Annals of R.S.C.B., Vol. 24, Issue 1, 2020, pp. 1062 - 1068
Received 18April2020; accepted 23June2020

# A Cross-Sectional Study On The Knowledge, Attitude And Practice Of Vitamin A Supplementation Among Mothers Having Child Under 5 Years Of Age Residing In Parandur Village, Kanchipuram, Tamil Nadu, India

**Sakthivel M[1], Kokila Selvaraj[2], Vaishnavi K[3], Harish Narayanan[4]***
Department of Community Medicine, Department of Community Medicine, MMCHRI, Meenakshi academy of higher education and research,Chennai, india.

**ABSTRACT**

**Introduction:**In developing countries like India, children are more vulnerable tomalnutrition vitamin deficiencies and infections.Vitamin A deficiency is one of the leading causes of preventable blindness in this age group.Diarrhea and measles are some of the major causes of Vitamin A deficiency accounting for 6,50,000 deaths annually.
**Methodology:**Cross sectional study was conducted among 112 mothers, having children below 5 years of age in Parandur village, Kanchipuram district, usinga structured and validated questionnaire.
**Results:**The mean age of the mothers is 25 years with SD of 2.25.Majority of them, 67.2% are primary school graduates.Among the study participants,86.3% were housewives and47.1% of them belonged to Class II of modified BG Prasad classification. The study revealed 26.4% of the mothers had good knowledge about sources of Vitamin A.
**Conclusion:** This study shows the lack of knowledge among rural mothers about Vitamin A and its supplementation programme. Health education sessions can help to bridge this gap and create more impact on the overall awareness of the mothers.

***Keywords: Vitamin A, Under 5 children, Knowledge, Mothers.***

## 1. Introduction

Children less than 5 years of age represents about 9.7% of the general population of India[1]. In developing countries like India, children are more vulnerable to malnutrition, vitamin deficiencies and infections. Vitamin A deficiency is one of the leading causes of preventable blindness in this age group. Vitamin A deficiency not only causes blindness but also predisposes to decrease in immune status in about 130 million children aged under 5 years resulting in increased levels of infectionsleading to increase in mortality[2]. Xeropthalmia, the end result of vitamin A deficiency affects 5 million children, among whom 10% of the children suffer from blindness[3] whileDiarrhea and measles which are some of the major causes of Vitamin A deficiency account for the death of 6,50,000 children annually[4]. Due to unacceptable high magnitude of Xerophthalmic blindness in India in 1950s and 1960s, Government of Indiahad decided to start Vitamin A supplementation. It was started in the year 1970 and latter refined in the year 2007 giving us the current 9 mega dose Vitamin A supplementation program for children aged between 9 months and 59 months of age. National Family Health Survey 4 (2015- 2016) mentions vitamin A supplementation coverage as 70.2%, UNICEF's article published in 2017 mentions the same as 71.9% which are more are less equal[5].A survey conducted by the National Nutrition Monitoring Bureau

Annals of R.S.C.B., Vol. 24, Issue 1, 2020, pp. 1062 - 1068
Received 18April2020; accepted 23June2020

(NNMB) in 2016, reported a prevalence of 61% of subclinical VAD at the national level and 49% in Tamil Nadu. The current study aims to assess the knowledge, attitude and practice of rural mothers having children under 5 years of age, residing atParandur village, Kanchipuram district, Tamil Nadu, India.

