Singapore Dietitians' Association

The Singapore Dietitian

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"Why, oh, why can't I lose weight?"

The Causes of Obesity
Nutrition and Lifestyle
Smart Shopping in the '90s

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The Singapore Dietitian

VOL. 5 No. 1 March 1990

Editorial ...

A Fond Farewell

This month we bid a fond farewell to our President, Susani Karta, who leaves Singapore to take up a new job in Indonesia. Susani, formerly Technical Director — Nutrition, American Soybean Association, Singapore, will be responsible for setting up and managing a new Nutrition Research and Development department in the giant food company Indofood.

During her time in Singapore, Susani has served SDA faithfully. She has been a member of the Central Commitee member since the Association's inauguration, and has also been active on various sub-committees. She was the Association's Honorary Treasurer in 1985/86 and Vice-President in the years 1986/87 and 1987/88. She chaired the Position Paper Committee which formulated the first position statement of the Association, on dietary management of diabetes. Two years ago she was elected President. She was re-elected for a second year, and her current term of office ends in April this year.

Susani has been an exemplary leader, and a driving force behind much of the Association's activities over the past years. Highlights of recent activities for which she was the catalyst include the Association's participation last October/November in the National Health Fair, the first ever Symposium organised by the Association last November, and the introduction of a registration and continuing education programme for the members.

We take this opportunity to wish Susani the very best in her new undertaking.

Inside this issue, we invite readers to dwell on the causes of obesity, a weighty problem which is likely to loom even larger in the nineties. In the next issue we will focus on the prevention and treatment of obesity, and will be giving away an attractive "calorie count" poster.

A reminder to all members — the AGM will be held on Saturday 28th April — see you then!

Cover illustration by Ambrose Poh

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From the President ...

Dietitians: Nutrition Experts of the 1990's

As we enter the 1990's, dietitians are gradually being recognized as the nutrition experts by the general public and other health professionals, as a vital link between the science of nutrition and its practical application, both in medicine and the general population. It is a propitious time to begin to double our efforts to increase our professional recognition and visibility.

The scope of dietetic practice in Singapore is broad, with dietitians and nutritionists employed in a variety of positions and in a number of different settings. The majority are presently clinical dietitians; others work as administrative/ food service management dietitians, community or public health dietitians and nutritionists, dietetics or nutrition educators, dietitians and nutritionists in industry, and as consultants in private practice.

With the growing recognition that diet and nutrition play important roles in maintaining and improving the individual well-being, the need for nutrition education and nutrition counselling from qualified experts will expand. Dietitians and nutritionists who have the prerequisite background and education in food, nutrition and health, have a great deal to contribute to this health promotion and disease prevention movement.

The dietetics profession in Singapore today, however, is faced with crucial challenges from within and outside. There is a possibility that the profession will be split into two categories: dietitians and nutritionists, with a differentiation in their level of standard qualifications and responsibilities. There is a danger that on-lookers will view one or the other as having a "better" image or status, by virtue of their name "dietitians" or "nutritionist". Such thinking will seriously disrupt the cohesiveness which currently exists within the dietetics and nutrition profession.

The international dietetic and nutrition professional communities recognize that all dietitians are nutritionists, although not all nutritionists are dietitians (2). The American Dietetics Association (1) defines dietetic practice as the "application of principles derived from integrating knowledge of food, nutrition, biochemistry, physiology, management and behaviourial and social sciences to achieve and maintain the health of the people". Becoming a dietitian requires 4 years of tertiary college in a degree or honours programme. The alternative is to follow a degree in related science with an 18 — 24 months postgraduate programme in dietetics. Both routes incorporate a minimum of six months to one year supervised work experience (internship). Many dietitians go on to attain additional Master of Science degrees or Doctorates, and many widen their skills by adding qualifications in fields such as education, psychology or management.

Thus, dietitians are clearly the nutrition experts, competent to be effective translators of nutrition and food concepts to the public. We have the capability and experience to provide effective nutrition counselling to individuals and to society at large (3). Our unique background can be utilized in innumerable ways in nutrition education settings (1).

Each of us has a unique and varied set of experiences, ideas and skills that we bring to the dietetics practice. This diversity is the strength of the dietetic profession. With a strong committment to provide nutrition services to the public, dietetic practitioners can successfully meet the challenges, fulfill the obligations, and maximize opportunities in a way that will make the vision of the future a reality for the profession of dietetics.

Our Association advocates unity within the profession and seeks to promote equal rank, recognition and reward for dietitians and nutritionists.

The SDA's vision for the future of dietetics encompasses increased recognition and demand, expanded opportunities, higher salaries, and widespread acceptance of dietetics expertise. The 1990's promise unlimited opportunities to use our skills to fill an unmet need in the community and health profession.

K. Susani Kartina

Susani K Karta, Msc, RDS,
President
Singapore Dietitians' Association

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The Causes of Obesity

Anna Jacob, M.Sc., RDS

Dietitians who counsel overweight patients on ways to manipulate dietary habits in order to lose weight, are often asked — "Why? Oh! Why can't I lose weight?", by exasperated clients.

