Knowledge and Practice on Vitamin A Among Populations of Two Different Socio-economic Classes

Sabana Kashem Lopa, Sharmin Rumi Alim, Md. Mohiduzzaman and Quazi Salamatullah*

Institute of Nutrition and Food Science, Dhaka University, Dhaka 1000

Abstract

Knowledge and practice study on vitamin A among two different socioeconomic classes of respondents from Dhaka University Stuff Quarter (D.U.S.Q.) and Zikatola slum area revealed that education and solvency are the two prime factors in terms of knowledge and practice. About 83% respondents of D.U.S.Q. and 32 % respondents of slum are aware about vitamin A deficiency diseases. Regarding practice 57% households of D.U.S.Q. and only 28% of slum dwellers feed vegetable to their children within six month of age. A difference in the knowledge about vitamin A rich food was also observed among the two respondent groups. In contrary 95% respondent from D.U.S.Q. and 92% respondent from slum have knowledge about VAD and 84% from slum and 40% from D.U.S.Q. feed VAC to their children. This difference is due to the fact that health workers visit the slum and administer VAC to the children, such service is not available for the D.U.S.Q. respondents. Therefore effective and continuous dissemination about VAD must be propagated and also the present KAP program on vit A should be strengthened to achieve a better health of our nation.

Key Words ; Vitamin A Deficiency, Knowledge, Practice.

Introduction

Vitamin A deficiency (VAD) has long been identified as serious but preventable nutritional disease. VAD exists in more than 60 countries at a clinical or sub clinical level. Based on the available data projected to reflect conditions on 1994, 2.8 million children aged between 0-4 yrs were affected clinically and a rather big number of children belonging to the same age group (251 millions) were sub clinically affected by VAD [1] . Therefore at least 254 million pre-school age children are at high risk in respect to health and survival.

VAD is the second most important factor for global blindness. Every year 250,000 to 500,000 children become blind partially or totally due to VAD. Also VAD lower the resistance power of these children towards infections.

Bangladesh Journal of Nutrition. Vol 15 December 2002. Institute of Nutrition and Food Science, University of Dhaka-1000, Bangladesh.

* *Author for correspondence*

These type of vulnerable children (11.4 million) prevail in south east Asia [2]. In Bangladesh, VAD is a major health problem and prevalence of night blindness in children is 1.7% that is far above the cut off point of WHO. Every year more than 30,000 children become blind due to VAD and 9 million children have visible sign of VAD [3]. At the end of 1995 the Nutritional Surveillance Project reported a fall in the prevalence of night blindness among the children aged between 2-8 yrs from 1 to 0.8% and between 6-59 months from 0.8 to 0.5% [4].

In context of Bangladesh, vitamin A intake has repeatedly been reported to be inadequate. In the Nutrition Survey conducted in 1975-76 vitamin A intake was found to be only 36% of the recommended intake, a substantial drop from 93% as reported in 1962-64 [5]. This situation was found to be basically unchanged in 1981-1982 survey. In that survey it was found that 88% of the households did not fulfill vitamin A requirement. Vegetables are the primary source of vitamin A (as carotene) in our diet, however only a quarter of the required amounts of vegetables are consumed by most of the families surveyed. To eliminate the prevalence of VAD the Government of Bangladesh along with various NGO's have taken some interventions such as vitamin A capsule distribution among the children twice in a year. Many other programs have also been taken to create awarness among mass population. Therefore to observe the outcome of various elimination program taken by government along with NGO's the understanding of people's knowledge and attitude regarding VAD is necessary.

Methods and Materials

The study was conducted in two selected areas of Dhaka city with different socio-economic background, namely Dhaka University Staff Quarters (D.U.S.Q) and Zikatola slum area. This study includes 200 households where, 100 were from Dhaka university staff quarters and the remaining 100 were from Zikatola slum area. In order to achieve required number of samples, random sampling method was followed.

Questionnaire was designed to collect information regarding knowledge and practice on vitamin A, such as knowledge on vitA rich food, complications caused by vitA deficiency, way of preventing vitA deficiency, practice of feeding vegetable to children, as well as the socioeconomic status of the respondents such as, educational qualification, occupation, monthly income, portion of money allocated for food, etc. In order to collect the data, researchers visited the house of the respondents and filled in the questionnaire by interviewing every question to the respondent. After the completion of data collection, necessary editing was done to correct existing

inconsistencies (if any) in data to minimize the non-sampling error of the study. EPI INFO6 program in AZTECH 486 PC was used for data entry and analysis.

