



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

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Financial Support: None declared
Conflict of interest: None declared
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How to cite this article:

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.

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Date of Submission: 19-05-16

Date of Acceptance: 29-06-16

Date of Publication: 30-06-16

ABSTRACT

Introduction: Vitamin A deficiency (VAD) is one of the most important causes of preventable childhood blindness and is a major contributor to morbidity and mortality from infections. The present study was conducted among mothers of pre-school children to study awareness and practice regarding vitamin A intake and their deficiency disorders.

Methods: It was a cross sectional study conducted in Khirasara village of Rajkot district from January to April 2015. Out of total 196 mothers of pre-school children in the village, 98 (50% of the total after convenient sampling) were selected. Ninety five mothers consented and gave complete response. Interview was conducted using a pretested semi structured questionnaire.

Results: Mean age was 25.9 years, 38.9% were illiterate and 80% were non-working. 32.6% knew about vitamin A rich foodstuffs. 18.9% were aware about vitamin A prophylaxis programme. 27.4% included vitamin A rich foods in diet of their children. 68.0% didn't know about any symptoms about vitamin A deficiency disorders.

Conclusion: Significant low levels of knowledge and practice regarding vitamin A intake was found in illiterate mothers. Multipara and literate mothers were significantly more aware about vitamin A prophylaxis programme.

Keywords: Vitamin A, VAD, Nutrition education, pre-school children

INTRODUCTION

Vitamin A deficiency (VAD) is a major public health nutrition problem in the developing countries.¹ An estimated 5.7% children in India suffer from eye sign of Vitamin A deficiency. VAD is in fact, the single most frequent cause of blindness among pre-school children in developing countries.²

Vitamin A is an essential nutrient needed in small amounts for the normal functioning of the visual system, and maintenance of cell function for growth, epithelial integrity, red blood cell production, immunity and reproduction.³ Vitamin A deficiency is one of the most important causes of preventable childhood blindness and is a major con-

tributor to morbidity and mortality from infections.⁴

VAD especially affects young children, among whom deficiency can cause xerophthalmia and lead to blindness, limit growth and exacerbate infection and increase the risk of death.⁵ It is also becoming clear that VAD can extend through school age and adolescent years into adulthood. Although the health consequences of VAD are not well delineated beyond early childhood, recent data indicate that VAD in women of reproductive age may increase morbidity and mortality during pregnancy and the early postpartum period.^{6,7}

VAD can be combated with a variety of food and medicine-based approaches, including increased food diversity, food fortification and medical vitamin A supplementation. Provision of vitamin A supplements every six months is an inexpensive, safe, quick and effective way to improve vitamin A status and save children's lives.⁸ Vitamin A prophylaxis programme was started as a short term measure to prevent blindness in children in 1970 with the primary aim of reducing blindness in children, which was a significant problem at that time.⁹ To combat the deficiency of vitamin A in community, awareness of their importance and their source plays a vital role. Food-based approaches have been reviewed and judged to have a promising role in integrated strategies¹⁰, but many gaps in knowledge were identified; more well-designed studies on efficacy, effectiveness, cost effectiveness, and sustainability of food-based approaches are needed.

The present study is an attempt to study awareness and practice regarding vitamin A intake and their deficiency disorders among mothers of pre-school children at Khirasara village, Rajkot.

MATERIAL AND METHODS

Study Setting: The study was conducted at Khirasara village, Rajkot during January 2015 to April 2015. The Rural Health Training Centre (RHTC) of Community Medicine Department, PDU Govt. Medical College, Rajkot is located at Khirasara village of Rajkot and hence was selected for the study.

Study design and sampling: It was a descriptive community based cross sectional study. The study participants were mothers of children one to five years of age. The first dose of Vitamin A is given at 9 - 12 months of age, and continues every 6 months till the child is 5 year old. Hence mothers of pre-school children were selected so we can obtain proper history regarding utilization of services. A list of mothers of pre-school children

was taken from the Anganwadi Centers of Khirasara village (n= 196). The list of names was arranged alphabetically. A convenient sampling method was used to select 50 per cent of all the mothers. Thus every alternate mother was selected for inclusion in the study. Of the 98 mothers approached, 95 (97.0%) consented and gave complete response.

Data collection: The study was conducted by using pretested, semi-structured questionnaire. The questionnaire included details of various socio-demographic variables, like age, educational status, working status, parity and other details regarding awareness and practice for prevention of Vitamin A deficiency disorders. The feasibility of the study and the clarity, quality, and length of the questionnaire items were ensured by a pilot-test conducted on a volunteer sample of 10 mothers.