Others complain that their friends eat twice what they do and never get fat.

Still others give up, saying, "Your diet does not work!"

Most health care professionals, believe that the roots of obesity are psychological. The rationale is : Obesity is caused by overeating. Obese persons feel guilty and ashamed, and are often forced to believe that they would be thin if only they tried or cared enough (1). The view is changing, however, as more is learnt about the complexities and the multiple causes of obesity.

There are many theories about the causes of obesity. Five factors may be identified.

Genetic Factors

Genetic inheritance probably influences a person's chances of becoming fat more than any other factor.

Within families, if one parent is obese, a child has a 40% chance of becoming obese. This chance is increased to 80% if both parents ar obese and is only 7% if neither parent is obese.

Studies have shown that monozygote twins reared apart are more similar in percentage of body fat than zygote twins reared apart. Weights of adopted children have been shown to have no correlation with the weights of foster parents (2).

Psychological Factors

Fat persons were traditionally perceived as having lost control over their appetites and as being more responsive to external cues than to internal cues. It was believed that obese individuals eat —

1. When it is meal time or when they are surrounded by tasty food; instead of when they are hungry.
1. When they are unhappy.
3. Because as children they associated food with maternal love.

However, recent studies have shown that these factors cannot be applied to all fat persons as a group; they have no more tendency in these actions and feelings than anyone else (2).

Physiological Factors

The normal physiology of the growth years contribute to accumulation of fat tissue deposits. Critical periods during growth for the development of obesity are early childhood and early stages of puberty.

Anna Jacob is a qualified dietitian attached to The American Hospital, Singapore.

Reduced physical activity with no adjustment of kilocalorie intake in easily adulthood also leads to obesity. For women other times may be during pregnancy and after menopause resulting from hormonal factors. For men, a critical period is early to middle adulthood caused by decreasing activity with no change in food habits formed during adolesence. Both men and women gain weight after 50 years because of lower BMR and decreased physical exercise (2).

Fat cell theory: holds that the percentage of body fat an individual carries is determined by the number of fat cells in the body, which is partly determined by inheritance and partly by eating patterns (2).

In the 1970's studies indicated that the fat cells of adult onset obese persons were much larger than those of normal weight controls. In contrast, it was found that the childhood-onset obese persons had a far greater number of fat cells.

The resulting fat cell hypothesis was that weight gain or loss after that growth point could occur only by changes in cell size but not in cell number (2).

A small number of "brown fat" cells, only about 1% of body weight have been shown to burn off excess energy as heat, at a higher rate than normal "white fat" cells. It has been proposed that obesity might result when some sort of brown tissue defect interfered with this function.

Set point theory: Several investigators believe that an internal mechanism, called set-point, regulates the amount of body fat an individual carries. This theory explains obesity on a physiological basis and provides a possible basis for understanding why it is so difficult for some obese persons to lose weight and maintain weight loss (2).

The idea of "set-point" in the human body is that the individual will gain whatever amount of fat the body is "set" or "genetically programmed" for and will similarly lose weight gained in excess of this internally regulated point.

After a few days of reduced calorie intake, during a dieting period, the body adjusts by lowering the BMR, thus making

more efficient use of the calories available. This innate biologic response makes it progressively more difficult to lose weight. Furthermore, by lowering the BMR, the dieter may have induced a physiological change, making weight gain easier after the diet is broken (2).

Environmental Factors

Factors such as culture, activity and diet all exert at least a permissive effect on the development of obesity.

The nature of the modern diet, which tends to be a concentrated source of calories, and the lack of exercise of present day living, are important elements in the aetiology of obesity (3).

Social Factors

The class values placed on the obese state by different social groups also influence its incidence. As a person moves upward in social class, there is a tendency to be more highly motivated to maintain a moderate to normal body weight.

In the lower socioeconomic status group obesity is fairly common (2).

Weight Regain

Of patients who lose significant amounts of weight, 80 to 100% regain it (4). One possible reason for this is the decreased energy requirements of the person on a reducing diet due to a drop of 15 to 30% in metabolic rate.

After a fast or a low calorie diet, the body responds in a "repletion reaction" by storing more fat than usual. Rapid usage of glucose enhanced by greater insulin sensitivity may lead to low blood glucose levels which can enhance hunger and stimulate greater food intake.

Table 1. Effects of obesity and the potential benefit of weight loss

Findings in the obese	Results of weight loss
Metabolic changes	
Reduced glucose tolerance	Markedly improves
Increased plasma, triglycerides cholesterol, uric acid	Improves
Increased prevalence of disease	
Diabetes mellitus	Better control
Hypertension — vascular disease	Some improvement
Gall bladder disease	No effect
Fatty liver	May resolve
Osteoarthritis	
Gout	
Herniae	Symptomatic
Varicose veins	improvement
Intertriginous dermatitis	
Exercise intolerance	Considerable improvement
Social disability	Often lessens

Source: (5)

Preliminary human studies have confirmed that after coming off a diet the dieter is more efficient at utilizing calories. In other words, to maintain his new lower weight the former obese person must take in fewer calories than a normal lean person of the same weight. These lowered calorie requirements may persist for years.

