

## Workshop Report

# Report of a seminar and workshop on Food-based Dietary Guidelines and Nutrition Education: Bridging Science and Communication

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The 3-day seminar-workshop on 'Food-based Dietary Guidelines and Nutrition Education' was held from 22–24 July 1998 in Kuala Lumpur, Malaysia to present the latest scientific information on nutrition and health and to discuss its impact on the rationale and process for the development of food-based dietary guidelines (FBDG). The first two sessions were devoted to a review of the current information on the relation between lifestyle factors and chronic diseases, particularly obesity; the present health status and food consumption patterns in Malaysia; the current consensus on carbohydrates and fats and oils and the importance of considering the glycemic index of foods; and the importance of micronutrients in health and disease. The third and fourth sessions dealt with the rationale of FBDG and the process of their development, drawing from the 1990 FAO/WHO Consultation on Development of FBDG and the experience in the Philippines and in Europe. The importance of effective dissemination of nutrition messages to the public was thoroughly discussed. The workshop sessions arrived at recommendations on important issues in the development of FBDG in the region, including main research and information needs, the steps in the development of FBDG, and strategies for their dissemination.

**Key words:** food-based dietary guidelines, nutrition education, nutrition communication.

## Introduction

The seminar and workshop on 'Food-based Dietary Guidelines and Nutrition Education: Bridging Science and Communication' was held from 22–24 July 1998 in Kuala Lumpur, Malaysia. The meeting was organized by ILSI Southeast Asia and the Food and Agriculture Organization (FAO) of the United Nations, in collaboration with the Family Health Development Division, Ministry of Health Malaysia and the Nutrition Society of Malaysia.

The 3-day meeting brought together key international scientists to present the latest scientific information on nutrition and health and to discuss its impact on the rationale and process for the development of food-based dietary guidelines (FBDG). It also addressed the challenges of translating these guidelines from theory to practice through effective and accurate science-based communication.

About 190 key policy makers, health educators, nutritionists, dietitians, food scientists, and other interested professionals from the Southeast Asian countries, the USA, Italy, the Netherlands and Australia attended the seminar. The meeting was opened formally by Tan Sri Dato Dr Abu Bakar Bin Suleiman, Director General of Health, Ministry of Health, Malaysia.

The meeting comprised 2 days of seminar presentations and 1 day of workshop discussion. Eleven speakers presented a total of 15 papers over the first 2 days. The papers were presented in four sessions, namely, an overview of nutrition and health; an update on nutrition science; the rationale and process of developing the FBDG; and meaningful nutrition messages for consumers. At the end of each session, a ques-

tion and answer session was held to discuss the papers presented in that session.

On the third day, a workshop was organized, attended by some 70 participants.

## Summary and highlight of seminar presentations and discussions

### *Session 1. Nutrition and Health: An Overview*

The first session was opened by Dr James Hill of the University of Colorado Health Sciences Center, USA. Dr Hill reviewed data from developed countries relating lifestyle factors to prevalence of chronic diseases such as obesity, heart disease, diabetes and cancer. He paid particular attention to diet and physical activity patterns which contribute to obesity, since the latter is the center of the metabolic syndrome. Easy availability of high-fat diets, sedentary lifestyle, large portion sizes, and advances in technology are among the factors contributing to the increasing trend in obesity and the resulting chronic diseases in developed countries. He warned that developing countries are likely to follow the same trend unless these factors are reversed. Dr Hill emphasized that the prevention of obesity through a program of preventing weight gain and maintaining weight is the key to the control

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Accepted 8 April 1999

of obesity, rather than managing obesity and inducing weight loss. Such a program should not only depend on individual action but should be the concern of the government and community. He emphasized that the achievement of 'healthy weight for all' is the shared responsibility of the government, consumer, industry and the media.

Dr Tee E-Siong of the Division of Human Nutrition, Institute for Medical Research, Malaysia, reviewed the health status and food consumption patterns in Malaysia in order to answer the question on whether the country is meeting its nutrition goals. He said that the answer is both yes and no. It appears that key mortality influences have markedly declined over the last three decades. Life expectancy has increased significantly and infectious and parasitic diseases have decreased. While moderate undernutrition and micronutrient deficiencies, including iron deficiency anemia and iodine deficiency disorders, still exist in under-served communities, clinical nutritional deficiencies have largely been controlled, and the nutritional needs of the population are being met. On the other hand, non-communicable diseases, especially coronary heart disease and cancer, are emerging as the major causes of death in the country. It is increasingly clear that the changing dietary pattern towards a high consumption of some nutrients (e.g. fat) and the low levels of intake of other nutrients (e.g. complex carbohydrates and fibre) are contributing to this trend. The Department of Health's Healthy Lifestyle Campaign, which fosters healthy living through nutrition education, is a move in the right direction, but the challenge is how to get the messages across to the people.

Dr Mohd Ismail Noor, Department of Nutrition and Dietetics, Universiti Kebangsaan Malaysia, described the National Plan of Action for Nutrition (NPAN) and the development of FBDG in Malaysia. The current NPAN covering the period 1996–2000 was formulated through extensive consultation and the collaborative efforts of several ministries, academic institutions and NGOs, and coordinated by the National Coordinating Committee on Food and Nutrition (NCCFN). 'Promoting appropriate diets and healthy lifestyle' constitutes one of the nine thrust areas of the NPAN, emphasizing not just adequate and safe intake of food to control nutritional deficiencies but proper diet to prevent diet-related non-communicable diseases. A Technical Working Group on nutritional guidelines under the auspices of NCCFN has been assigned the task of formulating the national food-based dietary guidelines and reviewing them every 5 years. Professor Noor then reviewed the current seven guidelines of Malaysia.

