Original Research Article

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Knowledge of parents and coverage among children regarding vitamin A in day care centers

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ABSTRACT

Background: Vitamin A deficiency (VAD) is one of the most significant causes of preventable childhood blindness. The present study was conducted among parents of pre-school children to study knowledge and practice regarding vitamin A intake and coverage of vitamin A supplementation among them.

Methods: It was a cross sectional study conducted in Patiala city of Punjab. Interview was conducted among parents of 275 preschool children going to various day care centers in Patiala.

Results: It was found in this study that 56.7% had knowledge regarding vitamin A supplementation. Less than half of the parents knew about vitamin A rich foodstuffs.

Conclusions: From the present study we can conclude that there is a wide gap regarding knowledge and coverage about vitamin A supplementation. Doctors and books were main sources of information.

Keywords: Vitamin A supplementation, Coverage, Pre-school children, Vitamin A deficiency, Under-five children

INTRODUCTION

Vitamin A is essential for the functioning of the immune system and the healthy growth and development of children, and is usually acquired through a healthy diet. However, it is estimated that, globally, 190 million children under five years of age are affected by vitamin A deficiency, and In India around 2.8 million children at risk of developing blindness. 1,2

The combination of childhood underweight, micronutrient deficiencies (iron, vitamin A and zinc) and suboptimal breastfeeding is responsible for 7% of deaths and 10% of the total disease burden.³ Vitamin A deficiency alone is responsible for almost 6% of child deaths under the age of 5 years in Africa and 8% in South-East Asia.³ Vitamin A supplementation in children

6–59 months of age living in developing countries is associated with a reduced risk of all-cause mortality and a reduced incidence of diarrhea.⁴ The fourth Millennium Development Goal is to reduce by two thirds the mortality rate among children under-five years of age by 2015. Vitamin A supplementation is an important component of the strategies required to reach this goal.¹

Provision of high doses of vitamin A every 6 months until the age of 5 years was based on the principle that a single, large dose of vitamin A is well absorbed and stored in the liver, and then mobilized, as needed, over an extended period of time. A dose of 100 000 International Units (IU) in infants 6–11 months of age and 200 000 IU in children 12–59 months of age is considered to provide adequate protection for 4–6 months. In areas where vitamin A deficiency is a public health problem, routine

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vitamin A supplementation is recommended in infants and children 6-59 months of age as a public health intervention, and has been shown to reduce the risk of all-cause mortality by 24%. ^{2,5} The level of knowledge effects the level of coverage of vitamin A. Comprehensive control of vitamin A deficiency should include strategies for dietary improvement and food fortification as well. To combat the deficiency of vitamin A in community, awareness of their importance and their source plays a vital role. ¹

The present study is an attempt to study awareness and practice regarding vitamin A intake among mothers of pre-school children at Patiala.

METHODS

The study was done on 275 preschool children going to various day care centers in Patiala city of Punjab, from August to October, 2016. A questionnaire was provided to the parents who consented for study to estimate their awareness regarding Vitamin A supplementation for children, the no. of doses received by the child, the source of supplementation and awareness about various foods rich in vitamin A.

The individuals who did not consent or were not available at the time of data collection were excluded from the study. The data thus collected was compiled and analyzed on Microsoft excel sheet using descriptive statistics.

Later, printed pamphlets of the dose schedule of vitamin A supplementation and various foods rich in vitamin A were given to all the parents. The importance of vitamin A rich foods for children and pregnant/lactating mothers was emphasized.

RESULTS

The data collected from parents of preschool children attending daycare centers was analyzed and it was found that in our sample majority of children were in age group of 1 to 3 years (68.7%). One-fifth of sample was from 3-4 years while the extremes of age i.e., less than 1 (very young ones) and more than 4 total proportion was one tenth of sample (Table 1).

Table 1: Age distribution of the children.

Age group (in months)	Frequency	Percentage (%)
0-12	3	1.1
13-24	76	27.6
25-36	113	41.1
37-48	58	21.1
49-60	25	9.1
Total	275	100

Slightly less than half (43.27%) didn't have knowledge regarding vitamin A supplementation. Doctors were quoted as major source of information. Books were next in the list as major contributor (Table 2 and 3).

Table 2: Distribution according to knowledge regarding vitamin A supplementation.

Age group (in months)	No (%)	Yes (%)	Total
0-12	0 (0)	3 (100)	3
13-24	33 (43.4)	43 (56.6)	76
25-36	44 (38.9)	69 (61.1)	113
37-48	30 (51.7)	28 (48.3)	58
49-60	12 (48)	13 (52)	25
Total	119 (43.3)	156 (56.7)	275

Table 3: Distribution of subjects according to the source of information.

Source	Frequency	Percentage (%)
Doctor	60	21.8
Books	30	10.9
TV	5	1.8
Others	44	16
No information	119	43.3
No response	17	6.2
Total	275	100.00

Table 4: Distribution of children as per no. of vitamin A doses received.

No. of doses	Frequency	Percentage (%)
1	33	21.15
2	52	33.33
3	21	13.46
4	8	5.13
5	6	3.85
6	6	3.85
7	29	18.59
8	1	0.64
Total	156	100.00

More than half of the children (54.48%) received only first two doses of vitamin A while among the rest half very few could receive complete supplementation (Table 4).