Given the effects of obesity and the potential benefits of weight loss (Table 1), it is worth the struggle. In the next issue we shall explore the many strategies which have been employed for losing weight.

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Smart Shopping in the '90s

The ideal place for health and nutrition information is at the supermarket. Working through the maze of available foods is a challenge. Here are some tips to guide consumers in making healthy choices.

Serving size

The first thing to look at on the nutrition information panel is serving size. For example, some jam labels say that one teaspoon is a serving; others say 2 teaspoons. Therefore, if you compare only calories and not portions, you could be making a mistake. Cereals range from 90 to 130 calories per serving, but that serving may be only ¼ cup — or it may be 1¼ cups.

Ingredient list

Except for foods like ice cream, peanut butter and mayonnaise that have standardized ingredients, every packaged food must include a list of ingredients. Because ingredients are listed in order of weight, from most to least, you can usually tell, for example, if there is more sugar than fruit in jam.

Sweeteners

Sometimes a food has several sweeteners (sugar, brown sugar, fructose, corn syrup solids, etc). Each is listed separately, according to weight, on the label. Taken as a whole, all the sweeteners combined can make sugar the product's primary ingredient.

Nutrient claims

A bold nutrition claim on the front of a package — such as "high in fibre" or "reduced calories" — demands close scrutiny. For example, some soups labelled "⅓ less sodium" still contain more than 600 milligrams of sodium per serving. That's about 25 percent of the amount recommended for a whole day. If you buy luncheon meat marked "80 percent fat-free", will you be getting only 20 percent of your calories from fat — comfortably below the recommended 30 percent level? No. This label statement means that 20 percent of the weight of the luncheon meat is fat; it has nothing to do with percent of calories from fat. So how does one slice of it really measure up? Four grams of fat per slice × 9 calories per gram = 36 calories from fat; 36 calories ÷ 50 total calories per slice = 72% of calories from fat. Remember, however, that the percentage of fat in an individual food is less important than the percentage of fat in a meal or full day's meals.

Fruits and vegetables section

- Fresh vegetables are always a good choice; when you prepare them, you control the added fat and salt.
- Oranges aren't the only good vitamin C choice. Peppers, tomatoes, broccoli, cabbage, potatoes, greens (eg. chye sim, kai lan and kang kong), honeydew melon, kiwi-fruit, mango, papaya, and guava are all rich in vitamin C, too.
- Edible skins of fruits and vegetables and seeds (eg. tomatoes, sunflower seeds) are good sources of fibre.
- Fruits and vegetables that are deep-coloured green, yellow or orange throughout are high in vitamin A.

Dairy cabinet

- Try plain, low-fat yogurt as a mayonnaise or sour cream substitute in chilled dishes.
- Look for low fat, "light" and reduced-calorie cheeses that contain less than 5 grams of fat per ounce.
- Milk, buttermilk, cottage cheese and yogurt that are low-fat and have less than 200 calories per serving are good nutritional value.
- A little sharp cheese has more flavour and less fat than a larger amount of milder cheese.

Bread and cereal shelves

- Look for cereal with at least 2 grams of fibre, 8 grams or less sugar and 2 grams or less fat per serving.
- Compare portion sizes and calories on cereal labels; servings range from ¼ to 1¼ cups.
- Look for the words "whole wheat" or "whole grain" at the beginning of the ingredient listing. "Wheat flour" is nutritionally equal to white flour.
- If selecting white breads, choose enriched ones.

Canned food aisles

- Choose 100% pure fruit juices instead of fruit "drinks" or "punches".
- Dry coffee creamers are mostly saturated fat and sugar. Skim, low-fat or whole milk are better choices.
- The edible bones of canned salmon and sardines provide calcium.
- Canned beans, peas, corn and vegetables are quick and easy sources of vitamins, minerals and fibre.
- Check sodium levels of canned foods if your sodium level is restricted.

Fat, oil and dressing selections

- Soft, tub magarines and spreads are made with unsaturated oils.
- Regular butter and margarine have 100 calories per tablespoon; diet spreads have usually half this amount.
- "Light" mayonnaise has about half the calories of regular mayonnaise.
- To cut fat, use diet dressings with less than 10 calories per tablespoon on salad and as a marinade for meat, poultry or vegetables.

Meat counter

- Lean meat, pork and lamb are not much higher in dietary cholesterol than poultry or fish, but they have more saturated fat.
- Liver is very high in iron, zinc and many vitamins but also high in dietary cholesterol.
- Limit high-fat meats: ribs, belly pork, corned beef, sausage, bacon.
- Sliced roast beef and lean ham are good low-fat choices.

Fresh fish and poultry sections

- Half of chicken's calories are in the skin. Buy skinless parts or remove skin of cooked poultry before eating.
- Fish from deep waters have heart-healthy omega-3 fatty acids: salmon, tuna, mackerel, herring, bonito.
- Most chicken nuggets and rolls are made with ground skin and have a lot of salt.