During the discussion session, the role of the food industry in the increase in obesity in the region was further elaborated. This was with particular reference to the fast-food industry, which is said to be proliferating all over the developing world. Although not entirely blameless, it was felt that the food industry should not be held solely responsible for the increase. Consumers need to be educated to choose foods wisely and demand healthier choices. There was also a suggestion that the fast-food industry can be encouraged to provide healthier versions of their foods. There ought to be creative thinking and solutions to the problem. The fast-food industry should be part of the solution as well, not just pointed out as the source of the problem. It was also felt important to promote local snacks (e.g. for the consumption

of children). Education should also emphasize exercise and provision be made by employers for adequate opportunities for exercise.

In relation to measurements of obesity, there was also a discussion on the appropriateness of the use of body mass index (BMI)-for-age for pre-adolescents. It was felt necessary to review the cut-offs as recommended by the World Health Organization (WHO) as a multi-centre study coordinated by ILSI in Kuala Lumpur, Jakarta/Bogor and Manila has shown that using these cut-offs gives prevalence rates of obesity that are obviously too high. The difficulty of assessing the physical activity levels of young children was also expressed.

The food pyramid was viewed as a useful educational tool. There was some concern on how to explain the concept of the pyramid to all segments of the population. There was also discussions on the need for different dietary guidelines for different age groups. It was also felt that it is important not to have too many messages in dietary guidelines so as not to confuse the public. The challenge is to use suitably qualified nutritionists to promote these guidelines. In relation to this, Malaysia has taken steps to register and permit only suitably qualified persons to practise as nutritionists. The role of professional bodies such as nutrition societies in the promotion of dietary guidelines was also emphasized. In this context, it was also emphasized that nutritionists themselves should 'practise what they preach'.

It was also noted that there is still a general lack of relevant data in the Asian region. There is, therefore, a need for greater efforts in research in various fields, including the prevalence of obesity; physical activity patterns; food consumption patterns of communities; and the expansion of a national food composition database. The FAO views the collection of these data as very important. The FAO, particularly the regional office in Bangkok, can be contacted for discussions on joint efforts in obtaining these data.

### *Session 2. Nutrition Science: An Update*

Beginning the session on the update of nutrition science related to FBDG development, Dr James Hill discussed energy balance as the basic principle underlying the prevention of obesity. He averred that energy balance is not as simple as it appears. In addition to maintaining balance between energy intake and expenditure, bodyweight stability also involves maintaining balances of protein, carbohydrate and fat. While the body's priority is maintaining protein and carbohydrate balance, it does not regulate fat balance as acutely. Dr Hill believes that obesity is largely a problem of fat balance because a high level of body fat is one way of achieving fat balance. Dr Hill, therefore, views obesity as a normal physiological response to an environment that promotes high energy intake and low physical activity, rather than as an abnormal physiological condition. The key, therefore, in the prevention of obesity is the integration of proper diet (low energy density and low percentage of dietary fat) and physical activity. The challenge is to find a healthy lifestyle that promotes this pattern, and this may be achieved through proper behaviour change.

Dr William D. Clay of the Nutrition Programs Service, FAO, Rome, gave an excellent review of the current consensus on carbohydrates as summarized in the Report of the

1997 FAO/WHO Expert Consultation on Carbohydrates in Human Nutrition. He started with the importance of carbohydrates in the diet and the terminology used to describe various fractions of carbohydrates. The Consultation recommended that the terminology be standardized and that the concept of glycemic carbohydrate, meaning 'providing carbohydrate for metabolism', be adopted. Dr Clay pointed to the current lack of consensus as to which components of carbohydrate should be included as dietary fibre, so that the term dietary fibre should always be qualified in terms of the components intended for inclusion.

Based on available dietary surveys, Dr Clay painted a picture of carbohydrate consumption in developed and developing countries. As a percentage of energy, total carbohydrate ranges from approximately 40% to over 80%, with the developed countries at the lower end of the range and developing countries in the high end. The major source of carbohydrate is cereals, representing over 50% of all carbohydrate consumed in both developed and developing countries. There is a dearth of data on intake of the different forms of sugars as well as of dietary fibre in developing countries. Newer information on physiological properties of carbohydrates, including their role in blood glucose and insulin metabolism, cholesterol and triglyceride metabolism, the production of short-chain fatty acids and biomass, and effects on large bowel microflora, were summarized.

Dr Clay also discussed the role of carbohydrates in energy balance, pointing to the current agreement that the combination of a high carbohydrate diet and regular physical activity is the optimal arrangement to avoid positive energy balance and obesity. In developing countries, where the major challenge is to meet daily energy needs, any combination of carbohydrate and fat which provides sufficient energy is to be encouraged. He stressed that there is no evidence that the intake of sugars causes obesity, and that neither sucrose nor other sugars were directly implicated in the etiology of diabetes and coronary heart disease. In fact, the dietary advice aimed at reducing risk for coronary heart disease is to increase intake of carbohydrate-rich foods, especially cereals, vegetables and fruits, at the expense of fat. Similarly, fruits, vegetables and cereals are considered to be protective of cancer. Finally, Dr Clay summarized the recommendations of the Joint FAO/WHO Expert Consultation, particularly the need for a variety of carbohydrate sources in the diet and for encouraging fruits and vegetables, pulses, nuts and seeds, as well as traditional foods rich in carbohydrate.

