

第二届国际妇幼营养专题讨论会

2nd INTERNATIONAL SYMPOSIUM ON MATERNAL & INFANT NUTRITION

论文集

Symposium Proceedings



中国广州亨氏营养科学研究所

Heinz Institute of Nutritional Sciences, Guangzhou, China.

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PROCEEDINGS
HEINZ INSTITUTE OF NUTRITIONAL SCIENCES
SECOND
INTERNATIONAL SYMPOSIUM ON INFANT NUTRITION

- Date:** November 2-4, 1987
- Location:** Child Development Center of China, Guanyuan, West District, Beijing, China
- Sponsors:**
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 - Institute of Nutrition and Food Hygiene, Chinese Academy of Preventive Medicine, Beijing.
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1988

Theme: Nutrition education

- Objectives:**
- (1) To outline the importance of nutrition education
 - (2) To assess infant nutrition education needs in China
 - (3) To develop strategies to strengthen infant nutrition in China

PROGRAM

Day 1: (Nov 2)

Plenary Session

Objective: To outline the principles and means of nutrition education

Chairperson: Dr. David L. Yeung

<u>Time</u>	<u>Title</u>	<u>Presenter</u>
9:00-10:00 a.m.	Introductory remarks Opening Remarks Welcoming remarks	Dr. D.L. Yeung Madam Y.M. Yu Madam G.Y. Huang
10:00-11:00 a.m.	The Importance for Infant Nutrition Education in Developing Countries (Roche Lecture)	Dr. A. Valyasevi
11:00-12:00 a.m.	Nutrition Education in Medical, Dental and Nursing Schools	Dr. G.H. Anderson
12:00-2:00 p.m.	LUNCH	
2:00-3:00 p.m.	Communicating Infant Nutrition to the Public	Dr. I. Laquatra
3:00-4:00 p.m.	A Communication Strategy to Improve Nutrition in Thailand	Dr. S. Durongdej
4:00-5:00 p.m.	Infant Nutrition Education in Hong Kong	Ms. S. Lui

Day 2: (Nov 3)

Plenary Session

Objective: To define the problems in infant nutrition and the policy in infant nutrition education in China

Chairperson: Dr. Z.F. Jiang

<u>Time</u>	<u>Title</u>	<u>Presenter</u>
8:30-9:00 a.m.	Prevalence of Infant Nutritional Problems in China	Dr. Z. C. Ho
9:00-9:30 a.m.	Pediatric Nutrition Education in China	Dr. Y. M. Hu
9:30-10:00 a.m.	Infant Nutrition Education Policy and Programs in China	Dr. Z. M. Wen

Workshops

Objective: To assess needs and to find ways to improve infant nutrition in China

10:45-12:30 noon Co-ordinator: Dr. D. L. Yeung

Workshop 1: What needs to be done to reverse the decline in breastfeeding in China?

Chairperson: Dr. T. F. Su
Rapporteur: Dr. W. Y. Wu

Day 2: (Nov 3)	Workshops	
Workshop 2:	Role of the media in infant nutrition education Chairperson: Mr. J. Li Rapporteur: Ms. K. Q. Jiang	
Workshop 3:	Research priorities to improve infant nutrition in China Chairperson: Dr. Z. C. Ho Rapporteur: Dr. W. M. Wang	
Workshop 4:	Infant nutrition education in China: who and what shall be taught and who shall teach it? Chairperson: Dr. T. Li Rapporteur: Dr. D. S. Liu	
12:00-2:00 p.m.	LUNCH	
2:00-4:00 p.m.	Co-ordinator: Dr. D. L. Yeung	
Workshop 1:	What needs to be done to reverse the decline in breastfeeding in China? Chairperson: Dr. T. F. Su Rapporteur: Dr. W. Y. Wu	
Workshop 2:	Role of the media in infant nutrition education Chairperson: Mr. J. Li Rapporteur: Ms. K. Q. Jiang	
Workshop 3:	Research priorities to improve infant nutrition in China Chairperson: Dr. Z. C. Ho Rapporteur: Dr. W. M. Wang	
Workshop 4:	Infant nutrition education in China: who and what shall be taught and who shall teach it? Chairperson: Dr. T. Li Rapporteur: Dr. D. S. Liu	
4:00-5:00 p.m.	Workshops' leaders to develop papers for presentation in the next session (Closed meeting)	
Day 3: (Nov 4)	Plenary Session	
Objective:	To outline infant nutrition education needs and to develop strategies to improve infant nutrition in China	
Chairperson:	Dr. X. C. Chen	
<u>Time</u>	<u>Title</u>	<u>Presenter</u>
8:30-10:30 a.m.	Reports of the workshops	Rapporteurs of workshops
10:30-11:30 noon	Summary of Symposium	Dr. X. C. Chen
11:30-12:00 p.m.	Closing remarks	Mm: Y. M. Yu Dr. D. L. Yeung