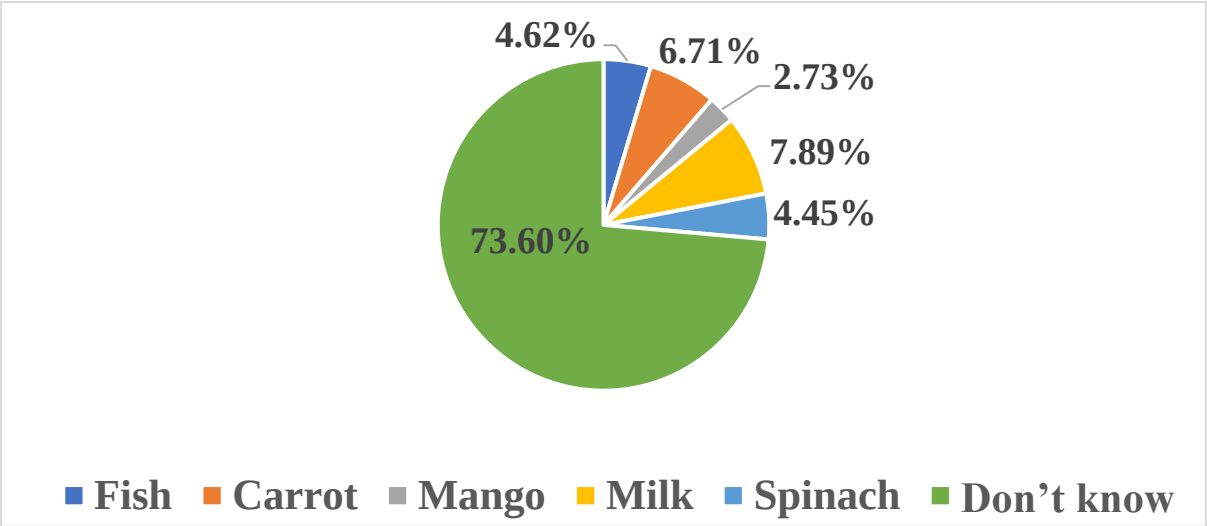
## 2. Methodology

This community based cross sectional study was conducted during the months of August 2020 and September 2020 in Parandur village, Kanchipuramdistrict,after getting approval from the institutional ethics committee. The sample size was calculated based on the assumption that 50% of the general population has good level of knowledge about Vitamin A supplementation and they are practicing the same and had been finalized as 112. The participants were selected by simple random sampling. Data was collected using a pretested and semi structured questionnaire after obtaining written consent from the participants.Data was analysed using SPSS version 21.

## 3. Results

In this study the mean age of the Mothers, having children under 5 years of age is 25 years with SD of 2.25. The minimum age of the study participants is 19 years whereas the maximum age was 32 years. Total 87.6% of them were Hindus. Majority of them 67.2% are primary school graduates and 12.3% mothers are diploma degree holders and 4% of them were illiterates. Among the 112 study participants majority of them 86.3% were housewives, 3.7% were Tailors, 6.2% of them were teachers, 3.8% of them were working in grocery shops.While classifying them according to Modified BG Prasad's classification, 47.1% of them belongs to class II, followed by class III 26.2%, class IV 17.6%, class I 7.2% and class V 1.9%.To assess the mother's knowledge about vitamin A and its supplementation programme, they were asked about sources, uses, symptoms of vitamin A deficiency, curability of the same,their awareness on vitamin A supplementation, route of administration, total number of doses, place where they received vitamin A supplementation for their child.

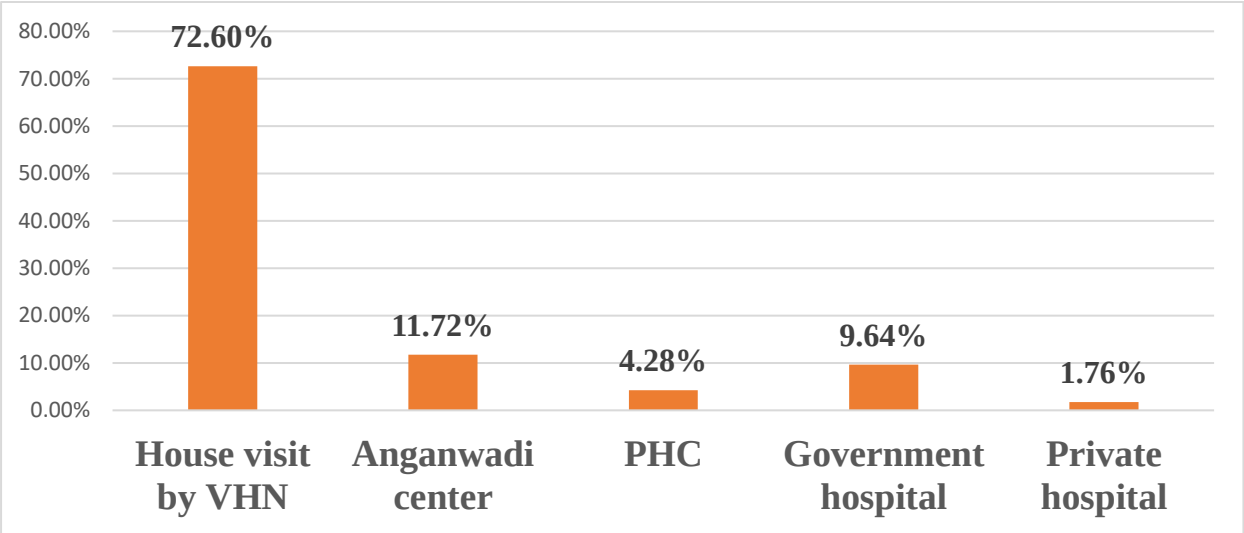
**Fig 1: Knowledge about sources of foods rich in Vitamin A (n=112)**



Annals of R.S.C.B., Vol. 24, Issue 1, 2020, pp. 1062 - 1068
Received 18April2020; accepted 23June2020

Many of the participants, 73.60% were unaware of foods that were rich in Vitamin A, as shown in Fig.1.