Assessment of knowledge and practice: For assessing the knowledge of mothers of pre-school children regarding vitamin A rich foods, she was asked to list the source of vitamin A rich foods. As the focus was to assess her innate knowledge, no prompting was made. If the mother was able to list at least three *diverse* food items (belonging to different food types - vegetables, fruits, animal foods, jiggery, milk products etc) which are rich in vitamin A, she was labelled as 'Knowing' or else she was labelled as 'Not knowing' about vitamin A rich foods.

For assessing the awareness of mothers about vitamin A prophylaxis programme, questions pertaining to the schedule, importance of the prophylaxis and the place of administration of vitamin A doses were asked. If the mother was able to correctly answer at least 2 questions, she was labelled as 'Aware' for vitamin A prophylaxis programme.

Similarly for assessing the practice related to intake of vitamin A rich foods, the mother was asked about the dietary history of past 1 week. If she was including at least one food item rich in vitamin A daily, then she was labelled as 'Practicing' otherwise 'Not practicing'.

Data analysis: The data was entered in MS Excel 2013. Quantitative variables are represented through mean and standard deviation. Qualitative variables are represented through percentages, bar graphs and pie charts. Statistical analysis is done through Chi-square test using Epi Info 7.

Ethical consideration: Ethical clearance was obtained from Institution Ethical Committee before proceeding with the field work. Administrative clearance was obtained from Medical Officer of PHC Khirasara, Rajkot. The interviews of mothers of pre-school children were conducted after obtaining informed verbal consent.

RESULTS

A total of 95 mothers were included in the study. Analysis of the demographic characteristics of the study group showed that the mean age was 25.9 years (range 19 - 36), more than half were literate (61.1%), 80% were non-working women & almost half of them (49.5%) were primipara. (Table 1).

Table 1: Demographic characteristics of the participants (N = 83)

Characteristics	Mothers (%)
Age group (years)	
≤ 20	29 (34.9)
21 - 30	37 (44.6)
> 30	13 (15.7)
Mean ±SD	25.9 ±3.8
Range	19 - 36
Education status	
Illiterate	37 (38.9)
Literate	58 (61.1)
Working status	
Non-working	76 (80.0)
Working	19 (20.0)
Parity	
Primipara	47 (49.5)
Multipara	48 (50.5)

Table 2: Knowledge about food-stuffs rich in Vitamin A as per the socio-demographic status of the respondents

Variable	Knowledge about food stuffs rich in Vitamin A		p value
	Knowing (n=31) (%)	Not knowing (n=64) (%)	
Literacy			
Illiterate	07 (22.58)	30 (46.88)	0.02
Literate	24 (77.42)	34 (53.13)	
Working status			
Non-working	25 (80.65)	51 (79.69)	0.91
Working	06 (19.35)	13 (20.31)	
Parity			
Primipara	17 (54.84)	30 (46.88)	0.47
Multipara	14 (45.16)	34 (53.13)	

Table 3: Knowledge about Vitamin A prophylaxis programme as per the socio-demographic status of the respondents

Variable	Knowledge about Vitamin A prophylaxis programme		p value
	Aware (n=18) (%)	Unaware (n=77) (%)	
Literacy			
Illiterate	02 (11.11)	35 (45.45)	0.00
Literate	16 (88.89)	42 (54.55)	
Working status			
Non-working	14 (77.78)	62 (80.52)	0.94
Working	04 (22.22)	15 (19.48)	
Parity			
Primipara	04 (22.22)	43 (55.84)	0.01
Multipara	14 (77.78)	34 (44.16)	

Knowledge of mothers about food stuffs rich in vitamin A was compared against different socio-demographic parameters. Knowledge of vitamin A rich foods was significantly more in literate mother compare to illiterate mother. (Table 2) Knowledge of vitamin A rich foods was not significantly associated with either the working status of the mother or the parity of the mother. (Table 2)

Table 4: Practice of giving food-stuffs rich in Vitamin A as per the socio-demographic status of the respondents.