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DR. DAVID L. YEUNG IS THE HEAD OF THE HEINZ INSTITUTE OF NUTRITIONAL SCIENCES. HE IS THE CORPORATE NUTRITION CO-ORDINATOR OF THE H.J. HEINZ COMPANY AND MANAGER OF NUTRITION RESEARCH IN THE H.J. HEINZ COMPANY OF CANADA LTD. HE IS AN ASSOCIATE PROFESSOR IN THE DEPARTMENT OF NUTRITIONAL SCIENCES, FACULTY OF MEDICINE, UNIVERSITY OF TORONTO AND VISITING ASSOCIATE PROFESSOR AT THE SUN YAT SEN UNIVERSITY OF MEDICAL SCIENCES, GUANGZHOU AND AT THE WEST CHINA UNIVERSITY OF MEDICAL SCIENCES, CHENGDU.

DR. YEUNG RECEIVED HIS B.A., M.SC. AND Ph.D. DEGREES FROM THE UNIVERSITY OF TORONTO. UPON GRADUATION HE WAS APPOINTED ASSISTANT PROFESSOR AND WAS THEN PROMOTED TO ASSOCIATE PROFESSOR OF APPLIED HUMAN NUTRITION AT THE UNIVERSITY OF GUELPH. AFTER TEACHING THERE FOR 6 YEARS HE JOINED THE H.J. HEINZ COMPANY OF CANADA LTD.

DR. YEUNG'S ACADEMIC INTERESTS ARE INFANT AND GERIATRIC NUTRITION. HE HAS WRITTEN EXTENSIVELY ON THESE SUBJECTS. HE IS THE EDITOR OF THE MONOGRAPH "ESSAYS ON PEDIATRIC NUTRITION" AND AUTHOR OF THE BOOK "INFANT NUTRITION — A STUDY OF GROWTH AND FEEDING PRACTICES FROM BIRTH TO 18 MONTHS"

INTRODUCTORY REMARKS OF THE SYMPOSIUM CHAIRMAN

Dr. David L. Yeung

Distinguished guests,
Ladies and gentlemen,

On behalf of the sponsors, I welcome you to the Heinz Institute of Nutritional Sciences Second International Symposium on Infant Nutrition.

The Institute was established 2 years ago to advance the knowledge of maternal, infant and child nutrition; and to promote the advancement of nutritional sciences in China. One of the ways by which we achieve our mandates is to bring together international and national nutrition experts once a year to discuss topics pertinent to infant nutrition.

The first HINS symposium was successfully held at the Sun Yat Sen University of Medical Sciences last year. The theme was Maternal and Infant Nutrition — A Global Perspective. The theme of this year's symposium is Nutrition Education. The objectives are to:

- outline the importance and principles of nutrition education
- assess infant nutrition education needs in China
- develop strategies to strengthen infant nutrition in China

In the next two and half days we will:

- listen to international experts from Canada, Thailand and the USA on the principles and means of nutrition education
- hear from Chinese nutritionists existing problems in infant nutrition, and the policy on infant nutrition education
- participate in discussions on the needs and ways to improving infant nutrition, and
- develop strategies to improving infant nutrition in China.

The success of this symposium can be measured by our contribution to the workshops; the appropriateness of strategies we develop together, and the knowledge and practice of infant nutrition education we bring back to our workplace.

I would like to acknowledge the H.J. Heinz Co., Heinz-UFE Ltd., Roche Pharmaceutical and Chemicals Ltd, the Chinese Fast Food Technology Center and the China Food Newspaper for their financial support, without which the symposium would not be possible.

I would also like to thank the Institute of Nutrition and Food Hygiene of the Chinese Academy of Preventive Medicine and the Beijing Pediatric Research Institute of the Beijing Children's Hospital for co-sponsoring this symposium. Last but not least I acknowledge the Child Development Center of China for the use of the conference rooms and facilities.