Dr Jennie Brand Miller from the Department of Biochemistry, University of Sydney, stressed the importance of considering the glycemic index (GI) of foods in evaluating dietary carbohydrate. Many processed cereal products, whether high or low in fibre, have a high GI and may not be as desirable as was once thought. However, regular consumption of slowly digested carbohydrate foods leads to improvement in glycemic and lipid control in individuals with diabetes or hyperlipidemia. Studies have shown that diets with a high GI load increase the risk of development of non-insulin-dependent diabetes mellitus (NIDDM) and coronary heart disease. Dr Miller pointed out that the current nutrition recommendations largely ignore the GI differences between carbohydrate foods and use older classifications based on starch, sugar and fibre that do not reflect physio-

logical effects. For purposes of food-based dietary guidelines, she opted to keep the recommendation simple, such as using a 'good-better-best' system. Finally, Dr Miller recommended the substitution of high GI foods with low GI foods, such as white bread with high-grain bread, processed breakfast cereals with porridge, and potato with sweet potato.

Dr Onno Korver of Unilever Nutrition Centre, the Netherlands, began with a summary of the recommendations of the 1994 FAO/WHO Expert Consultation on Fats and Oils in Human Nutrition. The minimum fat intake is recommended at 15% of energy for adults and 20% for women of reproductive age. The total fat should be about 35% of energy for active adults, and less than 30% for sedentary individuals. The content of carotenoids and tocopherols should be considered, such that linoleic acid-rich oils should contain 0.6 mg tocopherol per gram polyunsaturated fatty acids (PUFA). Since 1994, significant changes have occurred in the thinking about the quantity versus the quality of dietary fat and about the situation with respect to isomeric fatty acids. However, there is still a strong debate on what strategy to use: whether to replace saturated fats with unsaturated fats or to replace fat with carbohydrate. This issue is particularly relevant in the formulation of FBDG. Also, Dr Korver indicated that as there is now stronger evidence on the negative effects of trans-fatty acids, it is therefore important to consider the latest findings and consensus in the formulation of FBDG. Another important point to consider in FBDG is the concept of hidden fat in the diet as distinguished from visible fats.

The last paper in Session 2 was given by Dr Ray Yip of the United Nations Children's Fund (UNICEF) China who discussed the importance of micronutrients in health and disease, drawing on important lessons learned from the experiences in the control of Iodine Deficiency Disorders (IDD) and Iron Deficiency Anemia (IDA). After summarizing the consequences of micronutrient malnutrition, not only in terms of individual health and survival but in terms of human resources, productivity and economic output of nations, Dr Yip reviewed the effectiveness of measures now employed in the control of IDD and IDA.

In the case of IDD control, it is now becoming clear that there is a need to refocus our key message from goiter to loss of intelligence resulting from IDD. In areas where goiter prevalence is 20%, the average reduction in IQ is 10 IQ points. This is equivalent to a situation where 25% of children are severely mentally retarded (IQ < 60). Because this is the result of fetal exposure to iodine deficiency, only the prevention of maternal IDD makes sense as a control program. Similarly, anemia has been the major focus of concern in IDA control, although this is not effective for policy and behavior change. Any effort to improve iron nutrition should not be restricted to iron only but should consider other major micronutrients. Moreover, the current control programs consisting of trying to increase the intake of iron-rich foods through nutrition education are limited by economic barriers, while iron supplementation in pregnancy is either too little or too late. Food fortification with iron such as iron fortification of wheat flour appears to be an effective strategy in flour-eating populations. This has been demonstrated in Venezuela and is now being tried in Indonesia, where noodles are consumed regularly even in the rural areas. Dr Yip, however, emphasized that a multiple approach may be necessary, as

when food fortification is carried out together with iron supplementation for high-risk groups.

During the discussion session, there was considerable interest in calcium intake and the incidence of osteoporosis. The promotion of a milk-based diet to various segments of the population (not just to pregnant women) in order to improve calcium intake is one of the approaches. It was emphasized that it is important to institute diet-based interventions, which involve long-term behaviour changes. Other factors influencing osteoporosis should also be thoroughly examined, including exercise. It is known that in communities with high activity levels, the problem of osteoporosis is not high although calcium intake appears to be low. Other dietary components should also be looked into, for example a high intake of phytoestrogens.

There was also discussion on the proportion of total energy to be supplied by linoleic acid. It was pointed out that the earlier WHO Expert Group in the early 1980s recommended a maximum linoleic acid intake of 4% of energy intake. This amount is felt to be sufficient to have a cholesterol-lowering effect. In recent years, with the increase of the proportion to 10%, there has been concern that the amount is too high.

Discussion was also focused on supplementation and fortification of micronutrients, for example, in salt, noodles, and water. In some countries, fortification with multinutrients has been carried out. The importance of continuing the effort to eliminate these deficiencies was emphasized. There was also considerable interest in the glycemic index of foods and its application in dietetic practice.

There was also an interest in the continuing increase in prevalence of obesity in the USA, although various interventions have been carried out. It is, of course, a very complex problem but it is believed that physical inactivity has played a major role in the increase, while a diet high in fat has also contributed significantly.

### ***Session 3. Food-based Dietary Guidelines: The Rationale and the Process***

The third session was opened by Dr William D. Clay, who explained the rationale and issues in developing and implementing national FBDG. Drawing from the 1990 FAO/WHO Consultation on Development of FBDG, Dr Clay defined FBDG as advisory statements for promoting the nutritional wellbeing of populations. While the direction and relevance of dietary guidelines should be based on public health issues, they should be developed in a specific cultural context, reflecting food patterns rather than numerical goals. He emphasized, however, that a wide range of dietary intake is compatible with good health. He enumerated key features of effective FBDG: the guideline should consider the total diet; it should include foods that are affordable and widely consumed; it should be presented positively and at an appropriate literacy level; and it should be built around food groupings that make sense. The process of formulating the guidelines starts with the identification of public health problems and the evaluation of the dietary and confounding factors related to these problems. The nutrients of concern are then identified together with their main dietary sources. The FBDG should be developed by a multidisciplinary expert group and pretested among representative target groups.