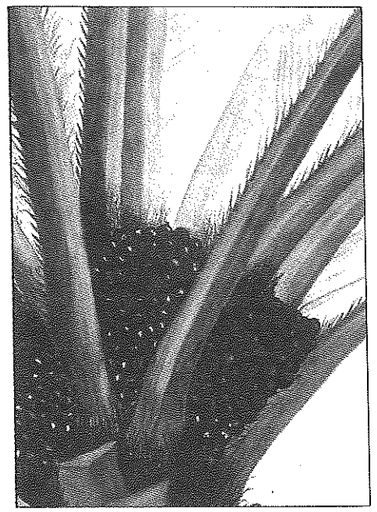
Frozen food cabinets

- Frozen concentrates are often the least expensive form of fruit juice.
- Low-fat frozen yogurt has less fat than ice cream.
- Plain frozen vegetables have less fat and salt than those in sauces.
- Frozen juice with no added sugar is a good choice.
- Portion-packed frozen desserts help curb the tendency to eat large helpings.

An Update on Palm Oil

Sue Hixson, MS, RDS

In early September 1989 the Palm Oil Research Institute of Malaysia (PORIM) held a two and one-half day conference in Kuala Lumpur on the Nutrition and Health Aspects of Palm Oil. Five guest lectures and thirty-two original papers presented by researchers from all over the world gave recent findings on the minor components such as vitamin E. This article is a review of that conference.



Palm oil is obtained from the mesocarp of the fresh fruit of the oil palm, Elaeis guineensis.

Dr Kritchevsky, of the Wistar Institute, Philadelphia, Pennsylvania, USA, gave the first guest lecture on "Dietary Fats, Nutrition, and Heart Disease". He reviewed current knowledge in this area and stressed the need for more human studies using mixed fat diets (more representative of usual human intake) as the study protocol.

In the research papers that followed, G. Hornstra of Limburg University, the Netherlands, presented a recently completed well-controlled human intervention study. The preliminary data from it indicates that maximum replacement of the habitual fat in the Dutch diet by palm oil had no significant effect on blood cholesterol; forty male volunteers with average serum cholesterols of 190.0mg/dl had two experimental feeding periods each of six weeks duration in a double-blind cross-over format and afterwards had average serum cholesterols of 190.8mg/dl. In addition, the subjects had a significant increase in beneficial HDL (high density lipoprotein) cholesterol and a reduction in the harmful LDL (low density lipoprotein) cholesterol.

Two Malaysian human feeding studies, plus one each from Pakistan and Korea that compared the effects of palm oil with coconut oil, corn oil, soybean oil, ghee, hydrogenated cottonseed oil, and beef tallow were also reported. All showed not only a similar lack of hypercholesterolaemic effect by palm oil, but a definite hypocholesterolaemic effect of palm oil when compared to coconut oil, ghee, hydrogenated cottonseed oil, and vanaspati.

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In the area of animal research studies, K.C. Hayes of Brandeis University, Waltham, Massachusetts, USA, reported that increasing the palmitic acid (the majority fatty acid of palm oil) by 5-fold in the diets of three species of monkeys (cebus, squirrel, and rhesus) did not raise blood cholesterol levels. Instead, the blood cholesterol level declined 22 mg/dl from 205±11 mg/dl to 183± 9 mg/dl. The conclusion was made that palmitic acid is not hypercholesterolaemic, and that the hypercholesterolaemic effect of saturated fats is due primarily to the 12:0 lauric acid and 14:0 myristic acid.

And using rabbits, the species with the most sensitive response to dietary cholesterol, D. Klurfeld of the Wistar Institute, Philadephia, Pennsylvania, USA, had early evidence that a diet with 32% energy from palm oil for 14 months did not lead to increased arterial lesions. These effects were not significantly different from those animals fed cottonseed oil and a "typical" American fat blend.

The second guest lecture "Pathology of Free Radical Damage to Proteins in Lipid Environments" was given by R. Dean, Heart Research Institute, Sydney, Australia. The subject was also discussed later by B.J. Weimann of Hoffmann-LaRoche Co., Ltd., Basle, Switzerland.

First a clarification of this complex subject. When the essential fatty acid arachidonic acid is converted to the prostaglandin peroxide PGH-2 by enzymatic action, free oxygen radicals are produced; a number of other common biological reactions in the body also produce free oxygen radicals. These free oxygen radicals in turn modify LDL in such a way as to lead to increased rates of lipid infiltration into the blood vessel walls and thus to accelerated atherogenesis. The antioxidant vitamins, such as vitamin E in palm oil, have been shown in recent experiments to protect against this potentially harmful peroxidation of LDL.

New data that supports the anti-thrombotic effect of a palm oil diet were reported by researchers from Australia, Japan and Canada. They showed that a palm oil diet in rats either inhibited thromboxane production or promoted prostacyclin release or did both. (Thromboxane is a powerful platelet aggregating and vaso-constrictive substance that promotes blood clotting (thrombosis) while prostacyclin has the opposite beneficial effects.) A palm oil diet thus results in a favourable shift of the ratio of thromboxane to prostacyclin.