OPENING REMARKS

Madam Yeuk-Mu Yu
China National Food Industry Association
Beijing

Ladies and Gentlemen,
Chinese Colleagues,

On the occasion of the opening of the Second International Symposium on Infant Nutrition, I would like to extend, in the name of the sponsors, a warm welcome to all Chinese and foreign experts and other guests.

The three-day symposium will focus on nutrition education. As nutrition scientists, our interest in nutrition education and popularizing nutrition knowledge is no less than scientific research itself. This is because our research is aimed at improving the nutrition level, of the world populace, especially women and children. Comparatively speaking, contemporary science of nutrition has developed remarkably. However, many of the results from research have yet to be applied to daily life and the latest nutrition knowledge has yet to reach ordinary people. With this common understanding of the necessity and urgency to promote nutrition education, we have come here to learn and to exchange ideas.

Today and in the next two days we will listen to a series of lectures and participate in group discussions. The main topics include the importance of promoting woman and infant nutrition education in the developing counties, the principles and methods of nutrition education and strategies to improve China's infant and child nutrition.

As a Chinese nutritionist, I particularly appreciate the participation of foreign experts in this symposium. Your experience in nutrition education in your own countries is inspiring to us. China is a developing socialist country. Owing to historical and economic limitations, the level of nutrition science in China has yet to be strengthened and the people are generally deficient in sound scientific nutrition knowledge. Since the 11th Central Committee of the Chinese Communist party held its third plenum in 1978, the country has implemented the policy of reform and opening to the rest of the world. As a result, people's living standards have improved remarkably. There is greater concern in child nutrition. However there is generally a lack of scientific nutrition and feeding knowledge.

In addition, foods for children available in the marketplace are far from satisfactory with few varieties and poor quality. Consequently, nutritional problems in Chinese infants and children still exist. To improve the situation, we welcome and encourage foreign experts and businessmen to have academic and technological exchanges with us in addition to the efforts of Chinese nutritionists. The symposium is a good form for such exchanges. I hope the foreign experts present at this symposium will offer concrete suggestions and extend practical help to China's nutrition education programs.

I would like to represent the sponsors of the symposium to extend our thanks to the Chinese and foreign businesses and institutions whose generous support enables us to have organized this symposium. They are:

H.J. Heinz Company World Headquarters
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Roche Pharmaceuticals and Chemicals Ltd.
China Fast Food Technological Centre
China Foodstuff Newspaper

I hope with the joint effort of all participants, the symposium will prove to be successful.
I wish you good health.
Thank you.

WELCOMING REMARKS

Mm. Gan-Ying Huang
All China Women's Federation
Beijing, China

Honorable Specialists and Professors, Ladies and Gentlemen:

We have here today specialists not only from China but all over the world to discuss maternal and infant nutrition education. This is a very important topic, one the world will take note.

As a mother, a grandmother, as well as representing thousands of mothers and grandmothers and babies, I welcome the opening of this meeting and look forward to its productive outcome.

At the same time, as a board member of the All China Women's Federation and Child Protection Unit, and also because this meeting is taking place at the Child Development Center of China which is under the leadership of All China Women's Federation, I would like to offer my special welcome to all you specialists, especially those from abroad. I would also like to express my appreciation and gratitude to all you specialists and comrades for your contribution to the welfare of all the children in China.

Children are the flower of the human race, the future of our society, and the beneficiaries of our professions. The health of our children is not only related to their own happiness but also directly influences the development of our society, the strength of our country and the continuation of the human race. The nutritional conditions of our children are the key to enhancing our children's health as well as assuring their proper development. Hence, pediatric nutrition research plays a paramount role in fostering the health of the children.

In enhancing the nutritional status of children, the basic element, of course, lies in the economic condition of the society. However, it cannot be separated from the public's understanding and practice of nutrition. A good example can be found in China. It has been 8 years since the 11th People's congress. There has been significant improvement in the living standard of our urban population due to economical development. Parents are willing to spend more on their children's nutrition. This is especially so with the current 'One Child Family' policy. Pediatric nutrition is a concern among most families. However, according to the latest survey, there still exists quite a number of problems in pediatric nutrition due to the prevalence in the lack of scientific knowledge of feeding and nutrition. Problems like anemia and poor dental development can still be found to a significant extent. As a result, there is an urgent need to widely develop and spread pediatric nutrition education to enhance the understanding among parents, other family members, nurseries, schools and the society as a whole. Hence, today's meeting and discussions are especially important.

