

NUTRITION BULLETIN

What are vitamin A knowledge and practices among mothers and health workers?

This Bulletin reports key findings of a recent survey conducted by the Department of Health and Helen Keller International (HKI) on micronutrient knowledge and practices among mothers of preschool children and among health providers. Mothers and health workers should know that vitamin A deficiency is a leading cause of childhood blindness, illness, and death, and that a vitamin A-rich diet and vitamin A supplementation are the principal ways to reduce vitamin A deficiency. Further, they need to be aware that not only children aged 12-59 months, but also sick and malnourished children, 9-11 month old infants and postpartum women should receive a vitamin A capsule. Two key findings include (1) few mothers are aware of animal sources of vitamin A, and (2) few children with high-risk conditions receive a vitamin A capsule. This bulletin explores knowledge and practices about vitamin A among mothers and health personnel and recommends areas for improvement.

Vitamin A deficiency disorders (VADD) among preschool children remain a serious health problem in the Philippines. Results from the 1998 National Nutrition Survey show that 38% of preschool children had low serum vitamin A levels. Vitamin A deficiency among young children represents a significant health concern in all 16 regions of the country (FNRI, 2001).

The high prevalence of vitamin A deficiency among children could be the result of several factors (HKI, 1998):

1. Low dietary intake of vitamin A-rich foods. The body can best absorb vitamin A from animal sources, such as liver, milk, eggs, and cheese, and fortified foods. However, dark green leafy vegetables and yellow fruit and vegetables are also good plant sources of vitamin A.
2. Failure to receive high-dose vitamin A capsules (VAC) every six months.

3. Rapid depletion of vitamin A in the body because of illness or infection. Pneumonia, chronic diarrhea, and measles all lead to a rapid, and potentially fatal, depletion of vitamin A among children.

The DOH and HKI conducted this survey in 5 of the country's 78 provinces – Pampanga, Southern Leyte, Zamboanga Norte, Cagayan de Oro City, and Davao del Norte – in April-June 2001. All three of the main island groups – Luzon in the north, the Visayas in the middle, and Mindanao in the south – were represented in the study. These provinces were purposely selected because they represent diverse vitamin A deficiency rates (low serum retinol levels) in the Philippines, ranging from 33% in Pampanga to 78% in Zamboanga Norte (FNRI, 2001). Each of the provinces contributed approximately 300 respondents to the total sample size of 1,471.



The survey was not nationally representative. The 1,471 mothers interviewed were more rural, more likely to derive their income from farming, fishing, or handicrafts, and less educated than comparable women found in the National Demographic and Health Survey (NDHS: 1999). While the exact proportions found do thus not apply to the entire country, the main findings are likely to also reflect the situation in many other areas of the country.

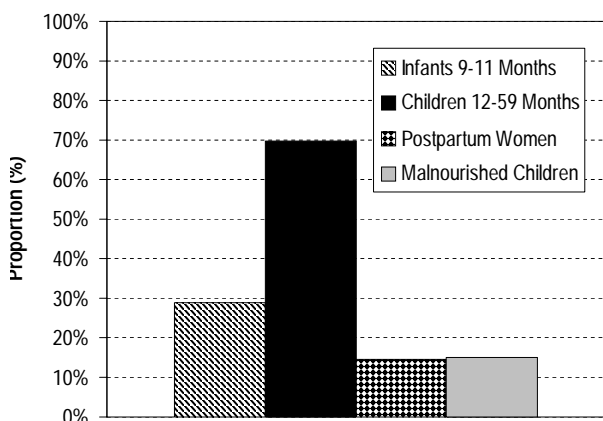
The interviewers sought spontaneous answers from the respondents and then marked them into precoded categories on the questionnaire. If the questionnaire did not contain the appropriate category, the interviewer wrote down the answer for later encoding.

KEY FINDINGS

Knowledge among mothers about vitamin A program target groups

Over 90% of the mothers had heard of vitamin A. However, many mothers lacked awareness about the target groups for vitamin A supplementation.

