Correspondence

Need to revisit vitamin A supplementation programme in India

Sir,

The guidelines issued by the World Health Organization (WHO) in 2011 reiterate their earlier recommendations supporting the use of high dose vitamin A supplements (VAS) to reduce child morbidity and mortality in populations where clinical and subclinical vitamin A deficiency (VAD) is a public health problem, i.e. where the prevalence of night blindness is 1 per cent or higher in children 24-59 months, or the prevalence of sub-clinical vitamin A deficiency (serum retinol 0.70 µmol/l or lower) is 20 per cent or higher in children 6-59 months of age.

The National Programme for Prophylaxis against Blindness in Children due to Vitamin A Deficiency, of the Government of India, has a provision for administering mega doses of vitamin A. It recommends for at least nine doses of vitamin A to be given to all children aged 9 to 59 months. The first dose of 100,000 International Unit (IU) is administered with measles vaccination at 9 months and subsequent doses of 200,000 IU each, every six months. It also recommends for one dose of vitamin A on measles case identification, irrespective of whether it has previously been administered prophylactically or given as routine immunization.

Biannual Child Health and Nutrition Promotion Months to be held six months apart would offer a package of child health and nutrition services; of which, vitamin A supplementation for children would be an integral part. These months would have activities where the sub-center level health workers, in close coordination with the workers of the Integrated Child Development Services Scheme, will allot one week per village for delivery of the services as per detailed micro-plans. Components of the package would be decided by the States themselves as per the needs and priorities of each State and will include other interventions such as distribution of iron and folic acid tablets to pregnant women, salt testing for iodization at household level and catch up immunization activities.

Kapil and Sachdev presented a case for considering a targeted approach for the vitamin A supplementation programme, suggesting that targeting be based on demonstrated evidence of vitamin A deficiency, restricting it to geographical pockets or areas where clinical VAD is a significant public health problem rather than continuing universal prophylaxis. They also call for a primary focus on food based approaches to improve dietary intakes. We support the authors’ call for appropriate assessment of need, analysis and action, as our view is that all programmes being implemented, irrespective of their maturity or scale, must be informed by evidence of need, benefit/risk, and cost-effectiveness. The Micronutrient Initiative is a firm believer in this approach and we endorse the call for appropriate assessment to be undertaken to generate the necessary evidence as the best way forward for the vitamin A programme in India. We also agree with the authors that in the long run, dietary modifications to improve regular vitamin A intake is the ideal we should all strive for.

The Micronutrient Initiative and its global partners have been working on the development of an evidence based framework for scaling back VAS. This framework is being developed to assist governments of various countries to analyze available data, to plan for strategic data collection where there are gaps, and to take careful decisions on problems such as which pockets of the population perhaps no longer need twice yearly VAS, and which ones need to continue it so as not to unintentionally withhold a life saving intervention from vulnerable children. Developed primarily for countries where fortified foods are widely available and consumed by all segments of the population, and subclinical VAD among children has been significantly...
reduced, we expect this framework to be tested and validated in field settings this year.

Adequate data are essential for guiding appropriate decision making, for which a more thorough assessment and analysis component would require at least State-level representative surveys. We see four aspects that merit early consideration: (i) the need to build policy level consensus on the indicators to be measured and the methodologies to be followed to assess VAD and so to arrive at an appropriate protocol for assessment; (ii) the institutional capacity to undertake these surveys; (iii) the cost of these surveys - significant if undertaken in all States; and (iv) development of a clear plan for the timing of these assessments, institutions responsible, budget requirement and sources of funding. Any decision to implement a more targeted approach in selected areas would need to involve the development of a plan including the development and dissemination of modified operational guidelines for health managers and workers at district, block and village levels; and modifications to current planning, training, communication, monitoring and supervision. It would be vital to roll out any targeted approach in a well planned manner, and assess progress closely over time.

With respect to approaches to improve dietary intake that could help improve vitamin A status in the long run, the twelfth five year plan of the Government of India7, also envisages intensified action to improve health education with the aim to disseminate knowledge about VAD and its prevention as well as advocacy for food diversification to include vitamin A and carotene rich food regularly in the diet. We, therefore, call upon the research community to investigate this more systematically, so that proven approaches could be considered.

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References

Authors’ response

We appreciate the meticulous technical approach, namely “assessment of need, analysis and action”, being proposed for downsizing the ongoing vitamin A supplementation programme in the country. Although there are no theoretical arguments against considering this approach, a practical common sense decision is urgently required on the basis of available information only; this issue cannot be allowed to linger on indefinitely. Financial and logistic constraints have till now precluded a nationwide micro-level estimation of serum retinol and “assessment of need, analysis and action”. If this ideal scenario was not feasible for decades for initiating and maintaining the National Vitamin A Supplementation Programme, it is highly unlikely that the necessary political will and finances can be garnered for downsizing an ongoing contentious programme.

Isolated serum retinol level, particularly without control for sub-clinical inflammatory response, is not a reliable or “gold standard” biomarker for population estimate of vitamin A deficiency1. More specifically, the WHO consultation1 designated vitamin A deficiency as a public health problem requiring intervention when at least one of the two specifications is met: (i) The prevalence of low serum retinol (0.70 μmol/l or below) is within the range specified (20 % or more) and another biological indicator of vitamin A status (including night blindness, breast milk retinol, relative dose response, modified dose response, or conjunctival impression cytology) also indicates widespread deficiency; and/
or (ii) The prevalence of low serum retinol indicates widespread deficiency and at least four demographic and ecologic risk factors are met, including: (i) infant mortality rate higher than 75/1000 live births and under-5-year mortality rate of higher than 100/1000 live births; (ii) full immunization coverage in less than 50 per cent of children at 12-23 months of age; (iii) less than 50 per cent prevalence of breastfeeding in 6-month old infants; (iv) median dietary intake lower than 50 per cent of recommended safe level of intake among 75 per cent of children 1-6 yr of age; (v) two-week period prevalence of diarrhoea 20 per cent or higher; (vi) measles case fatality rate 1 per cent or higher; (vii) no formal schooling for 50 per cent or more of women 15-44 yr of age; and (viii) less than 50 per cent of households with a safe water source.

The recently published district level estimates of child mortality and the National Nutrition Monitoring Bureau third repeat survey can be profitably amalgamated with the ongoing District Level Household Surveys and other data sources like the Sample Registration Surveys to garner information for action on several of the above mentioned parameters excluding serum retinol. Of these, mortality estimates would be of primary importance. We propose that the National Vitamin A Supplementation Programme can be immediately withdrawn in districts with infant mortality rate lower than 75/1000 live births and under-5 mortality rate of lower than 100/1000 live births. Thus on the basis of 2012 estimates, over 87 per cent of the 597 districts should be withdrawing this programme (under five mortality above 80/1000 live births in 80 districts only). Obviously, if any of these pockets have documented evidence of high prevalence of night blindness or xerophthalmia, the withdrawal could be delayed. These proposed criteria need to be considered and debated at the earliest by the stakeholders including technical experts under the auspices of the Ministry of Health and Family Welfare.

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