**Fig 2:Places from which Vitamin A supplementation was received(n=112)**




Majority of them have received vitamin A supplementation from government sources among whom 72.60% have received them during house visits by Village Health Nurse as shown in Fig.2.

**Table 1: Knowledge about symptoms of Vitamin A deficiency (n=112)**

| S.no | Symptoms | Percentage |
|---|---|---|
| 1. | Night blindness | 7.01% |
| 2. | Fever | 6.27% |
| 3. | Growth retardation | 3.25% |
| 4. | Death | 1.69% |
| 5. | Don’t know | 81.78% |

In this study, only 10.26% were aware of the complaints which are medically relevant to the current problem, as shown in **Table 1**.

Annals of R.S.C.B., Vol. 24, Issue 1, 2020, pp. 1062 - 1068
Received 18April2020; accepted 23June2020

While asking about the curability, 27.64% of them felt vitamin A deficiency is curable whereas 72.36% of them felt vitamin A deficiency was not curable. Out 112 mothers, 36.3% of the mothers knew the route of vitamin A supplementation and 26.9% of them answered correctly about the schedule of vitamin A supplementation. Even though majority of mothers 61.7% explained that some tonic was given to their child orally but they were not sure whether it was vitamin A.

Among the 112 mothers, 54.36% of the mothers had positive attitude towards supplementing their child with Vitamin A and 62.7% of the mothers had positive attitude towards suggesting the same to their kith and kin's children.Out of 112 children aged under 5, all of them 100% had received at least one dose of vitamin A in their lifetime. 87.8% of them were supplemented with Vitamin A according to the National Immunisation Program schedule without skipping any dose and remaining 12.2% have skipped some doses due to reasons like fever and being out of station.

**Table 2: Association between Educational status, socio-economic status and Knowledge of the mother**

| S.no | Knowledge of the mother about | Mother's educational status and % of them who answered correctly, n= 112 (100%) | | | | $X^2$ | P value |
|---|---|---|---|---|---|---|---|
| | | Illiterate (4%) | Primary school (67.2%) | High school (16.5%) | Diploma holder (12.3%) | | |
| 1. | Sources of vitaminA (44.2%) | 1% | 12.9% | 2.2% | 10.3% | 160.84 | <0.0001 |
| 2. | Uses of vitamin A (14.08%) | 0% | 3.78% | 11.3% | 10.3% | | |
| 3. | Symptoms of its deficiency (10.26%) | 0% | 2.05% | 3.6% | 4.61% | | |
| 5. | Route of administration (36.3%) | 0% | 15.4% | 11.6% | 9.3% | | |
| 6. | Schedule of Vitamin A supplementation (26.9%) | 0% | 4.6% | 11.3% | 11% | | |
| | Knowledge of the mother about | Mother's Socio-Economic Status and % of them who answered correctly n= 112 (100%) | | | | $X^2$ | P value |
| | | Class I and II (54.3%) | Class III (26.2%) | Class IV and V ( 19.5%) | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 1. | Sources of vitamin A (44.2%) | 2.3% | 5.5% | 18.6% | 56.10 | 0.007 |
| 2. | Uses of vitamin A (14.08%) | 0% | 2.5% | 11.58% | | |
| 3. | Symptoms of its deficiency (10.26%) | 1.36% | 3.4% | 5.5% | | |
| 5. | Route of administration (36.3%) | 1.7% | 16.4% | 18.2% | | |
| 6. | Schedule of Vitamin A supplementation (26.9%) | 0% | 9.3% | 17.6% | | |

## 4. Discussion

In this study, the mean age of our study participants is 25 years with SD of 2.25 and the minimum age limit is 19 years and these findings were similar to the results of the study conducted by Ankit M Shethetal among 196 mothers of preschool children where the mean age of the mothers was 25.9 ± 3.8 years, and majority that is 80% were housewives[6]. RozinaKhaliqetalin his study found that the mean age of the study participants 29.28 ± 5.34 years, minimum age of the mothers being 19 years and 90% of them were housewives[7]. Our study shows, 26.4% of the mothers had good knowledge about source of vitamin A. This was higher in comparison to the study findings of S Mattaet al- 20%[8]but comparatively less to that ofAnkit M Shethet al -32.6%[6]. In our study it is surprising to see that only very few mothers that is 7.01% knew night blindness as a complication of Vitamin A deficiency. The National Nutrition Monitoring Bureau states that 41% of mothers having children under 5 years of age knew that night blindness is one of the main complication of vitamin A deficiency. Our study shows only 26.9% knew about the schedule of Vitamin A supplementation against the study results of Njue MW et al which shows 58%[9]. This study showed a significant association between educational status of the mother and knowledge about Vitamin A and its supplementation ie mothers who had completed high school and beyond were more knowledgeable when in comparison to mothers who are illiterate with similar results being noted amongst study findings of RozinaKhaliqet al[7] and Abdulmalek LJet al[10].