J. Charnock et al at C.S.I.R.O. Division of Human Nutrition, O'Halloran Hill, South Australia also presented preliminary results from animal research that showed a palm oil diet provided a level of protection against experimentally induced cardiac arrhythmia which is intermediate between that of saturated animal fat and highly polyunsaturated sunflower seed oil. Also, the palm oil fed animals displayed a decreased tendency for ventricular fibrillation compared to the control animals fed the saturated fat experimental diet.

L. Packer of University of California, Berkeley, California, USA gave the third guest lecture "Vitamin E and Health

Implications". The antioxidant effects of the 4 tocopherols and 4 tocotrienols, which together form the E-complex, were reviewed and updated particularly as they relate to the free-radical mediated damage implicated in aging and degenerative diseases.

Using a daily supplementation of palm oil vitamin E tocotrienols in the form of experimental capsules (named Palm Vitee) given in double-blind cross-over study to hypercholesterolaemic human subjects leading an otherwise normal life, A.A. Qureshi et al of University of Wisconsin, USA, showed a significant reduction of total plasma cholesterol response, decreased thrombotic tendencies, and decreased serum glucose.

The anti-thrombotic effect of palm oil tocotrienols was also demonstrated by in vitro experiments with washed human platelet suspensions as reported by B.J. Holub, University of Guelph, Ontaria, Canada.

Additional studies using the Palm Vitee capsules were done by D. Tan and H. Khor at the PORIM labs in Malaysia and by T. Westermarck and F. Atroshi and colleagues, University of Helsinki, Finland. Decreases in serum cholesterol and harmful LDL cholesterol and increases in beneficial HDL cholesterol were shown by both.

Another experiment was reported by A.A. Qureshi and colleagues, this time using hypercholesterolaemic pigs fed a diet supplemented with tocotrienol. Not only did the animals show a decrease in plasma cholesterol and in LDL-cholesterol, but also in other plasma lipid related to thrombus formation. Most interestingly, these beneficial decreases persisted eight weeks after the supplement was stopped, whereas this was not the case with the control animals.

The fourth guest lecture was entitled "Dietary Fats and Cancer" and was given by K. Carroll, University of Western Ontario, Canada. The apparent role of dietary fat as a promoter of cancers was discussed as was the evidence that both the types and the amounts of dietary fats consumed are important.

K. Komiyama, Kitasato Institute, Tokyo, Japan, reported his research that showed both alpha and gamma-tocotrienols isolated from palm oil had anti-tumour activity in transplanted mice tumours. Additional research by him demonstrated that these same tocotrienols also had direct cytotoxic (anti-tumour) activity against human cervix carcinoma, human lung carcinoma, and mouse leukaemia cells in vitro; tocopherols did not show this activity.

In other studies, C. Elson, University of Winsconsin, presented preliminary data suggesting that the cholesterol content of eggs layed by hens fed the tocotrienol-enriched fraction of palm oil is lowered. And, rat studies by Z. Wan et al, University Kebangsaan Malaysia and by K. Nesaretnam et al, University of Malaya, Kuala Lumpur both showed that palm oil derived tocotrienols had a mild anti-tumour effect on the chemically-induced rat cancer model.

The final guest lecture was R. Wood, Texas A & M University, USA speaking on "Dietary Fats and Serum Lipids: What's the Relation?" Literature from the 1950's to the present was examined and evaluated from the vantage point of current knowledge thus giving dietary fat, the nutrient we all love to hate, a new perspective. His own department has begun a long-term human study designed to determine the effect of palm oil on serum cholesterol and other blood lipids, but no results are available yet.

The research findings presented at this conference are still in preliminary stages. We await further research in this field, and look forward to the emergence of a clearer picture of the effects of palm oil on health.

Singapore Dietitians' Association

APPLICATION FOR MEMBERSHIP

Application forms are available from the Honorary Secretary, Singapore Dietitians' Association, Tanglin P.O. Box, Singapore 9124.

MEMBERSHIP

Full members must hold a Degree or Diploma in Dietetics. Please assist us in processing your application by submitting the following:-

1. A copy of Degree/Diploma
2. Course syllabus and description
3. Transcripts
4. Verification statement from other dietetic associations.

Affiliate members shall be:-

1. Any person holdng a recognised scientific qualification in nutrition.
2. Any interested person who, in the opinion of the Committee, occupies a position in a field allied to the profession of dietetics.
3. Any person or corporate body interested in the promotion or advancement of dietetics, or any branch thereof.

No person who is eligible for full membership shall be entitled to affiliate membership.

SUBSCRIPTION (fiscal year being June-May)

All full members shall be required to pay an annual subscription of $60.00. Full members joining part of the way into the year may pay a pro-rated subscription, this being calculated from the beginning of the month after membership is confirmed.

Affiliate members shall be required to pay $20.00 per annum. Affiliate members joining part of the way into the year (Dec-May) may pay $10.00.