Figure 1. Knowledge about target groups for vitamin A supplementation

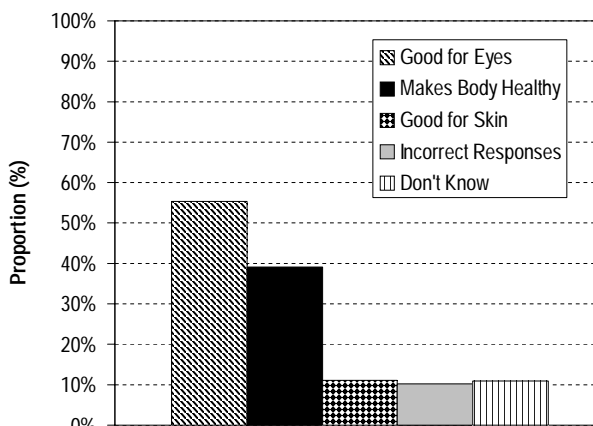


Seventy percent of the mothers mentioned that children, 12-59 months of age, should receive VAC. However, only 29% knew that 9-11 mo old infants should receive VAC, less than 15% knew that postpartum women should receive VAC and less than 15% that malnourished children should receive VAC.

Mothers knowledge about the benefits of vitamin A

Fifty-five percent of the mothers knew that vitamin A was good for the eyes, and 39% of them knew that vitamin A improved health (Chart 2).

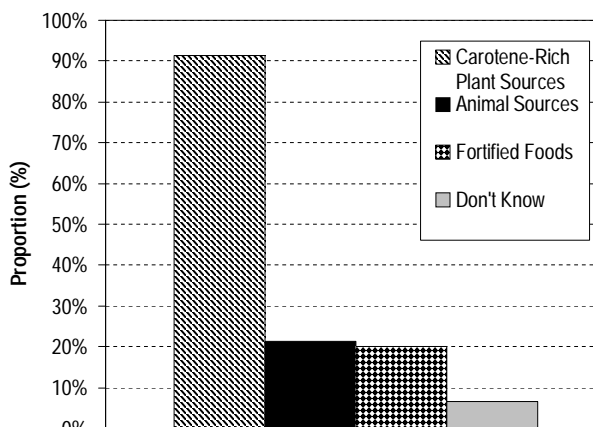
Figure 2. Knowledge about benefits of vitamin A



Knowledge among mothers about best sources of vitamin A

Animal sources provide preformed vitamin A or retinol – the dietary form of vitamin A best utilized by the body. Carotene-rich plant sources, such as green leafy vegetables and yellow fruit and vegetables, provide a precursor form of vitamin A called carotene that, although highly beneficial, is generally insufficient when it comes from vegetables and fruits alone to correct vitamin A deficiency in children. Chart 3 shows that over 90% of mothers knew about carotene-rich plant sources of vitamin A, but only around 20% knew about animal sources. In addition, only 20% knew that processed food products fortified through the DOH's *Sangkap Pinoy Seal* (SPS) program contained essential micronutrients, including vitamin A. Although we did not monitor the availability of *Sangkap Pinoy Seal* products in stores in our survey provinces, other studies and observation suggest that many of the country's 42 SPS products (noodles, sardines, juice, chips, etc.) are generally available in neighborhood stores (*sari-sari* stores) and groceries.

Figure 3. Knowledge about sources of vitamin A



Mother’s source of information about vitamin A

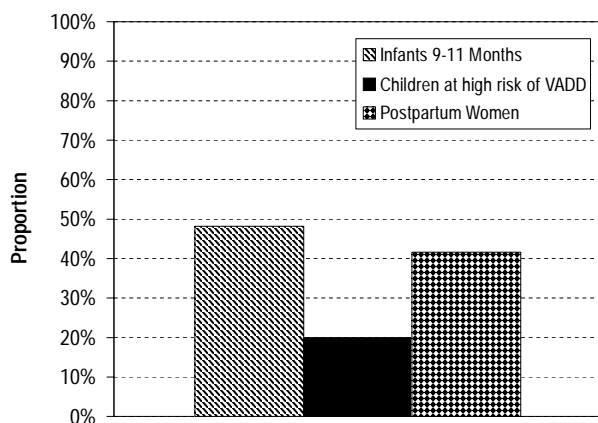
Most Filipinos obtain information about vitamin A from their community health centers. Eighty-five percent of the mothers received their information about vitamin A from community sources – mainly community health clinics (Rural Health Units) and neighborhood health centers (*Barangay* Health Stations) (chart not shown). Twenty-six percent of the mothers received information about vitamin A from the mass media. In addition, almost all VAC (95%) were obtained from community workers or facilities.

