The NNMB for the first time carried out the study in all the states of South India covering large state representative sample and this communication, for the first time reporting the prevalence of clinical and sub- clinical VAD among the rural pre-school children of South India.IJN CC-license DOI : 10.14302/issn.2379-7835.ijn-16-924 Vol-2 Issue 1 Pg. no. 8 Freely Available Online -effective public health interventions in countries where VAD constitutes a public health problem.40 The Government of India should strengthen existing nutritional programs like integrated child development services (ICDS) scheme and the mid-day meal (MDM) programme through inclusion of vitamin A rich foods in the daily menus of these supplementary nutrition programmes.The NNMB survey carried out during the corresponding period reported that the proportion of rural pre-school children not meeting even 50% of their RDA for vitamin A was highest in the state of Andhra Pradesh (92.9%), followed by Kerala (91.8%), Karnataka (90.4%) and Tamil Nadu (81.9%), and the corresponding figure reported for eight NNMB states was 86.3%.32 Similar finding was reported for the slum dwelling children of Nagpur, Maharashtra, where the proportion of children not meeting the RDA for vitamin A was about 91%.33 Furthermore, as per the NNMB periodic surveys, the diets of rural population in India were predominantly vegetarian and the consumption of foods of animal source rich in preformed vitamin A (Retinol) were almost negligible.The bio-availability of vitamin A from plant foods may be limited and more variable than previously thought,36 and the low absorption and limited bioconversion of carotenoids may limit the vitamin A activity of carotenes.37 The bio-availability of vitamin A from the different food sources is highly dependent upon the assumed rate of bioconversion of ?-carotene and at conversion rates estimated from recent field studies (21:1), the plant foods in Asia, Africa, and South America are seriously deficient in vitamin A.38 The NNMB reported figures of gross deficit of dietary vitamin A among rural pre-school children in India was calculated based on the old conversion factor of 4:1 of ?-carotene and retinol.Thus, we may attribute poor and/or negligible consumption of foods of animal source one of the contributing factor for high prevalence of vitamin A deficiency in India, and the similar observation was reported by dee Pee et al.34 Pal and Sagar reported significantly a higher prevalence of VAD (7.1%; OR: 5.32) in children on a vegetarian diet as compared to their counterparts.35 In India, this over dependence of population on plant foods may be attributed to cultural and religious beliefs in conjunction with poverty and ignorance.Therefore, we can assume that it is not possible for young children to consume sufficient quantities of vegetables and fruits to overcome the inefficiencies of ?-carotene conversion to meet their RDAs for vitamin A. We could also attribute the high prevalence VAD among the rural children in South India to poor coverage (10-35%) of bi-annual massive dose vitamin A supplementation as against the World Bank recommended ideal coverage of 85% for prevention and control of VAD and its impact on morbidity and mortality among children of under five.The proportion rural pre-school children with clinical and sub-clinical VAD were higher in North India as compared to their counterparts in South India, where the corresponding figures of Bitot's spot and sub- clinical VAD were 0.9% and 64%, respectively.24 The prevalence of Bitot's spots was lower in the present study as compared to the figures reported for rural pre- school children of Bihar (4.7%),25,Maharashtra, 13 Madhya Pradesh (1.4%),14 eight NNMB states of India (0.8%)26 and central India (2.2%).27 Similarly, a higher prevalence of Bitot's spot was reported among the pre- school children of chronic drought

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affected states.15 While, the prevalence was comparable with figures reported for the rural pre-school children of West Bengal (0.6%).28 Similarly, a higher proportion of rural pre-school children of North India (64%),24 Madhya Pradesh (88%)14, West Bengal (61.2%)28 and eight NNMB states of India (61.8%)26 had sub-clinical VAD, while a lower prevalence of sub-clinical VAD was reported for the rural pre-school children of Maharashtra13 as compared to children in South India.This is evident from the NNMB studies carried out in different time points,19,29-31 where the household and individual consumption of foods rich in vitamin A was grossly deficient as against their recommended dietary intakes (RDIs) and consequently the dietary intake of vitamin A was largely deficit as compared to the recommended dietary www.openaccesspub.org IIJN CC-license DOI : 10.14302/issn.2379-7835.ijn-16-924 Vol-2 Issue 1 Pg. no. 7 Freely Available Online allowances (RDA).

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