Concepts of Nutrition in Chinese Medicine

Chinese physicians recommend that individuals who wish to live long should be careful in the selection of food items. Chinese medicine advocates selective diet as the first line of defence in health management. Drugs are used only when diet (food) therapy cannot correct imbalances.

Concepts of nutrition in Chinese medicine

Three concepts dominate Chinese philosophy and medicine — The Tao, the yin and yang, and the five elements. The Tao is described as an abstract motivator and moral guide that divides things into yin and yang, the two opposing forces needed to maintain balance and harmony. Yin includes females, negatives, dark and cold. Yang includes male, positive, light and warm. Foods, herbs, organs of the body and illnesses are also classified by this method. The five elements — wood, fire, earth, metal, and water — were believed to form the essential substances of everything in the world.

The vital energy of the body is known as chi or qi — literally translated as "air", "breath" or "wind". Blood and chi circulate through the body and a balance between yin and yang is necessary for healthy blood circulation and adequate vital energy.

Five tastes in selective Chinese diets

In Chinese medicine, foods are classified by their property and there are four such characters — hot, cold, warm and cool. Cold foods are prescribed when a person's health is on the hot side and vice versa.

Flavours of food are thought to reflect their influence of that food on the body, sweet — relaxing, sour — astringent, bitter — decongesting, salty — softening. Chinese physicians consider these properties of food when practising diet therapy, and believe that each taste will act preferentially on a particular visceral organ.

Balanced diet in Chinese medicine

Chinese physicians Y.C. Kong and P.S. Kwan (1) of the Chinese University of Hong Kong recommend a balanced diet with a complement of cereals, fruits, meat and vegetables. They warn that one should not eat more meat than cereals, and should never indulge any particular taste.

They recommend that diet should change according to the season so as to take advantage of the seasonal climate.

Chinese medics feel that the normal functions of the visceral organs can be observed by their relevant external features on the body surface and thereby the quality of the diet can be determined by observing these outward features.

Blood building foods

To the ancient Chinese physicians, blood building was an important aspect of preventive health care and treatment for many conditions. Food and herbs were prescribed as therapeutic to "improve the blood" and thus restore strength during pregnancy, menstruation, the postpartum period, old age and other conditions in which the blood was believed to be affected negatively.

Exotic ancient cures include roasted beetles, rattlesnake meat and dog meat. Pork liver, ginger and ginseng were also prescribed as ingredients to be boiled in soup or tea. Today, many health-related food therapies are prescribed by physicians trained in contemporary schools of traditional medicine, and are also part of folk medicine practised by laymen on themselves, family members and friends.

In a recent survey by Ludman et al (2), the common foods utilized for blood building by contemporary Chinese in different parts of the world are pork liver, meat, spinach and greens, eggs, vegetables, fruits, milk, herbs, red beans and peanuts.

However, in the People's Republic of China, rice, sugar and flour were also listed. Recommendation of these high carbohydrate staple foods might also be seen as a means of boosting the low vital energy that is believed to accompany weak blood in the ancient philosophical concept.

Analysis of the nutrient content of foods recommended and used most often for blood building revealed that many were excellent sources of dietary iron and other blood building nutrients.

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Nutrition and Lifestyle: Present Status; Future Directions

Keynote Address presented at the Symposium on Nutrition and Our Changing Lifestyle, World Trade Centre, 4th November 1989.

Johanna T Dwyer, D.Sc., RD,
Professor of Medicine (Nutrition) and Professor of Community Health,
Tufts University Medical School
and Director, Frances Stern Nutrition Centre,
New England Medical Centre Hospitals,
Boston, Massachusetts, USA

Dr Johanna Dwyer delivering her Keynote Address.

As our lifestyles change, as they are changing in highly industrialized countries, it is important that diets change for the better as well. The present status and future directions of efforts to promote health and prevent disease through diet are reviewed, with special attention to the role of dietitians and nutritionists. Currently, lifestyle modifications including diet are receiving a great deal of attention because of the growing evidence that they can affect degenerative diseases. Well documented lifestyle changes, such as non-smoking, increased physical activity and adoption of low fat, high complex carbohydrate intakes, high fibre diets with emphasis on fruits and vegetables are in order (See figure 1). Unfortunately, some individuals choose instead poorly supported extreme diets, including megadoses of vitamins, fish oil capsules, fibre supplements and the like (2).

There is a remarkable similarity between expert recommendations relating to nutrition and lifestyle in highly industrialized countries such as Singapore, the United States of America, Australia, New Zealand, Western Europe, and Japan. Implementation of the recommendations may differ from country to country, however. Contrasts and similarities between progress in the USA and in Singapore, a country which surpasses the USA in several health indices, are provided (3). Finally, the role of dietitians and nutritionists in assisting in implementing both high risk and population-based strategies is discussed.