Variable	Practice of giving food-stuffs rich in Vitamin A		p value
	Practicing (n=26) (%)	Not practicing (n=69) (%)	
Literacy			
Illiterate	5 (19.23)	32 (46.38)	0.01
Literate	21 (80.77)	37 (53.62)	
Working status			
Non-working	19 (73.08)	57 (82.61)	0.30
Working	07 (26.92)	12 (17.39)	
Parity			
Primipara	11 (42.31)	36 (52.17)	0.39
Multipara	15 (57.69)	33 (47.83)	

Table 5: Knowledge of mothers regarding vitamin A deficiency disorders

Vitamin A deficiency disorders	Frequency (%) #
Dim vision	26 (27.4%)
Night blindness	22 (23.2%)
Growth retardation	12 (12.6%)
Infection	9 (9.5%)
Dry skin	4 (4.2%)
Don't know	65 (68.4%)

Values don't add to 100% because of multiple response answers

Knowledge of mothers about vitamin A prophylaxis programme was compared against different socio-demographic parameters (Table 3).

Knowledge of vitamin A prophylaxis programme was significantly more in literate mother as compare to illiterate mother. Multipara mother had significantly more knowledge of vitamin A prophylaxis programme as compare to primipara mother.

However, knowledge of vitamin A prophylaxis programme was not found to be significantly associated with working status of the mother.

Among all the mothers, practice of giving food stuffs rich in vitamin A was compared against different socio-demographic parameters (Table 4).

Practice of giving food-stuffs rich in vitamin A to her children was significantly more in literate mothers as compare to illiterate mother.

The practice of including vitamin A rich food items in the diet of their children was not significantly associated with either the working status of the mother or the parity of the mother.

27.0% of mothers responded that vitamin A deficiency leads to dim vision, while 23.0% mothers told that vitamin A deficiency leads to night blindness. 12.0%, 9.0% and 4.0% mothers knew that vitamin A deficiency leads to growth retardation, infection and dry skin respectively. Majority (68.0%) mothers did not know about any vitamin A deficiency disorders. (Table 5)

DISCUSSION

Present study showed mean age of mother was 25.9 \pm 3.8 years, minimum age was 19 and maximum age was 36 years. Regarding the educational status, 37 (38.9%) women were illiterate. Regarding the occupation, majority (80.0%) of women were non-working housewives. In the study by Shanker Matta et al¹¹, majority of women, 308 (61.6%) interviewed were in the age group of 16-25 years. In the previous study conducted by Rozina Khaliq et al¹², the mean age of mothers was 29.28 years (SD \pm 5.34), minimum age was 19 and maximum age was 45 years. About 93% of mothers were housewives and 12% of women got education more than 10 years schooling. In a similar study by Jaya Krishna et al¹³ it was observed that 90.0% of the mother were housewives.

Knowledge about vitamin A deficiency disorders among mothers in this sample was low; consistent with baseline and control findings from intervention studies conducted in South Africa, Nepal, and Tanzania.¹⁴ Addressing this issue is important to increase the overall awareness about vitamin A deficiency disorders in the community which can lead to early recognition of symptoms and signs, and provision of vitamin A rich foods and vitamin A supplementation for prevention.

A prominent finding in our study was that 31 (32.6%), out of 95 mothers could enumerate foodstuffs rich in vitamin A. A study done in New Delhi¹¹ by S Matta et al showed that 20% were aware about the foodstuffs rich in vitamin A. A study done in Andhra Pradesh¹⁵ reported, that after three years of campaigning for prevention of vitamin A deficiency, 29% of the respondents were aware that a diet providing carotene-rich vegetables could prevent night-blindness, compared with none at baseline.

Only 18 (18.9%) of the total mothers interviewed were aware about the biannual vitamin A prophylaxis programme. In a similar study¹¹ by S Matta et al, 22.6% knew about vitamin A prophylaxis pro-

gramme. This is a key issue which remains a road-block to increase utilization of vitamin A supplementation.

As compared to an awareness level of 32.6% about vitamin A rich foodstuffs, only 27.4% mothers practiced inclusion of vitamin A rich food in diet of their children. A study conducted by R Khaliq et al¹² in Rawalpindi reported that 17% of the mothers had healthy practice of including vitamin A rich foods in the diet of their under 5 year children.

CONCLUSION

In this study, knowledge of vitamin A rich foods and practice of including vitamin A rich foods in diet of the children as well as awareness about the vitamin A prophylaxis programme was found to be significantly more in literate mothers. This gap between illiterate and literate mothers regarding the knowledge and practice of vitamin A intake should be addressed.

A gap between the level of awareness and level of practice regarding vitamin A intake was seen among the mothers. There is a scope for further exploration of the reasons for this gap. Similar study can be performed on a larger sample size to determine the level of awareness and practice.

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