

Letter to the Editor

Comments regarding “Bone mineral density and complete blood count ratios in children and adolescents with obesity” by Bala MM and Bala KA

Dear Editor,

I read with interest the article entitled “Bone mineral density and complete blood count ratios in children and adolescents with obesity” by Bala and Bala¹, which recently appeared in European Review for Medical and Pharmacological Sciences. It evaluated the potential role of complete blood cell count (CBC)-derived data, including the platelet to lymphocyte ratio (PLR) and the monocyte to lymphocyte ratio (MLR) in evaluating bone status in obese children. I would like to comment on potential analytical issues regarding these two indices.

I note that the authors reported the manufacturer and model of the blood analyzer they used (Abbott, Cell-Dyn Ruby, Abbott Park, IL, USA), a detail that is not often included in clinical publications that use CBC data. This analyzer, like many in the marketplace, uses optical and impedance technology for platelet counts², which was designed as an improvement over older analyzers that used traditional impedance technology. However, the performance of analyzers made by different manufacturers may differ, even if they use the same methodology, and these differences may have practical implications. For example, a recent study³ compared data from several hematology analyzers and included the Cell-Dyn Sapphire, a Cell-Dyn analyzer designed for use in high volume laboratories, which has comparable methodology and performance to the Cell-Dyn Ruby⁴. The authors identified disparities between the Cell-Dyn instrument and instruments made by other manufacturers for values such as platelet count, and disagreements between the tested analyzers and the immunoplatelet reference method^{3,5}. In contrast, regarding the white blood cell (WBC) values, another study⁶ showed good agreement between the Cell-Dyn Sapphire and another instrument that uses optical and impedance technology (the Sysmex XN [Sysmex, Kobe, Japan]) for the WBC count and the WBC differential count. Based on these studies, I would recommend that clinicians be careful to validate the findings reported by Bala and Bala¹ using the analyzers in their laboratories, in particular the platelet parameters.

In closing, I am pleased that the authors provided useful transparency on their laboratory methods, since the clear reporting of potential preanalytical and analytical phase biases can be essential for researchers, clinicians, and other readers to contextualize studies that use laboratory data.

Conflict of Interest

The author declares that he has no conflict of interest.

References

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