## 5. Conclusion

This study clearly shows the lack of knowledge among rural mothers about Vitamin A and its supplementation programme. We could also see significant difference in knowledge between educated and illiterate mothers. Health education sessions can help to seal this gap and create

more impact on the overall awareness of the mothers. Even though the mothers have less knowledge about vitamin A and its supplementation programme, their babies are benefited with vitamin A supplementation because of Government's initiatives.

**Funding and Financial support:** Nil.

**Conflicts of interest :** The authors have no conflicts of interest.

**References**

1. ArpitPrajapti, Knowledge, Attitude and Practices among Mothers of Pre-school Children Regarding Vitamin A Supplementation at Field Practice Area of GCS Medical College, Ahmedabad. Healthline Journal Volume 6 Issue 2 (July - December 2015)
2. World Health Organization. World Health Organization Guideline: Vitamin A Supplementation in Infants and Children 6-59 Months of Age. Geneva: World Health Organization Press; 2011.
3. Dole K, Gilbert C, Deshpande M, Khandekar R. Prevalence and determinants of xerophthalmia in preschool children in urban slums, Pune, India – A preliminary assessment. Ophthalmic Epidemiol2009;16:8-14.
4. Kassu A, Andualem B, Van Nhien N, Nakamori M, Nishikawa T, Yamamoto S, *et al.* Vitamin A deficiency in patients with diarrhea and HIV infection in Ethiopia. Asia Pac J ClinNutr 2007;16Suppl 1:323-8.
5. http://www.unicef.org/india/media/1331/file/vitamin-A-Supplementation.pdf
6. Sheth AM, Rangoonwala MM, Lodhiya KK, Zalavadiya DD, Joshi NB. A Study on Awareness and Practice Regarding Vitamin A Intake and its Deficiency Disorders among Mothers of Pre- School Children in Khirasara Village, Rajkot, Gujarat. Ntl J Community Med 2016; 7(6):505-509.
7. Khaliq R. Knowledge, Attitude and Practices among Moth- ers of Children under Five Years Regarding Vitamin-A In- take. Ann. Pak. Inst. Med. Sci. 2008;4(2):121-4.
8. Matta S, Matta P, Gupta V. Knowledge among women re- garding vitamin A deficiency: A hospital based study. In- dian J. Prev. Soc. Med. 2006;37(3&4):138-41.
9. Vitamin A supplementation awareness among mothers of children under five years old at Mbagathi District Hospital, Nairobi, Kenya. 2010 Sep;7(3):233-41.
10. Abdulmalek LJ, Benkhaial FS. Knowledge, attitude, and practice of parents regarding Vitamin A supplementation to children in Benghazi, Libya. Ibnosina J Med Biomed Sci 2018;10:174-7.
11. Differential expression of Helios, Neuropilin-1 and FoxP3 in head and neck squamous cell carcinoma (HNSCC) patients A.A.Mohamed Adil, Anil Kumar Bommanabonia, AnandrajVaithy, Sateesh Kumar 3biotech 9 (178)
12. Protagonist of Immuno-Profiling, Immuno-Scoring, and Immunotherapy Towards Colitis-Associated Cancer: Systematic Review, Mohamed Adil a.a, AK Pandurangan,

M Waseem, N Ahmed Diagnostic and Treatment Methods for Ulcerative Colitis and Colitis 2020

13. Emerging Role of Mitophagy in Inflammatory Diseases: Cellular and Molecular Episodes, Mohamed Adil AA, S Ameenudeen, A Kumar, S Hemalatha, N Ahmed, N Ali 2020 Curr Pharm Des. 2020;26(4):485-491. doi: 10.2174/1381612826666200107144810
14. Increased Expression of TGF-β and IFN-γ in Peripheral Blood Mononuclear Cells (PBMCs) Cultured in Conditioned Medium (CM) of K562 Cell Culture AAM Adil, L Vallinayagam, K Chitra, S Jamal, AK Pandurangan, N Ahmed Journal of Environmental Pathology, Toxicology and Oncology 38 (2)
15. Cancer immunotherapy: Targeting immunosuppressive tumor microenvironment NA A.A Mohamed Adil Oncobiology and Targets 2014