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Overestimation of Prevalence of Vitamin A Deficiency among Rural Preschool Children of West Bengal, India

We read with interest the recent communication on the prevalence of Vitamin A deficiency (VAD) among rural preschool children of West Bengal [1], and urge caution in extrapolating the VAD burden because the survey methodology was prone to overestimating the magnitude of deficiency.

Night blindness was also assessed between 12 and 24 months of age: The presence of night blindness cannot be reliably identified among children between the ages of 12 and 24 months. The World Health Organization (WHO) has therefore recommended that the age group of 24-71 mo should only be included for assessment of night blindness amongst children [2].

Conjunctival xerosis (X1A) as an independent indicator of VAD: VAD is only one of the several causes of conjunctival xerosis; thus the reliability of this sign (X1A) for independent assessment of VAD in field conditions is questionable [3,4]. Conjunctival xerosis is clinically expressed as marked dryness or unwettability; the affected area appears roughened, with fine droplets or bubbles on the surface, rather than smooth and glistening. These changes are best detected in oblique illumination and the abnormalities are often overlooked or, in apparent overcompensation, over-diagnosed. Thus, changes in the conjunctival xerosis by themselves are not an accurate basis for estimating prevalence of clinical xerophthalmia [2,3].

Interpreting serum retinol estimates: According to WHO [2], a major disadvantage of using serum retinol concentration as an indicator of vitamin A status is that retinol concentrations are decreased by acute and underlying chronic infections. The authors did not report simultaneous serum C reactive protein levels to detect overt or subclinical infections for an apt interpretation. Serum retinol concentrations are under homeostatic control over a broad range of body stores and may reflect

body stores content only when it is very low or very high. Further, the WHO concludes that there is no direct evidence of the serum cut-off value where functional consequences including morbidity and mortality effects, begin to occur [3]. No data has been provided to reassure that the dried blood spot on filter paper did not underestimate the serum retinol levels due to transport conditions.

In view of the declining trend of VAD in several regions of the country, it would have been pertinent to state the year of the survey to put the findings in true perspective. It would also be prudent to caution that these overestimates from the poorest segment of population are not inadvertently extrapolated to the entire state for programmatic purposes.

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REPLY

As the author stated, we have not assessed the night blindness, the early symptom of VAD in 12-24 month children. Only four children (0.1%) had night blindness among 3932 children of 1-2+ years i.e. 12-36 months. However, the four children are in the age group of 24-36