

An 18 month old child, not vaccinated against measles was hospitalized with severe measles in February 2010. The child was treated appropriately and recovered. Measles IgM antibody was detected according to standard methodology, confirming the clinical diagnosis. Colleagues in the Department of Child Health corroborated the occurrence of an outbreak of measles in at least one periurban village during January/February. The child's mother reported that she had taken the child on completion of 9 months for the measles vaccine on 3 occasions, to the closest urban health center. Twice the health worker declined to vaccinate as the child had a mild cough and cold and the third time the mother was told that the child was too old to receive the measles vaccine, having passed the first birthday. The child had received all the other UIP vaccines including 3 doses of Hepatitis B vaccine, currently included in UIP in Tamil Nadu.

The refusal to offer measles vaccine after 12 months of age is a matter of serious concern. The

Immunization Handbook for Medical Officers states that while the ideal target age to administer measles vaccine is 9 to 12 months, it is to be administered up to 5 years of age under the UIP [1]. We spoke with 2 staff members of 2 urban health posts; one said that measles vaccine should be given beyond 12 months up to 5 years but the second said she would not give the vaccine beyond 12 months of age. We reiterate the importance of informing all staff of the current guidelines to use every opportunity to vaccinate all children aged 10 months to 5 years against measles.

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## Relevance of Continuation of Universal Vitamin A Supplementation Program in India

The prevalence of clinical vitamin A deficiency (VAD) has declined considerably in India, as compared to previous years. However, this decline was not uniform throughout India. The prevalence of clinical VAD (tip of the iceberg of VAD), in terms of Bitot's spot, an objective sign of VAD among rural pre-school children ranged from nil in Kerala to 1.4% in the state of Madhya Pradesh. The national level prevalence (0.8%) was still higher than the figures recommended by the WHO ( $\geq 0.5\%$ ), indicating the public health significance in rural pre-school children of India [1]. While in case of blood vitamin A deficiency ( $< 20\mu\text{g/dL}$ ), the prevalence (61%) was a public health problem ( $\geq 20\%$ ) [2] in all NNMB states, ranging from 52% in Maharashtra to 88% in

Madhya Pradesh. The proportion of severe blood VAD ( $< 10\mu\text{g/dL}$ ) was (21.5%) also  $\geq 5\%$  indicating severe public health problem [2] in all the NNMB states [3]. Though the Indian Council of Medical Research multicentre study [4] carried out during 1997-2000 in 16 districts of 11 states reported low prevalence of clinical VAD, the prevalence was significantly higher in districts of Gaya (4.7%), Patna (3.1%) and Bikaner (1.1%), where the consumption of vegetarian diet is predominant (NFHS-3) as compared to other districts from north and northeast states. The sub-clinical vitamin A status of these children would have given true status VAD, because the clinical VAD may be nil as reported in children of Kerala, while the prevalence of sub-clinical VAD was very high (79.4%) among the same children [3].

The consumption of foods rich in vitamin A was very poor among rural pre-school children in India. The mean intake of leafy vegetables and milk & milk products, the rich sources of vitamin A were deficit by 80-85% and 71-75%, respectively as against the RDI, while the intakes of fruits and flesh foods were still

worse. Similarly, the diets of rural pre-school children were grossly deficit in terms of vitamin A, where the median intakes were deficit by 66-81% as against the RDA of 400  $\mu\text{g}$ . The median vitamin A intakes of 84% of pre-school children were not even 50% of their RDA [5]. Similarly, 55% pre-school children had underweight and 51% had stunted growth [5]. The bi-annual massive dose vitamin A supplementation coverage was also very poor, where only 23% of rural pre-school children had received the stipulated two massive doses of vitamin A during the preceding year [1]. The knowledge about VAD was also very poor among the mothers of rural pre-school children, where only 12% of them aware that the VAD is the cause of night blindness and only 4% reported Bitot's spot as the sign of VAD [1]. However, there was a paucity of the above information in urban and slum areas of India.

As many infectious diseases are still major causes for under-five mortality in India, the supplementation of bi-annual massive dose vitamin A, would certainly benefit in improving the immunity status of under-fives and decreasing the incidence and severity of morbidities and thereby minimizing mortality rates. The 2nd International meeting of the Micronutrient Forum was also reported evidences for the same based on national surveys. The Micronutrient Forum also stressed the need to sustain vitamin A supplementation programmes until the underlying factors affecting deficiency have improved and/or alternative interventions improve vitamin A intake [6]. The massive dose vitamin A supplementation programme initiated in India during 1970 under "The National Program for Prevention of Nutritional Blindness" as a short-term intervention and an adjunct to long-term food-based approach for prevention and control of VAD. Despite the programme has been in operation for more than three decades and various national nutrition supplementation programmes, the vitamin A status of pre-school children continues to be very poor.

Therefore, it's very important to sensitize the community towards the VAD and its adverse effects on health, and encouraging them to consume vitamin A rich foods through health and nutrition education (HNE) and behavioral change communication (BCC). It is also very essential to undertake

comprehensive and well-designed national representative studies in rural, urban and slum settings of India, to estimate both clinical and biochemical vitamin A status as well as diet surveys to assess dietary pattern of vitamin A. Latham in his article "The great vitamin A fiasco" was not in favour of universal vitamin A supplementation, and recommended the sustainable food-based approaches and pertinent public health measures for prevention and control of VAD(7). Though, these long-term interventions were known for decades, much progress was not achieved in this direction in India. Therefore, until the dietary intakes are satisfactory, blood vitamin A levels increased to optimal levels and the public health measures improved, the decision to stop supplementation of vitamin A to pre-school children should not be taken hastily, as depriving vitamin A during formative years may detrimental in terms of morbidity and mortality.

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