I hope all the specialists present, especially those from abroad will help us, with your experience and knowledge, in our effort in improving maternal and infant nutrition. I am sure this meeting will also serve to productively enhance the advancement of nutrition education in China.

I thank the efforts of the host and the sponsors as well as all our guests, friends and comrades present at this symposium. Best wishes for a successful meeting; and the health of everyone here. Thank you all.

AREE VALYASEVI, M.D., D.Sc.

DR. AREE VALYASEVI IS PROFESSOR AND DIRECTOR OF THE INSTITUTE OF NUTRITION, MAHIDOL UNIVERSITY, BANGKOK, THAILAND. HE RECEIVED HIS PRIMARY MEDICAL TRAINING AT THE SIRIRAJ HOSPITAL MEDICAL COLLEGE IN THAILAND AND HIS PEDIATRICS AND NUTRITION EDUCATION AT THE UNIVERSITY OF PENNSYLVANIA IN THE UNITED STATES. DR. AREE'S PRINCIPAL RESEARCH INTEREST IS PEDIATRIC NUTRITION.

DR. AREE HAS PUBLISHED NUMEROUS ARTICLES ON NUTRITION. HE IS CONSULTANT TO MANY THAI AND INTERNATIONAL HEALTH AGENCIES, INCLUDING UNICEF. HE IS A MEMBER OF A NUMBER OF LEARNED SOCIETIES INCLUDING THE AMERICAN INSTITUTE OF NUTRITION AND THE INTERNATIONAL UNION OF NUTRITIONAL SCIENCES. CURRENTLY HE IS THE PRESIDENT OF THE FEDERATION OF ASIAN NUTRITION SOCIETIES.

DR. AREE HAS RECEIVED NOTORIETY FOR HIS ENDEAVOUR IN PROVIDING NUTRITIONAL HEALTH CARE TO INFANTS AND YOUNG CHILDREN. EARLIER THIS YEAR IN RECOGNITION OF HIS 27 YEARS WORK IN UPGRADING THE DIET AND HEALTH OF MILLIONS OF THAI CHILDREN, DR. AREE WAS THE WINNER OF THE 1987 RAMON MAGSAYSAY AWARD FOR COMMUNITY LEADERSHIP.

The Importance of Infant Nutrition Education In Developing Countries

Abstract

Nutrition is the foundation of infant health and can be achieved through proper feeding. Breastfeeding is the best natural way of feeding young infants. Unfortunately, in developing countries breastfeeding, particularly in urban areas, for various socio-economic factors, is on the decline. The use of rice as the principal weaning food has caused many infants by 6 months of age to experience suboptimal growth. During the first 2 years of life, nutritionally-poor supplementary foods and unhygienic environments are the main causes of protein-calorie malnutrition in developing countries.

Nutrition education integrated with health education and availability of nutritious supplementary foods are the prerequisites for good nutritional status of infants and young children. In order to institute appropriate intervention strategies it is crucial to have accurate scientific information on the many causative factors affecting infant and preschool malnutrition. The messages for nutrition education must be appropriate for the target population, consistent, simple and concise. Audio-visual communication in conjunction with personal contacts are effective tools.

Improving infant and preschool nutrition in developing countries is not an impossible task if we put our hearts into achieving it for the benefits of our future generations.

The Importance of Infant Nutrition Education in Developing Countries

Dr. Aree Valyasevi
Dr. Pattanee Winichagoon

Introduction

People have practised what are believed to be good for their offsprings for generations. Traditional ways of feeding evolved through experiences, which their ancestors may have lived through pains of losing lives and joys of achieving the best nourishment they could provide for their babies.

Feeding of young infants to get them through the first two years of life has been a difficult task in most of the developing world. Nutrition, while so important and underlies the causes of poor health has just been recognized during the past few decades. Attempts have been made all over the world to gain advanced knowledge in infant feeding and appropriate technology introduced along with such attempts. Yet, area not well developed even up to the present time is 'How', on a public health basis, are we going to promote good and eliminate or modify poor feeding habits? We have practised proper infant feeding and institutionalized it adequately for most people who have access to modern services. But the sector left out of this whole business is the rural population in developing areas.

