

DETERMINANT OF UTILIZATION OF VITAMIN A PROPHYLAXIS PROGRAMME AMONG CHILDREN SEEKING HEALTH CARE FROM A TERTIARY LEVEL HOSPITAL

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ABSTRACT

Vitamin A deficiency is widely prevalent, particularly in the developing world. Vitamin A deficiency increases susceptibility to a range of diseases in children including xerophthalmia, keratomalacia, and blindness. The National Prophylaxis Programme against Nutritional Blindness due to Vitamin A deficiency started in 1970 with specific aim of preventing nutritional blindness due to keratomalacia. Still the utilization to vitamin A prophylaxis is less among children in the community. Present study was carried out to find out the factors associated with utilization of Vitamin A Prophylaxis Programme among children attending a tertiary level hospital at Thiruvananthapuram district of Kerala. Case control design was used for the study. The tools used for data collection were utilization checklist and semi structured interview schedule for the assessment of determinants. The study was conducted in a tertiary level hospital at Thiruvananthapuram district of Kerala. Sample consisted of children in the age group between 5 to 7 years attending the selected tertiary level Hospital antenatal clinic. Sample size was 120. Findings of the study show that the mother's knowledge regarding Vitamin A prophylaxis programme has significant association with utilization of vitamin A prophylaxis programme. Among the participants of study, 63.3% of the mothers have adequate knowledge regarding vitamin A prophylaxis programme and 36.7% of the participants have inadequate knowledge regarding vitamin A prophylaxis programme. Findings of the study throw light on the need for further interventions for improving the utilization of vitamin A prophylaxis programme. There is an urgent demand of creating cognizance among the mothers of under five children in regard to the gravity of vitamin A prophylaxis programme.

Key Words: Vitamin A prophylaxis programme, utilization, determinant.

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INTRODUCTION

On a worldwide basis the third most prevalent nutritional deficiency is that of vitamin A. The effects of vitamin A deficiency are seen in many body tissues. The well-known extreme deficiency disease is xerophthalmia, affecting 5-10 million children annually and leaving them blind in its wake. Vitamin A depletion is a major source of illness and death among young children especially under 3 years of age.¹

Moderate to severe vitamin A deficiency is marked by the presence of night blindness or clinical eye signs which can and does impair physical growth in young children. In severe Vitamin A Deficiency (VAD), such as that resulting in keratomalacia, the mortality rate is as high as 60%. Lowered resistance to infections due to Vitamin A Deficiency has been observed in children even before eye symptoms appear. Vitamin A intervention in deficient children has been shown to restore cell-mediated immune response and enhance antibody response as well as macrophage functions, suggesting an immune potential effect of vitamin A. Children with even mild VAD have a threefold higher risk of diarrhea, two fold higher risk of acute respiratory tract infection, and 6 to 9 times greater risk of death. In developing countries, diarrhea and measles account for 58% of deaths among children under five year of age.²

National prophylaxis programme against nutritional blindness was initiated in 1970 as a centrally sponsored scheme. Under this scheme, all children between ages of 1 and 3 years were to be administered 2 lakhs IU of vitamin A orally once in 6 months. In 2006, the age group of eligible children was broadened to include children between 6 months and 5 years after reconsidering recommendations of the WHO, UNICEF and Ministry of Women and Child Development. Now the recommended schedule is 9 months to 5 years of age (oral prophylactic dose). A total of nine mega doses are given.³

In India one out of four children aged 12-35 months received vitamin A supplementation which indicates poor coverage. Wide differentials have been noticed in vitamin A supplementation across the states, varying from less than 10% in states like Uttar Pradesh and Nagaland to more than 45% in states like Kerala, Mizoram and West Bengal. About 1/3rd of the children aged 12-23 months received vitamin A supplementation as compared with only 1/5th of the children aged 24-35 months. Girls and boys were equally likely to receive the supplementation. Vitamin A supplementation significantly decreased with increasing birth order, but increased with mother's education and wealth status. Although the difference between urban and rural areas was small, the percentage was slightly higher in urban areas. Utilization to vitamin A prophylaxis is high in states with high socio economic development status.⁴

A successful immunization programme depends on co-operation of every person especially mothers of less than 5 years of old children. Parental attributes like unawareness, negative perception, and negative attitude are considered as barriers in vitamin A prophylaxis schedule. It is extremely important that the children are completely immunized appropriate to the age. Knowledge regarding vitamin A deficiency is a key factor for immunization coverage less of other demographic characteristics including socio economic factors. Hence the current study was designed with an objective to determine the factors leading to the utilization of Vitamin A prophylaxis programme.

MATERIALS AND METHODS

Objective of the study was to find out the factors associated with utilization of vitamin A prophylaxis programme among children attending a tertiary level hospital. Case control design was used for the study. Setting of the study was a Government tertiary level women and children specialty teaching hospital at Thiruvananthapuram district of Kerala. It is usually attended by children belonging to low to medium socioeconomic status as well as those who are referred from other levels of health care services. Total sample size was 120. Among the sample 57 children received complete doses of Vitamin A. They were considered as cases and the rest of the sample (63) were studied as controls. Children between the ages of 5 to 7 years were recruited from the outpatient department and pediatric wards. Children who were too sick to participate and children whose mothers were not able to understand Malayalam or English were excluded from the study. Prior permission was obtained from Medical Superintendent of the institution. Informed consents were obtained from study participants before data collection. Confidentiality of the collected data was ensured.

