Going Solar is Good but Caution Needed!

We read with interest the recent article exploring augmentation of vitamin D levels in predominantly breastfed infants the natural way – that is exposure to sunlight [1]. In the accompanying editorial in the same issue, cost of medicinal way of augmentation is put forth as a justification for exploring the solar option [2]. We have following comments:

1. How neutrality was maintained while requiring the mothers to maintain sun exposure charts. At the study end point, only 10% of infants were vitamin D sufficient. Were 90% of the infants with insufficient vitamin D status given vitamin D supplementation at the end of study period till 1 year?
2. Aapart from sun exposure, maternal vitamin D level at enrolment was a significant predictor of infant vitamin D statusin this study. Antenatal calcium supplements, which 93% of these mothers received, obviously did not have any effect, and thus it is vitamin D supplementation that matters.
3. The sun exposure details of the study group mothers is not given. It will be interesting to find why 90% of them were vitamin D deficient (whether it is despite reasonable sun exposure).

Why not treat the mother-infant dyad, rather than infant alone, as achieving vitamin D sufficiency is equally important for the mothers. Compliance with daily oral vitamin D supplementation of infants is documented to be very poor even in the West [4,5]. Exposing infants to sunlight may be a more difficult proposition than medicinal supplements. While the natural way of augmenting the vitamin D levels can be studied, the logistics and safety of such an approach has to be established firmly before disbanding the currently recommended regimen of daily 400IU Vitamin D to infants of predominantly breastfed infants.

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AUTHORS' REPLY

We thank the authors for their critical appraisal of our work.

1. The mothers were instructed to chart the sun exposure on the given performa. No additional instructions or information was provided, which could have limited or promoted sun exposure. We did not find any positive influence of this exercise on their sun-exposure behavior as serially collected data did not show any mean increase in sun exposure with study duration. The children who were found vitamin D deficient were supplemented with vitamin D at 400 IU per day to be given till 12 months of age.
2. The antenatal calcium supplements being received by the mothers contained only calcium salt without vitamin D. The global consensus for prevention of nutritional rickets recommends daily supplemental maternal intake of 600 IU vitamin D [2]. It may be worthwhile to evaluate maternal vitamin D supplementation strategies to prevent rickets in infants and improve maternal bone health.
3. The maternal sun exposure details were not collected, and hence cannot be commented upon. The factors associated with high rate of vitamin D deficiency in a sunlight rich country like India definitely require further evaluation.

We agree with the authors that treatment or supplementation of mother would be a more practical, feasible and healthier solution as it would improve the vitamin D status of both mother and child [2]. Routine vitamin D supplementation of infants till 12 months is seldom practiced in Indian settings, and therefore may not be a practical solution, as highlighted by the authors.