Implementation may take the form of food guides, information campaigns and long-term programs, interspersed by periodic review and revision if necessary.

Dr Rodolfo F. Florentino of the Philippine Association of Nutrition summarized the Regional Seminar and Workshop on National Dietary Guidelines for Asian Countries organized by ILSI Southeast Asia in 1996. The Seminar and Workshop was held in Singapore and attended by more than 100 participants from the region. A review of the dietary guidelines (DG) then in use in some countries of the region revealed that while the DG of the more affluent countries emphasized prevention and control of chronic diet-related diseases and promotion of proper lifestyles, the DG of the less affluent nations emphasized both prevention of under-nutrition as well as problems associated with nutrition in transition. All countries advise eating a variety of foods, balancing food intake with physical activity, eating moderate amounts of dietary fat, eating fibre-rich foods regularly, limiting salt intake and modifying harmful lifestyles. In addition, some countries include the promotion of breast-feeding and recommendations on food safety in their guidelines. Most of the countries also recommended some limitation in sugar intake. The workshop that followed professed the need to be clear about the purpose and objectives of the DG, and it was argued that the DG should be based on nutritional goals for each country. The participants also agreed that countries in the region should develop their DG based on their own problems and concerns within their own cultural and traditional practices, traditional foods and traditional patterns of eating. It was recommended that countries monitor the effectiveness of their guidelines and initiate a process of periodic review. Wide dissemination of the guidelines was urged, together with the development of nutrition education and information tools and materials that will help translate the guidelines into clear and achievable messages.

Ms Celeste Tanchoco of the Food and Nutrition Research Institute (FNRI) in the Philippines described the background and development of the 1998 Edition of the 'Nutritional Guidelines for Filipinos', which is in the final stages of revision. The last set of guidelines was formulated in 1990 but with the wealth of new scientific data on the association between diet and health, and the changing trends in health and nutrition problems in the country, it was thought that a review of the guidelines was in order with a view towards revision. The review process began with the organization of the Technical Working Group (TWG) led by the FNRI and coordinated by the National Nutrition Council. The TWG, composed of nutrition and health experts, first went into identifying issues pertaining to the development of nutritional guidelines (NG), such as definitions, conceptual frameworks, target users, general format etc. It was decided that the general population with an elementary level of education would be the target population, and that the guidelines should be scientifically sound and based on the latest scientific recommendations.

The TWG then went into a review of the current nutritional and health problems in the country, the latest information on food and nutrient consumption and cultural practices, statistics and research data on diet-related chronic degenerative diseases, and the current situation and future trends in food supply as they are related to desirable dietary pattern.

The review provided the basis for formulating nutrition goals for the population and the advisory statements addressed these goals, which form the revised nutritional guidelines. These tentative recommendations were presented in a national workshop of selected nutrition and health scientists and experts, and the guidelines were accordingly revised based on the recommendations. The plan is to present the guidelines to end-users and care-givers through focus group discussions before finalization and publication of an accompanying explanatory text. Finally, the NG will be submitted to the National Nutrition Council Governing Board for adoption.

The third session ended with a presentation by Dr Onno Korver on the European experience in FBDG. Discussions on FBDG in Europe followed the International Conference on Nutrition in Rome (1990) and received new impetus with the FAO/WHO consultation in Cyprus (1995). Further steps were taken in regional consultations for the Organization for Economic Cooperation and Development (OECD) countries, and Central and Eastern Europe. With widely differing eating patterns and different methods of determining dietary intake, harmonization of dietary guidelines proved difficult, although the common concept was to bring industry and science together. Scientific areas relevant to FBDG, namely, nutritional science, food science and technology, educational and behavioural sciences, and agriculture and environmental sciences, were brought together in the formulation of the countries' respective FBDG. Some of the common nutrition issues in the region were a lack of understanding of the relationship between nutrition and health among populations, a rise in the incidence of non-communicable diseases, food security problems, high food prices, and the continuing prevalence of iron and iodine deficiencies in many countries. Workshops initiated by ILSI in cooperation with FAO, WHO, and the European Commission were held in various CEE countries where country reports were presented and working groups on specific areas were formed. The organization of these types of workshops is continuing. Future topics will include the following: foods for infants and children, fortification, methods of dietary assessment, and Hazard Analysis Critical Control Points (HACCP).

There was active discussion on the four papers presented on food-based dietary guidelines. Dietary Guidelines (DG) may be general but do have an impact on dietary intake. These guidelines are qualitative and need not be exact such as in recommended dietary allowances (RDA). Periodic and regular reviews of DG are necessary. Each country should formulate DG based on local nutritional problems and requirements. It was emphasized that it is important for each country to have its own data (e.g. food consumption data, nutritional issues) for the development of the DG. It was also recognized as important to document the process of development of DG.

Dietary guidelines should convey nutrition messages which are easily understood and practicable: wording is important. Working together, NGOs and groups with special interests, including the media, can assist in communicating the messages to the public and community. It is important to make nutrition saleable to the public. The art of communication is of utmost importance and is a long-term process. Participants discussed the evaluation of effectiveness of DG. It may not be possible to apportion a given change or lack of

change to certain dietary guidelines. It is difficult to give credit to DG *per se*. Impacts on community can be gauged from various approaches (including indirect approaches) including reach of messages to the community, public recall of messages, surveys of comprehension of nutritional questions and surveys of certain indicators (e.g. level of fat intake, intake of vegetables and fruits etc.).