Interview technique was used for data collection from the mothers of selected children. Data were collected during the month of March 2019. Tools consisted of Checklist for assessment of utilization to vitamin A prophylaxis programme and interview schedule to assess socio demographic data and knowledge of mothers regarding vitamin A prophylaxis programme.

RESULTS

Among the study participants (No-120), 57 (47.5%) had full utilization and 63 (52.5%) had partial or non-utilization. Majority of the sample (74.2%) reside at rural areas. Sixty five percent of participants belong to APL category. Sample characteristics are shown in Table 1.

Table I

Socio demographic Characteristics of Children

n-120

Characteristics	Frequency	Percentage
Place of residence		
Urban	31	25.8
Rural	89	74.2
Economic status		
APL	79	65.83
BPL	41	34.17
Education of mothers		
Up to high school	46	38.3
Higher secondary	49	40.8
Degree & above	25	20.8

Knowledge of mothers regarding Vitamin A prophylaxis programme were evaluated using interview schedule. From the Table II it is clear that 63.3% of participants have adequate knowledge and 36.7% of participants have inadequate knowledge.

Table II

Distribution of study participants on the basis of knowledge regarding Vitamin A prophylaxis programme.

n=120.

Knowledge	Frequency	Percentage
Adequate knowledge	76	63.3
Inadequate knowledge	44	36.7
Total	120	100

Determinants of Utilization of Vitamin A Prophylaxis Programme

Association of Utilization of Vitamin A prophylaxis programme with a number of selected factors were examined. The findings are shown in Table III. Variables under study were place of residence, education status of mothers, income status and knowledge regarding the programme. Knowledge of mothers regarding Vitamin A Prophylaxis programme was significantly associated with Utilization to Vitamin A prophylaxis programme [OR 2.75 (CI 1.30-5.86)]. Statistically significant association was not found between utilization and place of residence, education status of mothers or income status.

Table III

Association of Utilization of Vitamin A prophylaxis programme with selected variables.

Characteristics		Utilization		Chi-square	P value	Odds ratio	95%CI
		Yes	No				
Place of residence	Urban	13	21	1.63	0.20	0.59	0.26-1.32
	Rural	44	42				
Education of mother	Up to high school	19	15	1.62	0.20	1.68	0.75-3.73
	Higher secondary & above	37	49				
Income status	APL	19	22	0.03	0.86	0.93	0.44-1.98
	BPL	38	41				
Knowledge regarding Vitamin A Prophylaxis programme	Yes	40	29	7.14	0.007	2.75	1.30-5.86
	No	17	34				
Total		57	63				

DISCUSSION

Findings of the study show that knowledge of mothers regarding Vitamin A Prophylaxis programme was significantly associated with Utilization of Vitamin A prophylaxis programme. Present study reveals that full

coverage was received by 47.5% of the children. There is no significant association between utilization and residential characteristics, income status or maternal education status. Some of the studies conducted in different states of India show conflicting results. An identical study was conducted by Sutpa Agrawal and Praween Agrawal to assess Vitamin A supplementation among children in India to evaluate association between socio economic status and utilization. In this study only 25% of the children in India received vitamin A supplementation, indicating a poor coverage. Rural children and children of educated mothers were more likely to receive vitamin A supplementation than others. Children born in a higher birth order (6+) and those residing in states with low levels of social and economic development were only about half as likely to receive vitamin A supplementation as their counterparts.⁴

A diverse finding was obtained in a study conducted in Nepal to assess the coverage of the vitamin A supplementation programme. The study was done to enumerate the coverage of the Nepal National Vitamin A Programme (NVAP) for pre- school children in Nepal and to identify risk factors for failure to receive vitamin A supplementation. Children who missed vitamin A capsule were more likely to be younger and anemic, have less educated parents, live in rural areas and have higher child and infant mortality in the family.⁵

Distinct result was obtained from a study conducted at Bangladesh to assess the factors affecting low coverage of the vitamin A supplementation programme among young children admitted in an urban diarrheal treatment facility in Bangladesh. Sample size was around 8649. Around 68% of them have received VAS in the previous six months. The reason for non-utilization to vitamin A supplementation was found to be associated with older children, parents without formal schooling, family with greater poverty, low family income and lack of master vaccination.⁶

CONCLUSION

The present study shows that majority of children do not have full utilization of vitamin A prophylaxis programme. The socio demographic factors do not make any difference in utilization of vitamin A prophylaxis programme. But knowledge of mothers has a robust association with utilization of vitamin A prophylaxis programme. In view of present study there should be further interventions for enhancing the utilization of vitamin A prophylaxis programme. This study throws light on the need to improve the knowledge of the mothers regarding vitamin A prophylaxis programme. There is a necessity of hospital based as well as community level strategies for advancing the cognizance in regard to the particular programme.

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