The knowledge regarding vitamin A rich foods carrot and green leafy vegetables was there in slightly less than half of parents. The gap in knowledge was glaring when it came to oils where a near 86% didn't know; for mango and papaya a near of 3/4th lacked knowledge. Near 60% and 65% were unaware regarding knowledge about dairy and non-vegetarian food items being rich in vitamin A respectively (Table 5).

Table 5: Distribution of parents regarding knowledge about vitamin A rich foods.

Diet*	Frequency	Percentage (n=275)
Carrot	137	49.8
Green vegetables	134	48.7
Non veg.	95	34.5
Dairy	112	40.7
Papaya	73	26.5
Mango	66	24.0
Oils	38	13.8

^{*}One subject answered more than one option.

DISCUSSION

Knowledge about vitamin A supplementation among mothers in this study was low. This study shows that out of 275 children only 156 (56.23%) received few doses of vitamin A supplementation and the rest i.e. about 43.27% did not receive any vitamin A dose. This is comparable to a study conducted by Mahajan et al in Uttar Pradesh, shows, 43.3% of the children did not receive even a single dose of vitamin A.⁶ The studies conducted by Sachdeva et al and Taneja et al, among the children residing in the slums of Delhi also illustrate that most of children did not receive even a single dose of vitamin A (i.e., 62.4% and 62.2%, respectively).^{7,8}

Likewise a study conducted by Agrawal based on NFHS-III data of India reveals poor supplementation of vitamin A (24.8%) among children of 12–35 months age group. ⁹ However, the findings of the study by Singh conducted in urban slums of Ahmadabad demonstrated considerably higher vitamin A Supplementation among children aged 12–23 months (71.7%). ¹⁰

A principal finding in our study was that nearly 50% of the mothers knew that vegetables such as carrot and green leafy vegetables were rich in vitamin A. While a study done in Andhra Pradesh reported 29% of the respondents were aware that a diet providing carotenerich vegetables could prevent night-blindness, with no baseline comparison. Also the present study shows that only 24.5% were aware that non vegetarian diet is a rich source of vitamin A and very few (nearly 10-25%) had knowledge about other vitamin A rich food items. A study done in Gujarat by Sheth et al revealed that 31 (32.6%), out of 95 mothers could enumerate foodstuffs rich in vitamin A.¹¹ A study done in New Delhi by Matta et al depicted that about 20% knew about vitamin A rich foodstuffs. 12 Lack of awareness is a key issue which remains a roadblock to increase utilization of vitamin A supplementation.

CONCLUSION

There is overall deficiency in knowledge about vitamin A amongst the parents; less than 50% for any kind of food.

Oils were worst hit around 13.8%. So the need is there to create awareness amongst parents regarding vitamin A rich foods; all varieties of foods so as to have an increased coverage as a resultant of hiked awareness.

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Institutional Ethics Committee

REFERENCES

- WHO. Vitamin A supplementation. Who.int. 2017. Available from: http://www.who.int/immunization/ programmes_systems/interventions/vitamin_A/en/. Accessed on 3 June 2017.
- 2. Susan C, Shashidhara YN, Kurian N. Awareness of Vitamin A Supplementation among Mothers of Under-five Children in Selected Urban and Rural Areas. Int J Sci Res. 2014;3(12):1-3.
- Global health risks global health risks WHO
 Mortality and burden of disease attributable to
 selected major risks. Geneva, World Health
 Organization, 2009. Available at: http://www.who
 .int/healthinfo/global_burden_disease/GlobalHealth
 Risks_report_full.pdf. Accessed on 3 June 2017.
- 4. WHO, 2017. Available at: http://WHO. Guideline: Vitamin A supplementation in infants and children 6–59 months of age. Geneva, World Health Organization, 2011.
- 5. Scaling Up Vitamin A Supplementation in India Evidence and lessons learned from 15 major states in India. www.unicef.in. 2014 [cited 17 June 2017]. Available at: http://unicef.in/Uploads/Publications/Resources/pub_doc113.pdf. Accessed on 3 June 2017.
- 6. Mahajan H, Srivastav S, Mukherjee S. Coverage of vitamin A supplementation among under-five children in an urban resettlement colony of district Gautam-Budh Nagar, Uttar Pradesh. Int J of Med Sci Public Health. 2016;5(7):1328.
- 7. Sachdeva S, Datta U. Vitamin A-first dose supplement coverage evaluation amongst children aged 12-23 months residing in slums of Delhi, India. Indian J Ophthalmol. 2009;57(4):299.
- 8. Taneja D, Bansal Y, Mehra M. Status of Reproductive and Child Health in Delhi. Indian J Community Med. 2000;25(4):188.
- 9. Agrawal S, Agrawal P. Vitamin A supplementation among children in India: Does their socioeconomic status and the economic and social development status of their state of residence make a difference? Int J Med Public Health. 2013;3(1):48.
- Singh A, Kadri A, Jain S. Coverage study on Vitamin A supplementation amongst children aged 12-23 months in urban slums of Ahmedabad city. 2013;4(1):19-22.
- 11. 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 PreSchool Children in Khirasara Village, Rajkot, Gujarat. Ntl J Community Med. 2016;7(6):505-9.
- 12. Matta S, Matta P, Gupta V. Knowledge among women regarding vitamin a deficiency: a hospital based study. Indian J Prevent Social Med. 2006;37:3-4.

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