Results

A total of 200 households from D.U.S.Q and Zikatola slum were surveyed in this study. Socio-demographic data of the mothers were presented in Table – 1, which showed that 42% respondents from slum were illiterate in contrary to 33% graduate respondents of D.U.S.Q. A total of 45% respondents were housewives. Sharp difference was also observed in total monthly income among the two groups. Approx. 34% of D.U.S.Q. mothers were engaged in education, whereas among the slum dwellers 40% respondents were maid or

Table1. Distribution of mothers according to their educational qualification, occupation and family income

Criteria		D.U.S.Q	Slum	Total
Educational Qualification	Illiterate	0*(0.0)	80(40.0)	80(40.0)
	S.S.C.	17(8.5)	10(5.0)	27(13.5)
	H.S.C.	17(8.5)	10(5.0)	27(13.5)
	Graduate	66(33.0)	0(0.0)	66(33.0)
Occupation	Housewife	34(17.0)	56(28.0)	90(45.0)
	Academic stuff	32(16.0)	0(0.0)	32(16.0)
	Student	31(15.5)	4(2.0)	35(17.5)
	Service**	3(15.5)	40(20.0)	43(21.5)
Income (Taka)	≤ 1,000	0(0.0)	19(19.5)	19(9.5)
	1,001-5,000	0(0.0)	74(37.0)	74(37.0)
	5,001-10,000	43(22.5)	7(3.5)	50(25.0)
	≥ 10,001	57(28.5)	0(0.0)	57(28.5)

In parentheses percent of respondent has been shown
*Number of respondents
** Service includes official job, housemaid, garment workers and others.

Table 2. Knowledge about problems due to vitamin A deficiency

Problem	D.U.S.Q	Slum	Total
Night blindness	76* (38.0)	29 (18.5)	105 (52.5)
Other physical problems	2 (1.0)	3 (1.5)	5 (2.5)
Both	9 (4.5)	0 (0.0)	9 (4.5)
Wrong answer	0 (0.0)	9 (4.5)	9 (4.5)
Do not know	13 (6.5)	59 (28.5)	72 (66)
Grand Total	100 (50.0)	100 (50.0)	200 (100)

*Number of respondents
In parentheses percent of respondent has been shown

garment workers. From table 2 it can be seen that majority of respondents (87%) in D.U.S.Q. were aware of the problems associated with vitamin A deficiency. On the other hand only 32% respondents from slum area were knowledgeable about health problems that could be created by vitamin A deficiency. More than 90% of the respondents from both groups who gave right answers were aware of night blindness, rest told about other physiological problems like weakness, anemia, loss of immunity etc. due to vitamin A deficiency. Table 3 shows that one respondent from each group answered lack of animal food in diet is the reason for vitamin A deficiency.

Table 3 . Knowledge about reasons for vitamin A deficiency

Reasons	D.U.S.Q	Slum	Total
Do not eat animal protein	1* (0.5)	1 (0.5)	2 (1.0)
Do not eat vegetables and fruits	16 (8.0)	2 (1.0)	18 (9.0)
Both	40 (20.0)	0 (0.0)	40 (20.0)
Wrong answer	5 (2.5)	3 (1.5)	8 (4.0)
Do not know	38 (19.0)	94 (47.0)	132 (66.0)
Grand total	100 (50.0)	100 (50.0)	200 (100.0)

*Number of respondents
In parentheses percent of respondent has been shown

Whereas 16% and 2 % respondents from D.U.S.Q. and slum respectively answered that inadequate intake of vegetable and fruit might cause vitamin A deficiency. Importance of both animal and plant food to guard vitamin A

Table 4. Knowledge about ways for night blindness prevention

Ways	D.U.S.Q	Slum	Total
Vitamin A capsule	4 (2.0)	6 (3.0)	10 (5.0)
Vitamin A rich Food	74 (37.0)	55 (27.5)	129 (64.5)
Both	10 (5.0)	1 (0.5)	11 (5.5)
Wrong answer	1 (0.5)	3 (1.5)	4 (2.0)
Do not know	11 (5.5)	35 (17.5)	46 (23.0)
Grand total	100 (50.0)	100 (50.0)	200 (100.0)

*Number of respondents
In parentheses percent of respondent has been shown

deficiency was known to 40% of the respondent from D.U.S.Q. though none of the respondents from slum gave a positive answer to this. Majority (94%) from the slum area had no idea about the reason for vitamin A deficiency.

Table 4 shows that respondent from both the areas are well known about the role of vitamin A in prevention of night blindness. Out of 100 respondent from D.U.S.Q. 74% and 4% told that vit A rich food and vit A capsule respectively can prevent night blindness. Sixty one percent of the slum dwellers also told it is possible to prevent night blindness by vitamin A rich food (55%) and vit A capsule(6%). Night blindness is unpreventable was said by 35% respondent from slum.

Table 5. Practice of feeding vegetable to children

Feeding onset age	D.U.S.Q	Slum	Total
Below 6 months	57* (28.5)	28 (14.0)	85 (42.5)
6-12months	29 (14.5)	47 (23.5)	76 (38.0)
1-2 years	4 (2.0)	1 (0.5)	5 (2.5)
Above 2 years	3 (1.5)	17 (8.5)	20 (10.0)
No reply	4 (2.0)	10 (5.5)	14 (7.0)
Grand total	100 (50.0)	100 (50.0)	200 (100.0)

*Number of respondents
In parentheses percent of respondent has been shown

From table 5 it can be seen that 57% respondent of D.U.S.Q. started feeding vegetable to their children before 6 months of their age, whereas 28% respondents of slum started to feed vegetable at this age. Forty seven percent slum children start taking vegetable within 6-12 years of their age compared to a very low percent of D.U.S.Q children(29%).