Participants discussed the appropriateness of only one DG for all versus specific DG for each age group. There were differing opinions on this matter. Some countries have one DG but publish separate explanatory booklets for specific groups or persons with specific diseases (e.g. diabetes mellitus). Reference handbooks, dealing with specific age groups, are also prepared for professionals. The importance of incorporating an exercise component in DG was emphasized (e.g. a definite prescription for a certain amount of exercise daily). A partnership with exercise specialists would be beneficial.

There was interest among participants on folate intake and requirements. Evidence seem to indicate the possibility of some deficiency, especially among pregnant women, although more work on this would need to be done to ascertain the extent of the problem. Adequate intake is important as it is known to be a protective factor for neural tube defects and possibly even other diseases such as cancers and coronary heart diseases. Fortification of foods with folate or the supplementation of folate for pregnant women are both inexpensive.

There was also a call for a continuous review of the RDA in countries as new evidence appropriate to the country becomes available. There was also an interest in having RDAs for non-nutrients. It is specifically because of the importance of non-nutrients in foods that food-based dietary guidelines, focusing on the intake of a variety of foods, have been emphasized by many authorities. These, of course, will take a much longer time to be established, with much more work required in order to understand their functions. The need for harmonising RDA and DG in the region was also discussed.

#### ***Session 4. Reaching Consumers with Meaningful Nutrition Messages***

Dr Suttalak Smitasiri of the Institute of Nutrition at Mahidol University, Thailand, presented the first paper of Session 4, 'Translating Nutritional Science into Consumer Action: Developing and Multiplying Meaningful Nutrition Messages'. Dr Smitasiri suggested that a social marketing approach be used as a conceptual framework for the development and implementation of FBDG. She gave several suggestions to make FBDGs more effective: (i) consensus among nutrition scientists on the content of the messages; (ii) clear, measurable and realistic objectives; (iii) a consumer-centered approach in message design; (iv) a comprehensive communication strategy; and (v) a good mechanism for monitoring and evaluation. A practical guide to message design includes a clear definition of objectives and targets; creativity in message design based on clear knowledge about the message content and about the target; and testing and refinement of the message. Important factors to consider about the consumers are their attitudes, needs, perception, appeal, and positioning. Dr Smitasiri suggested paying attention to the wording, length, pace and level of complexity of the mes-

sage. Attention-getting and positive messages are best. Finally she gave examples of ineffective and effective messages. One piece of practical advice Dr Suttlak gave was to 'put not only your head but your heart in your work. Always set a high standard for your work; don't think that just OK is enough'.

Dr James Hill illustrated the need for an effective communication and education strategy by describing ILSI's Physical Activity and Nutrition (PAN) Program designed to address the growing problem of childhood obesity. He cited the case of the USA, where data from 1988 to 1994 indicated that 11% of children and adolescents are overweight. Apart from development of knowledge on childhood obesity, the PAN School Physical Activity Program is being pilot tested in several USA school districts in order to develop a model program for wide-scale adoption. He emphasized that focus should be placed on the family when developing interventions for obese children. Groups that need to be educated include policy makers, healthcare professionals, community leaders and parents.

The last paper of the Seminar, 'Keeping Science Accurate through the Communication Process', was given by Dr Paul Yeo, Editor of *Health Track* in Malaysia. Dr Yeo stressed the need for scientists, health educators, and media personnel to work closely together in identifying issues and generating awareness in a manner that is simple and at the same time accurate. The process may not be easy because, often, what the public wants and what it needs can be conflicting. Information gathering and dissemination for public consumption are particularly difficult in the field of health and medicine, where technical language needs to be translated to a language the public understands. Dr Yeo discussed some innovative strategies to overcome these difficulties.

The discussion session focused on effective dissemination of nutrition information to the consumer. Participants recognized that there is a gap between research data and communicating these results to the public. Science-based communication is important in order to avoid false claims by so-called 'nutrition experts'. It is also important to avoid distortions of scientific findings and for nutritionists to identify various avenues (print or electronic media) to reach the community. It is also important for nutritionists to be able to 'sell' their messages, taking examples from celebrities associated with various food and exercise promotions. There was also a discussion on the merits of positive and negative appeals in reaching the consumers.

There is a need for editors of newspapers as well as journalists to work with nutritionists in promoting nutrition. In relation to problems associated with communication between nutritionists and the media (e.g. the print media), there should be closer communication (effective networking) between the two groups. Sessions to update journalists on accurate nutrition science were suggested. There could be short courses, more specialised writers, and better coordination between departments/organizations and newspapers.

Also in relation to effectiveness of nutrition messages to bring about healthier communities, there was a discussion on the rise in diet-related chronic diseases in many developing countries. Can countries arrest the projected increase in these diseases, for example of obesity and diabetes mellitus, in many developing countries? Can countries not yet afflicted

with these problems learn from the experiences of other countries already having these problems? Is it necessary for the developing countries to tread the same path? It was felt that with commitment and hard work it would be possible to effect some beneficial changes to the community.

There was also a discussion on the effectiveness of nutrition messages on product labels and nutrition labeling of products. There was also some concern regarding nutrition and health claims and the lack of scientific backing for some of these claims.