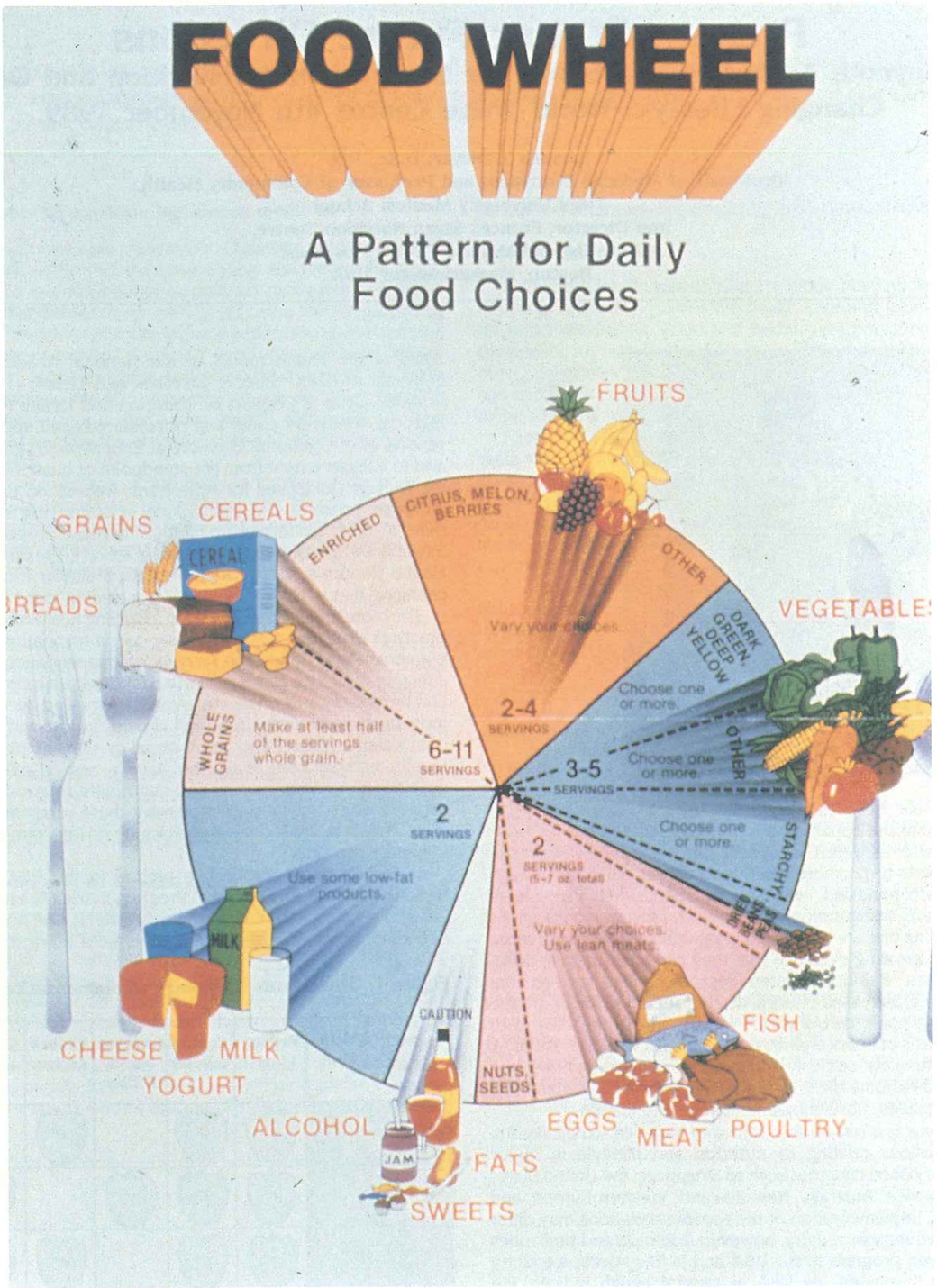
The first problem facing those who wish to implement risk reduction strategies for chronic degenerative diseases is to define what a healthful diet is. In the United States of America the recent report of the National Academy of Sciences on Diet, Chronic Diseases and Health (1), The Surgeon General's Report on Nutrition and Health (4), the high risk treatment panel and population-based approach reports of the National Cholesterol Education Program (5) and to a lesser extent from the standpoint of quantification, the Dietary Guidelines for Americans, help to do this (6), although consensus is still lacking in some quarters. In general, these guidelines are identical to those proposed in Singapore's "Guidelines for a Healthy Diet" (3). The US Public Health Service's "2000 Goals" reflect a similar focus on changing many aspects of lifestyle, including diet (7).

The more difficult problem is encouraging healthful eating practices which are in line with these recommendations. Implementation is defined as carrying recommendations into effect, or fulfilling a promise. In our societies both individuals and the society as a whole are involved in making decisions. Individuals must make informed choices in line with their own welfare. Society and larger social systems at the community and national level also have a responsibility to provide information, access and availability to goods and services which will help to implement these recommendations. Actors in the societal arena include private, public and voluntary sectors.