What have been wrong with infant feedings in developing countries?

During the preschool age, particularly one to two years of age, nutritionally poor supplementary foods and unhygienic environments are principal causes of protein-energy malnutrition (PEM) in developing countries.

Breast feeding which is the best natural way of feeding young infants has drastically declined in most of the urbanized communities. The duration of breast feeding is reduced to only 2-3 months. Socio-economic factor has been identified as a major determinant of such pattern.

Fortunately, in rural areas of most developing countries, the prevalence of breast feeding has been as high as 95 percent or over, and the duration is prolonged for more than one year. Despite this favorable pattern, there are some problems with the breast feeding practice of rural women.

Table 1 shows the data from studies by CARE⁽¹⁾ and the Institute of Nutrition, Mahidol University. It was clear that:

1. There is a delay in starting breast feeding. A baby is usually put to the breast a few days after birth. In some countries, prelacteal feed is commonly given.
2. Colostrum is misbelieved as being harmful to health such as causing diarrhea or being immature milk.
3. Milk production was only 400-600 ml/day compared to 800-900 ml/day from healthy mothers in the western countries.

Regarding supplementary feeding, since rice is the staple food, it is often given to the babies in some communities, as early as a few days after birth. Due to its low protein quality and energy density, rice base diet is inadequate to supply either protein or energy to meet the requirements of growing infants and young children. However, from the rural mother's point of view, these supplementary foods are believed to make up for the insufficient milk production due to poor maternal nutrition. Moreover, the babies sleep longer and allow for the mothers to do other household chores or take care of her other children. The mothers do not realize that early rice feeding may interfere the suckling and consequently decrease milk secretion. Furthermore, the food is likely to be given unhygienically and thus further aggravates the problem.

Table 1 Breast feeding practices in rural communities of selected developing countries

	CARE six country survey ⁽¹⁾						INMU ⁽²⁾
	Peru	Gambia	Guatemala	Tunisia	Jordan	Bangladesh	Thailand
Prevalence of breast feeding %	99	98	99	95	97	100	96
Mean months of breast feeding	17	14	13	22	14	27	23
Initiation of breast feeding:							
- % giving breast milk immediately	36	22	48	0	0	5	5
- % giving prelacteal feed	44	73	87	58	97	96	—
- % giving colostrum	—	—	—	—	—	—	34
Milk production during ⁽³⁾ :							
0-6 mon., ml/d	—	—	—	—	—	—	585
6-12 mon., ml/d	—	—	—	—	—	—	566

Sources: 1. Vemury, M. Rural food habits in six developing countries. New York. CARE, 1981 (quoted after Hornik, R.C., ACC/SCN State-of-the-art series. Nutrition policy discussion paper #1. 1985).
 2. Institute of Nutrition. Mahidol University. Unpublished data from 'Study of the use of video tape and radio for promoting infant supplementary food in rural northeastern Thailand.'
 3. Dhanamitta, S. Country report. The Sixth Asean Workshop on food habits and In-field implementation. Manila. 1978.

On the contrary, foods containing high protein and energy density are introduced as late as one year of age or more. Antiquated food beliefs prevent mothers from feeding various protein-rich meats to the sick child or even normal child in some societies. Specific nutrient deficiencies such as iron and vitamin A are commonly found, since beyond 6 months of age, breast milk alone can not supply adequate nourishment to meet the increased needs. Furthermore, typical diets may contain either low or poor bioavailable forms of many essential nutrients.

As a result of such feeding practices in many developing countries, growth faltering occurs around 6 months of age and possibly continues until two years if no proper feeding is provided. Our data in Figure 1 depicts this phenomena. Body weight was most rapidly affected and noticeable by 6 months onwards. The length or height started to falter a few months later. Wasting could be observed during 8 and 18 months of age, after which the child adjusted to the condition that weight for height no longer showed the abnormality. Therefore proper feeding is very important to prevent this malady.

In terms of nutrients, I have so far discussed collectively of the lack in protein and energy. Prior to the 1970, attempts to correct PEM have been concentrated on filling the protein deficit. Later evidence pointed to a larger gap between the energy intakes and the recommended levels. Our data of intakes of young children in the northeastern villages in Thailand also showed that percentage-wise, the energy deficit was larger than the protein.