#### **Panel discussion: Facilitating and Forging Partnerships**

Mr Lee Boon Chee of the Health Education and Communications Centre of the Ministry of Health, Malaysia, spoke on reaching consumers with meaningful nutrition messages and facilitating and forging partnerships in the Healthy Lifestyle (HLS) campaign in 1997. He highlighted the thematic approach adopted in the first phase of the HLS campaign in Malaysia. For the second phase, starting in 1997, the theme was Healthy Eating, with more emphasis on behavior change. Mr Lee described the partnerships forged with various parties to enable greater success and impact of programs. Intra- and inter-agency partnerships were essential for the success of the program, which included several TV segments, games and quizzes, advertisements in newspapers, and jingles. It involved a variety of professionals from numerous organizations. Mr Lee explained the development of the program and gave some insight into various components and activities of the program. Other partnerships included the 'Eat More Vegetables' campaign, undertaken in conjunction with the agriculture department; seminars; and exhibitions with senior government officials of various departments, hotels, markets, hospitals, and various NGOs. Mr Lee emphasized that partnership at all levels is very important in order to channel resources and expertise, develop joint action plans, coordinate all activities, and foster complementation rather than competition between organizations.

Mrs Tan Wei Ling, Department of Nutrition, Ministry of Health, Singapore, used the example of the 'Healthier Menu Choices Programme' at Hawker Centres to illustrate the importance of partnership. The theme of the program is 'ASKFOR'. She described the development of the program, including the role of the nutritionists and dietitians in her department, in gathering information and research, submitting proposals for funding, and consultation with various groups outside the department such as food suppliers, hawker centres and stall owners. Education groups then generate and disseminate educational materials to the consumers for 'ASKFOR': more vegetables, less fat (especially animal fat), less salt, and less sugar. Other strategies included publicising the program widely through the mass media, sending newsletters to organizations, websites, and educational institutions; entering a partnership with the Ministry of Environment to carry out monitoring of hawkers' stalls by public health inspectors; obtaining feedback from the public; and entering into partnership with the chemistry department to analyse the nutrient content of the foods. Thus, many parties were involved in this program in order to ensure its success.

Dr James How from Monsanto spoke of the role of industry. He reiterated that it is important for the food and nutrition industry as well as the healthcare industry to use a science-

based approach in business. These industries can provide support and act as a partner to government, NGOs and academia in order to advance sound science. They can also share information and data generated by the industries' research and development, including data on market trends in food consumption. There are products and services that these industries can offer as healthier options or alternatives to the consumer for improved health. The food and nutrition as well as the healthcare industries can also fund scientific research and science-based communication to the community in order to promote healthy nutrition.

Dr Paul Yeo spoke of the role of the media. He acknowledged that the media should be responsible in the way that they write in order to make sure that information passed on to the public is accurate. On the other hand, he emphasized that it is also important that information providers are willing to be interviewed and willing to give information in such a manner that the press can report it accurately. He suggested that it is possible to find ways to avert mistakes and errors in reporting. For example, the scientist can request a finished copy of the material to be checked for accuracy in technical terms and expression before printing. Dr Yeo felt that it is time that a concerted effort be made to garner cooperation among all relevant parties in order to facilitate the process of information gathering so that the public will be able to have access to useful information regarding their health. He stressed that coordination among all parties would improve accuracy and also ensure that relevant messages and issues are delivered effectively to target audiences.

Various other points were raised by the participants during the discussion that followed. It was argued that scientists may be overly cautious and are not forceful enough in delivering messages; they are ever looking for the truth and are often non-committal. Scientists must, therefore, learn to be effective communicators. They should make the best use of available information and proceed to disseminate this to the public with conviction.

Nutritionists and dietitians should also develop partnerships with medical doctors in order to educate patients. There is an urgent need to communicate with medical doctors in order to help them to work with nutritionists. Sometimes, some doctors pass inaccurate messages to patients and the public. There is a need to send nutrition information to doctors before education programs are implemented or launched.

A concern was also raised regarding some individuals in the food industry who market products far ahead of available scientific information. The need for ethical promotion of products and services was emphasized. Participants were also informed of the success of the Trim and Fit (TAF) program implemented by Singapore. It has successfully reduced the prevalence of obesity among school children.

The message from the panel discussion was very clear: partnership is very important to the success of nutrition promotion. It is not an easy process and hard work is necessary. A mechanism is needed to facilitate partnerships.

### **Session 5. Workshop session: FBDG — From Theory to Practice**

Participants invited to the workshop on the final day were divided into three groups. The topics discussed by the various groups were as follows:

- Group 1. Review of data and assessment needs for assessing diet and health issues.  
Evaluating messages of current Asian dietary guidelines and food guides
- Group 2. Identification of issues: technical, public health and research gaps.
- Group 3. Strategies and communication.

In the final session, chaired by Dr E-Siong Tee, the chairpersons of the three workshop groups reported the discussions and recommendations of their groups. The workshop participants noted that there was inadequate representation from all of the countries in the region. With this constraint, and given the short time available for discussion, it is important to note that it was inevitable that there were shortcomings in some areas of the deliberations, especially in the listing of food and nutrition issues and the programs and activities existing in all of the countries in the region. It is believed, however, that key issues were discussed and that the recommendations made could be considered by various researchers, program implementors and policy makers in accordance with the needs and situations prevailing in the country.

**Group 1. Review of data and assessment needs for addressing diet and health issues in the Southeast Asian region. Identification of issues: technical, public health, research gaps.** The Chairperson of this group was Dr Lynne Cobiac and the Facilitators were Dr James Hill, Dr R. Florentino and Dr J. Brand-Miller.