A practice to give vegetable to pregnant and lactating mother was positively responded by 99% of D.U.S.Q. subjects and 100% by slum subjects (data not shown).

Discussion

VAD is a silent unseen threat which if untreated can rob the eye sight and the lives of the children. Not only clinical vitamin A deficiency is a major threat to children's health, but also those with mild xerophthalmia or sub clinical vitamin A deficiency are at high risk for suffering from common childhood illness found (measles, respiratory tract infection, diarrhea) in most developing countries [6]. Whether considering one or a combination of

interventions, controlling VAD is relatively cheap. In 1997 HKI reported that in Bangladesh home gardening only could improve vit A status along with 15% increased calorie intake [7]. In other parts of the world like Indonesia, Philippine and Nepal similar studies showed that prevalence of night blindness could be dropped by administration of vit A capsule or by improving mothers knowledge or by increasing the production and consumption of green leafy vegetable and yellow fruits all of which cost low but greater output.

Socioeconomic as well as educational and nutritional statuses are closely related with the income of the concern subjects. Moreover selection of daily food items on the basis of knowledge of proper food for keeping healthy and prevent deficiencies all depends mostly on the educational status of the housewives [8]. In the present study it was found that 100% housewives from D.U.S.Q. and 10% from slum were literate (Table 1) which was reflected by better knowledge and feeding practices among the respondents of D.U.S.Q. A clear difference was also observed on the practice of feeding vegetables to the children in two areas. It was found that 57% housewives of D.U.S.Q. feed vegetables to their children within 6 months of age where as, only 28% housewives of slum did so revealing that educated people are more conscious about feeding vegetables to their children. As a result vit A status of D.U.S.Q. children is better than that of slum dwellers. Moreover the slum people believe that vegetable feeding causes diarrhoea to the children, such a misconception should be removed by more nutrition education to the slum people. The percentage of respondents of both areas about knowledge on vit A rich foods was almost same, however most of the respondents told vegetable and fruits are rich source of vit A and they practice it more often than animal source. The ingestion of local vit A rich foods is the most sensible and culturally suitable long term measure to prevent night blindness in our country. In the present study, it was found that intake of green vegetable is a popular response among both the study groups (table 5, D.U.S.Q. 88%; slum 62%). The HKI/IPHN study in 1989 on Nutritional Blindness Prevention Program reported that more than 80% of the respondents did not have any idea about the preventive measure to protect against night blindness [9]. It is evident from the present study that the situation is far better today.

A gap on knowledge about the way of preventing night blindness was also observed among the respondent groups. 88% from D.U.S.Q. and 66% from slum know about the prevention and most of them told about intake of vitamin A rich food. It is to be noted here that more respondents from slum were aware of vitamin A capsule (VAC) and they practiced VAC properly twice

in a year this is because government distributes VAC through health workers mainly in the slum.

Thus from the present study it can be suggested that in the last few years knowledge dissemination had positive impact in the effective practice of consumption of vitamin A rich food both on poor and rich fractions of the society. But as the 100% goal is still to be reached, effective and continuous dissemination of risk of VAD, its way of prevention and treatments must increase further for better health of our nation.

References

1. Virtual Eliminatiom of Vitamin A Deficiency. Obstacles and Solution for the Year 2000. Report of the XVII International Vitamine A Consulative Group Meeting. Guatemala city, Guatimala. 1996; p 33.
2. Winichagoon P, Kachondham Y, Attig GA and Tontisirin K. Integrating food and nutrition in development, Thailand's experiences and future vision.Published by the Institute of Nutrition, Mahidol University, Salaya, Phutthaminthan, Thailand. 1992; 30.
3. UNICEF. Prevention of nutritional blindness. Project proposal for supplementary funding. 1993.
4. Counts WE, Mahmud Z. and Choudhury SA. General review of vitamin A deficiency in Bangladesh and policy implication. Micronutrient series, Published by BRAC. 1997; 1212:713.
5. Nutrition Survey of East Pakistan (1962-1964). Unites States department of health, education and welfare, Public health survice. 1966; pp95-123.
6. McLaaren DS and Ftigg M. Sight and life manual on vitamin A deficiency disorders (VADD). 1997; pp 6,28, 23, 107, 111.
7. Helen Keller International. Home gardening activities in Bangladesh: Mapping report and inventory. 1999.
8. Dewier M and Ahmed F. Vitamin A deficiency in Bangladesh; A literature review of knowledge attitude and practice. UNICEF. 1995; pp 3,19.
9. Helen Keller International/IPHN. Vitamin A status throughout the life cycle in rural Bangladesh. 1999; p 1.