplegia in a case-control model. The controls were stated to be age matched healthy children. But in order to appropriately assess the effect of cerebral palsy independent of its most important determinant, i.e., malnutrition, the controls should have been matched for nutritional status with the cases. This is again re-emphasized by the fact that one of the inherent flaws of Dual Energy X-ray Absorptiometry (DEXA) scan is that it under reads bone mineral content and bone density in smaller individuals and over reads these parameters in larger individuals [2]. This can give rise to significant differences in case and control population if they are not 'size-matched', and ideally all DEXA measurements should use Z scores corrected for height age.
2. No information about sample size calculation was provided.

3. The authors did not provide any explanation for the significantly different BMD values of upper extremities compared with other regions.

4. It is mentioned that history of exposure to sunlight was recorded but the same has not been presented anywhere.

5. The authors only mentioned about patients taking one or more anticonvulsants but did not give their duration of use or specify them, as all anticonvulsants are not known to affect bone health [3].

6. The authors mentioned using IAP criteria [4] for defining and grading malnutrition but the results mentioned "non-severe" malnutrition, which is not a category in the aforementioned classification.

## REFERENCES

- [1] Sharawat IK, Sitaraman S. Skeletal maturation and mineralisation of children with moderate to severe spastic quadriplegia. *J Clin Diagn Res.* 2016;10:SC01-SC05.
- [2] Morita R, Orimo H, Yamamoto I, Fukunaga M, Shiraki M, Nakamura T, et al. Some problems of dual-energy X-ray absorptiometry in the clinical use. *Osteoporos Int.* 1993;3(Suppl 1):87-90.
- [3] Meier C, Kraenzlin ME. Antiepileptics and bone health. *Ther Adv Musculoskelet Dis.* 2011;3:235-43.
- [4] Khadilkar VV, Khadilkar AV, Choudhury P, Agarwal KN, Ugra D, Shah NK. IAP growth monitoring guidelines for children from birth to 18 years. *Indian Pediatr.* 2007;44:187-97.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: Jun 10, 2016

Date of Peer Review: Jul 29, 2016

Date of Acceptance: Jul 29, 2016

Date of Publishing: Apr 01, 2017