VAC coverage among high-risk groups

Good vitamin A status in children can reduce the risk of mortality from measles by about 50%, from diarrhea about 40%, and overall mortality by 25-35% (Beaton et al., 1993). It has become recognized as key to preventing childhood mortality and disability (Bloem, et al., 1998).

Vitamin A capsule coverage among preschool children with a high risk of vitamin A deficiency was found to be low (20%). Children at high risk were defined as those who were malnourished (below the fifth percentile of the Philippine reference media weight-for-age) during a recent community child weighing campaign (*Operation Timbang*), or those who suffered from chronic diarrhea, pneumonia or measles during the 3 months prior to the survey. Coverage among target groups of 9-11 month-old infants and postpartum women (women who had given birth in the past 3 months) was better, 48% and 41%, respectively.

Figure 4. Coverage among other target groups for vitamin A supplementation



Vitamin A capsule availability at health centers

Supply of vitamin A capsules appeared to be a problem in certain facilities. The regional and provincial hospitals had supplies, as did the majority of *Barangay* Health Stations and Rural Health Units. However, only a minority of the district hospitals had supplies and more than one-third of the health personnel mentioned a lack of supplies as a problem for the VAC supplementation program. The survey found that, although most of the Rural Health Units had stocks of vitamin A capsules for the semi-annual *Garantisadong Pambata* campaigns, many did not have stocks of VAC for the routine program.

Availability of vitamin A guidelines and training

Discussions with medical officers and other public health providers revealed other program weaknesses. More than half of the hospital workers and around half of the health workers did not have a copy of the DOH micronutrient policies and guidelines. Similarly, more than half of the hospital staff had not seen these policies and guidelines. About a third of the public health staff and over two-thirds of the hospital staff had not received micronutrient training.

CONCLUSIONS

The main finding is that relatively few mothers knew about the immediate need of malnourished and sick children to receive a VAC. Compounding this problem, many facilities lacked vitamin A capsules, and it is likely that many hospital and frontline health providers did not know that they should provide vitamin A capsules to malnourished or sick children because they had not received micronutrient training or DOH micronutrient guidelines. Also, only 1/5 of mothers knew about animal sources of vitamin A or about the benefits or even existence of vitamin A fortified *Sangkap Pinoy* Seal foods. Had they known and had they favored the diets of their children with vitamin A-rich animal foods and fortified products, their children would have been at a lower risk of vitamin A deficiency.

(Please turn over for the Recommendations)

RECOMMENDATIONS

- The universal vitamin A supplementation campaigns have been successful in informing mothers about the benefits, plant sources and capsules of vitamin A. These campaigns should continue through 2004 with some modifications as mentioned below and after that they should be thoroughly evaluated.
- The DOH should ensure that all facilities have adequate stocks of vitamin A capsules both for the universal and routine vitamin A supplementation programs by developing, together with local governments, a procurement system for vitamin A capsules with local government financial contributions. The DOH should also ensure that health workers at all levels and facilities receive micronutrient policies and guidelines.
- Orientations for frontline health workers as well as community education programs should emphasize:
 - the current target groups for vitamin A capsules, with special emphasis on children with high-risk conditions (malnutrition, pneumonia, chronic diarrhea, and measles), and
 - the benefits of animal sources and *Sangkap Pinoy Seal* (fortified) products for vitamin A.

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PHILIPPINES

Helen Keller International Nutrition Bulletin

For information and correspondence, contact:

Helen Keller International, Philippines

704 Pablo Ocampo St., Malate
1004 Manila

Telephone: (+63 2) 525 9457 / 525 9474 /
525 9475

Fax: (+63 2) 525 9476

Dr. Charles M. Lerman, Country Director
E-mail: clerman@hki.com.ph

Ms. Ellen E. Villate, Deputy Country Director
E-mail: evillate@hki.com.ph

Helen Keller International Asia-Pacific Regional Office

P.O. Box 4338, Jakarta Pusat
Indonesia

Telephone: (+62 21) 719 8147 / 719 9163

Fax: (+62 21) 719 8148

Dr. Martin W. Bloem, Regional Director
E-mail: mwbloem@compuserve.com

Dr. Regina Moench Pfanner, Regional Coordinator
E-mail: remoench@cbn.net.id

Dr. Saskia de Pee, Regional Nutrition Research Advisor
E-mail: sdepee@compuserve.com



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