The group first summarized the major dietary and health issues in countries in the region. It was observed that these problems varied a great deal because of the vastly differing socioeconomic status of the countries. Many of the problems were found to occur in most of the countries in the region, although the extent and severity of the problems vary widely. Below is a summary of the main nutritional problems in countries in the region. It is not meant to be an exhaustive list but serves to highlight the main concerns of nutritionists in the region.

Among infants, the problems of high infant mortality rate, low birthweight and micronutrient deficiencies occur in some countries. Furthermore, short duration of breastfeeding (1–2 months for many communities) and inadequate weaning foods are major issues in most communities. Among children and adolescents, underweight and stunting remain as major concerns among lower socioeconomic groups in many countries. Micronutrient deficiencies, especially iron deficiency anemia among girls, are of particular concern in these countries. Worm infections are a concern of selected groups in these countries. However, obesity and lack of physical activity have become major concerns among urban groups in some countries in the region.

In many countries in the region, the problem of overweight and obesity has also become an increasing problem. Similarly, diet-related chronic diseases (CHD; e.g. diabetes, hypertension, cancers) are also of increasing prevalence. At the same time, most of these countries are also burdened with problems of undernutrition such as chronic energy deficiency among some groups, anemia among pregnant and lactating women and iodine deficiency disorders in selected groups.

Most of the countries in the region do not conduct national nutrition and food consumption surveys periodi-

cally. The main problems associated with conducting community nutrition studies were identified as financial constraints; identifying representative samples and appropriate standards of reference for anthropometry; inadequate food composition data; and difficulty in getting blood from subjects due to ethical objections.

Various intervention programs have been carried out by countries in the region. These include: nutrition education promotions; supplementary feeding programs in schools for poor children; nutrient supplements for pregnant and lactating mothers as well as other vulnerable groups; breast-feeding promotion and baby-friendly hospital initiatives; healthy lifestyle programs; healthy food and menu choices programs; and fitness programs.

Problems encountered in the implementation of these intervention programs were identified as including evaluation and interpretation difficulties, financial constraints, lack of human resources, lack of compliance in taking supplements, and doubtful reliability of data collected by health field workers. In order to overcome some of these problems, it was felt important to carry out a pilot study prior to the actual implementation of the program. It was also emphasized that field health workers should be well trained in the collection of quality data. The full commitment of Government as well as the support of industry is important to the success of such projects.

The main research and information needs for countries in the region were identified as follows:

1. Food and nutrition data on functional groups such as age, ethnic group, social standing, geographical areas etc.
2. More complete food composition data including data on zinc and folate content and glycemic index of food.
3. Overall infrastructure to oversee national data for developing policies and plans, priority issues.
4. Identification of priority health needs for food-based dietary guidelines.
5. Role of food labels in determining food choices.
6. Mechanisms to increase food availability.

A number of recommendations were made, as follows:

1. Nationally representative data on community nutrition status must be collected on a regular basis. Ongoing surveillance of communities is important. Data has to be made available to various relevant parties.
2. Types of data needed include anthropometric data; food consumption data; and biochemical data.
3. It is also important to study the behavioral and cultural aspects related to food and nutrition in each country.
4. There is a need for harmonization of survey methods, references and standards, and cut-offs. There is also a need to define a core of common problems and harmonize methods to enable comparison between countries.
5. Define the minimum data to be collected to make data collection more affordable and feasible.
6. Organize a follow-up to the first Regional Seminar on Assessment of Nutritional Status held in Kuala Lumpur in 1997.

**Group 2. Review of current Southeast Asian Dietary Guidelines and Food Guides – Evaluating Messages.** The Chairperson of this group was Dr Celeste Tanchoco and the Facilitators were Dr William Clay, Dr Kraisd Tontisirin and Dr Soekirman.

The participants of Workshop Group 2 reviewed the current Southeast Asian dietary guidelines, paying particular attention to the similarities and differences among the guidelines. Among the similarities noted were messages on eating a variety of foods, maintaining desirable bodyweight, moderation of fat and lowering of salt intake, and promotion of breast-feeding. However, not all countries included messages on complementary feeding, growth monitoring, fruits and vegetables, legumes, fish, food safety, exercise, alcohol, and smoking. The group identified a number of issues that need to be resolved in formulating FBDG for each country:

1. Whether the guidelines should be 'dietary' or 'nutritional' (i.e. whether the guidelines should include messages on healthy lifestyles such as smoking, alcohol, exercise and stress);
2. Whether to identify the target users of guidelines (i.e. the general population or specific age groups; healthy vs sick people).
3. Whether the guidelines should be science-based, according to existing nutritional problems of the country.
4. Whether the guidelines should be quantitative as against qualitative.
5. Whether the guidelines should be food-based or nutrient-based.
6. What words to use as the choice of words in guidelines is important (technical or non-technical, positive or negative, e.g. use of words such as 'avoid' or 'limit').

In discussing the basis of the guidelines, the group felt that since the guidelines are intended to assist in attaining the nutritional goals of a country, they should be based on the existing health and nutritional problems and issues; the RDA of the country; the cultural pattern; eating habits; and socio-economic factors. The ultimate aim of DG is to initiate behavior change, and this will take time. The guidelines can be used as a basis for nutrition information, education and communication materials to the community. The guidelines could also be used as a basis for development of school curricula to teach nutrition to the younger generation. Dietary guidelines are also used as a reference by policy makers in the the preparation of nutrition and health targets for the country.

The steps in the development of DG were identified: organize a technical working group including members from different disciplines; analyse the nutrition and health situation of the country based on available research data or secondary data; identify food availability, taking into account socioeconomic and cultural factors, and food habits; identify nutritional objectives/goals; formulate advisory statements; develop initial FBDG; pretest the guidelines; make final adjustments; and obtain endorsements by professional groups.

