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Reply

In this study, a majority was mild to moderately anemic and none of the girls was severely anemic. Further, in this article we have looked at the mean change in the cognitive scores of initially anemic girls. These girls were not compared with their non-anemic counterparts as very few girls were non-anemic on whom cognition test scores were available both before and after the intervention in each experimental group.

Secondly, on a program basis, once-weekly IFA (and not daily) in the same adult dose as that given to women (100 mg elemental iron and 0.5 mg folate) is recommended for the adolescent girls nationally in India, provided it is supervised supplementation, which is possible in school settings. For pregnant women, daily IFA is recommended. Various studies have shown significant impact of even weekly IFA on hemoglobin levels of adolescent girls especially the anemic ones(1). Thus, the Government of Gujarat initiated weekly IFA supplementation throughout the state among secondary school girls for anemia control(2). Besides, our study aimed at comparing functional benefits of once-weekly vs. twice weekly IFA since our earlier experience was that for other functional benefits other than anemia control, once-weekly may not suffice.

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Low Bone Mineral density in Childhood ALL

We read with interest the report on the effect of chemotherapy on bone mineral density (BMD) in children with acute lymphoblastic leukemia (ALL) using quantitative computed tomography (QCT) by Kaushik, *et al*.(1). Children with ALL are known to have lower BMD and a higher risk of fractures. Canadian STeroid-associated Osteoporosis in the Pediatric Population (STOPP) Research Program documented a 16% prevalence of vertebral fractures and every 1 SD reduction in lumbosacral BMD Z-score increased the odds for fracture by 80%(2). Thus, their results showing low BMD in 81% Indian children on treatment are interesting. We, however, would like to highlight our concerns regarding presentation and interpretation of data. Reference data are not sufficient for the clinical use of QCT for

fracture prediction or diagnosis of low bone mass(3).

Authors have reported T-scores in their results and used the same to compare BMD and define osteoporosis. It would be incorrect to use cut-offs of T-scores (WHO criteria) used for postmenopausal women to diagnose osteoporosis in children. International Society for Clinical Densitometry (ISCD) guidelines(3) state that T-score has no relevance in a growing child who has not yet attained peak bone mass and as such should not be used in children. BMD values and z-scores, which are provided in the study, are rightly informative. T-score cannot be used to compare BMD either in between individuals or even in same individuals over time. BMD can be compared at diagnosis and follow-up of a child, which they have rightly provided. The appropriate method for comparing BMD would have been to measure change in BMD (Ä BMD) in each individual over 6 months; if greater than the least significant change (LSC), compare with zero and test for significance. In the same context, their statement "...81% had decrease in BMD and remaining had increase….", has no validity if they do not state that it was more than the LSC. The authors also mention that BMD increased in girls, but they have not mentioned ages of these girls. Was it that they entered puberty and had more increase in BMD surpassing the decrease resulting from disease and therapy?

We totally agree with authors that these children with ALL had decrease in BMD due to various factors described and understand the significance of the same in this group of children, but feel that the work could have been presented in a better way.

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Reply

We thank Dr Naithani and Dr Desai for critically evaluating our paper.

Use of quantitative computed tomography (QCT) for assessment of bone mineral density (BMD): The leading methods of assessing BMD are dual *X*-ray absorptiometry (DXA) and QCT. Utility of DXA in growing children is challenging as the assessment depends partially on bone size. Two-dimensional method of DXA produces values of 'areal' BMD; changes in the third dimension are not accounted for, which leads to underestimation of BMD of smaller sized bones by DXA. This disadvantage is an important consideration in growing children(1). The International Society for Clinical Densitometry (ISCD) official positions that have been quoted by critics are for peripheral QCT (pQCT). We have deployed lumbar QCT measurements; therefore the ISCD official position is not relevant to our study. QCT is considered to be a sensitive measure of monitoring serial changes in bone density of the axial skeleton or proximal femora, although it is less accessible than DXA(2).

Kaste, *et al*.(3) compared QCT Versus DXA in 320 survivors of childhood cancer and concluded that consecutive use of either modality can provide reliable longitudinal information for any single patient and avoid the complex interpretations that ensue from changing evaluation methods. Researchers from St. Jude Children's Research