Thus, it is crucial that accurate scientific knowledge must be obtained prior to decision on an intervention.

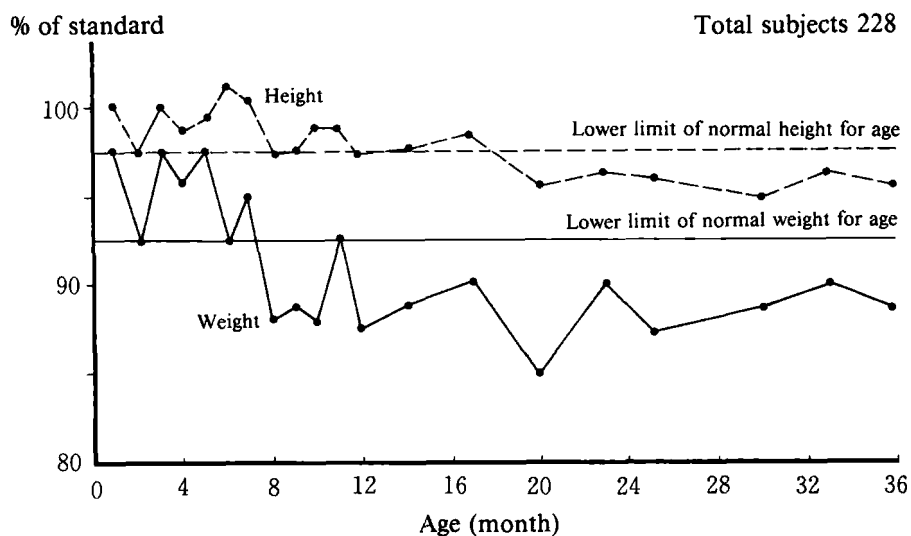


Fig.1 Mean percentage weight and height for age, Northeast, Thailand (1979)

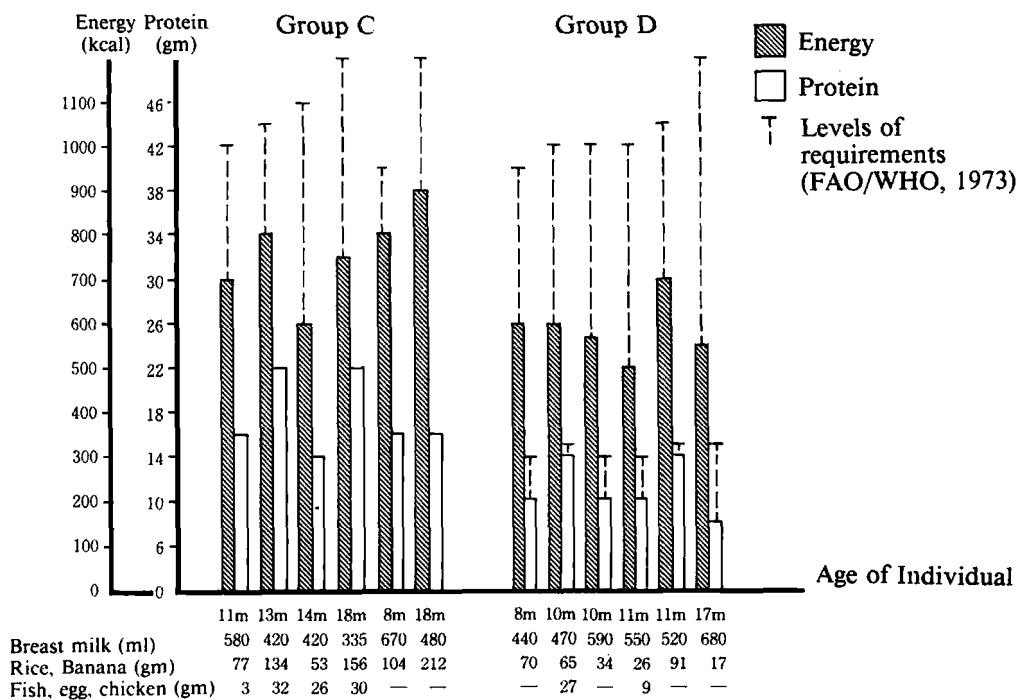


Fig.2 Food Consumption Per Capita Per Day of Infants 6-18 Months, Ubon Province, North east Thailand (1975)