A number of recommendations were made, as follows:

1. Messages on healthy lifestyle such as smoking, exercise and stress can be considered for inclusion in FBDG, depending on the needs of the country, and the guidelines may then be called lifestyle guidelines or nutritional guidelines.
2. Pre- and post-evaluations of FBDG should be carried out.
3. The FBDG are an important tool. However, the guidelines cannot, in themselves, solve every nutritional problem in a country. They are sometimes unable to address the problems of all age groups. It may be useful to develop FBDG for spe-



cific age groups such as children below the age of 2 years or groups with specific health needs.

4. The FBDG should be dynamic. They should be changed according to changes in the nutritional and health situation of a country.

**Group 3. Strategies and Communications.** The Chairperson of this group was Ms Mary Easaw and the Facilitators were Dr Biblap K. Nandi and Dr Suttalak Smitasiri.

Participants in this group identified the organizations involved in implementing nutrition education in the countries in the region. In all countries, government agencies, universities and NGOs, together with international agencies, aided by the media and industry, are involved in nutrition information and education. The government agencies involved included several ministries (health, education, information and social welfare). The main NGOs involved in these activities are the professional bodies such as nutrition societies, dietitian associations, and private hospital associations. Among the international agencies active in nutrition promotion in the region are ILSI, FAO, UNICEF, WHO and the Helen Keller Foundation.

The group identified three main target groups for the nutrition messages: primary audience, secondary audience and tertiary audience. The former group includes children, adolescents, parents, mothers, women/caregivers, the geriatric or elderly, the workforce or employees, food handlers and groups with special needs (e.g. disabled persons or sports persons). The secondary audience would include professionals (nutritionists, dietitians, doctors, nurses and pharmacists), educators (teachers, lecturers and health educators) and the media and industry. Included in the group of tertiary audience would be policy makers and opinion leaders. The priority target groups should be in the following order: the general population followed by the parents, children and food handlers.

Examples of working collaborations among departments and agencies at the national and sub-national levels in different countries were discussed. In Malaysia, the master plan for nutrition promotion is contained in the National Plan of Action for Nutrition (NPAN) of the country. The central committee set up to oversee the implementation of the programs and projects of the NPAN, including nutrition promotion, is the National Coordinating Committee on Food and Nutrition (NCCFN), chaired by the Deputy Director-General of Health of the Ministry of Health. Under the NCCFN, three Technical Working Groups have been formed to implement the activities (i.e. the TWG on Research, Dietary Guidelines and Training). In Singapore, a high-level National Coordinating Committee on Healthy Lifestyle, chaired by the Prime Minister's Department, has been formed. At the next level, the National Health Committee is chaired by the Permanent Secretary for Health. Several Sub-Committees are at the next level (e.g. to take charge of various topics such as nutrition, fitness etc.). Technical Workgroups identify projects for implementation and organizing committees then execute these projects. In the Philippines, the National Nutrition Council is the high-level committee, comprised of several ministries and private organizations, that leads nutrition promotion in the country. A Technical Committee serves as the Secretariat and several Sub-Committees oversee the various

areas of work (e.g. research, information, education and communication etc.).

In terms of collaboration with the media, several examples in the different countries were discussed. It was emphasized that there should be good collaboration with the media, and in many cases such collaboration did exist. Regular meetings between senior officials of ministries and the media with the aim of providing an update on the latest developments or plans on general health issues, including nutrition campaigns, were mentioned as a useful forum. It was emphasized that it is important to prepare press kits of relevant information for the media. As encouragement, rewards could be given to the media for accurate and effective reporting. Nutritionists were also reminded to send invitations to the correct media desk when contacting the media to advise of upcoming activities.

Close collaboration with NGOs and several professional bodies has long been a reality in all of the countries. Regular dialogues have also been conducted in some countries. It was thought that the compilation of a directory or inventory of all NGOs related with nutrition would be useful. Participants also discussed the possibility of collaborating with the food industry in promoting nutrition messages (e.g. in brochures and leaflets, growth charts, table mats, food packages etc.). A wide variety of approaches and educational tools have been adopted by all of the countries in disseminating nutrition messages.

Major challenges in the implementation of nutrition guidelines were discussed at length. The major problems and issues identified included: the fact that nutrition messages and information could come from inappropriate sources (e.g. delivered by persons with vested interest, persons not equipped with sufficient knowledge or even persons with different beliefs); sensationalization of nutrition information by the media; nutrition messages being targeted at different levels of understanding; nutrition messages not reaching targets; nutrition knowledge not being translated into practice; weak collaboration among the actors involved in nutrition dissemination; lack of evaluation of the effectiveness of nutrition education programs; inappropriate training materials at various levels; and lack of political and financial support to nutrition education and information efforts.

Finally, the group suggested a number of strategies for communicating FBDG. These included the development and production of educational tools such as food guides, leaflets, brochures and posters, and mass media materials; collaboration with industry in the production and dissemination of educational materials (with proper scrutiny and guidance); use of schools, health professionals, health centers and hospitals; and evaluation of the communication strategies that are being employed. In addition to the usual print and electronic media, it was suggested that other approaches to the promotion of FBDG could include the Internet, using a website; school curricula; and modules for the training of extension workers. For children, incorporation of messages into songs and games were considered as an effective means of communicating FBDG.

**Acknowledgements.** We would like to thank the rapporteurs of the seminar and workshop: Winnie Chee Siew Swee, Suhaina Sulaiman, Nawalyah Abdul Ghani and Norimah A. Karim.