In the voluntary and public sectors in the USA, The National Cholesterol Education Program's Adult Treatment Panel for High Risk Patients is now available (5). The National Academy of Sciences will also soon issue a report on im-

Figure 1. Convergence of dietary recommendations

Reduce risk \ Changing diet	Reduce fats	Control calories	Increase starch & fibre	Reduce sodium	Control alcohol
Heart disease	✓	✓		✓	
Cancer	✓	✓	✓		✓
Stroke	✓	✓		✓	✓
Diabetes	✓	✓	✓		
Gastro-intestinal diseases	✓	✓	✓		✓



Translating food and nutrition knowledge into practical guidelines for daily food choices.

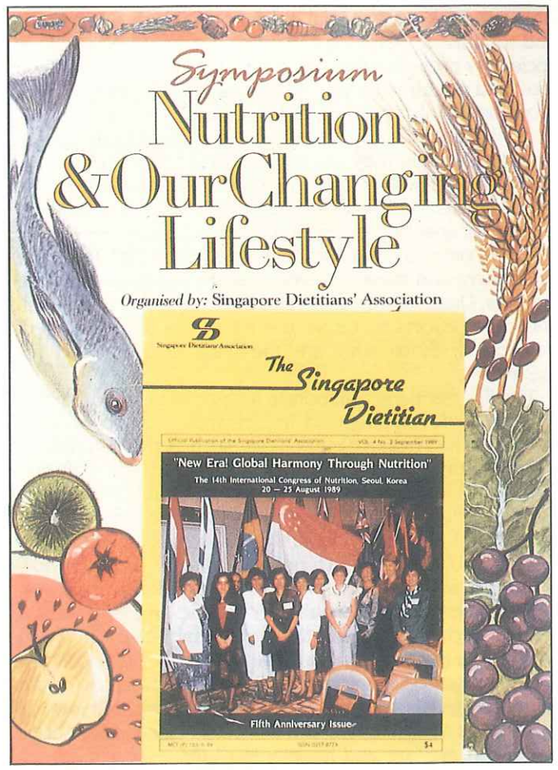
plementing the Diet and Chronic Disease recommendations.

Possible scenarios of relevance in all countries are reviewed for how best to achieve implementation. On an individual basis, adherence to dietary recommendations must be improved (8). On a society-wide basis, many areas including the food, health education and social welfare are involved. Public, private and voluntary groups must all be mobilized. To succeed, the politics of implementation must involve all stakeholders, building cordial relationships between different sectors in society and setting the stage for solutions that are ''win-win'' games (9,10).

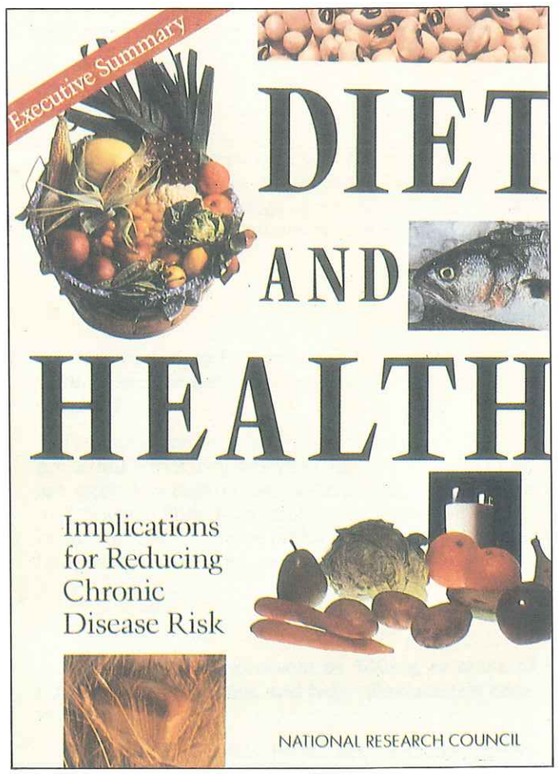
Dietitians and nutritionists are expert translators of food and nutrition knowledge into food consumption which maximizes health and quality of life. The remainder of the presentation considers how these professionals can be used to implement both population-based and high risk strategies designed to promote health, prevent and control diseases which involve diet.

The goals of the dietetics profession are to provide responsive, competent, high quality services which enhance the health and well being of recipients, including the well general public, the sick, or the poor and otherwise disadvantaged. On a national level, the dietitian's goal is to exert a potent beneficial influence on national public health and nutrition policy.

Dietetics is a service oriented profession which focuses on bettering the lot of human beings via nutrition. The technical aspects of dietetics involve expertise in food science, human physiology, metabolism, and diet as it relates to health and disease. The human aspects of dietetics involve assisting consumers to make wise food and lifestyle choices, provision of caring help to the ill and compassion to the poor and to others who are especially disadvantaged, and collaborating with others in the health system, government and the private and voluntary sectors to improve national nutrition policy and programs.



Publications such as ''The Singapore Dietitian'' assist health professionals as well as the general public, and as such perform a useful public service.



The report of the US Committee on Diet and Health published last year.

Dietitians assist the well in making wise and informed choices. Thus, they are critical members of the team for implementing population-based strategies. Dietitians must equip themselves with the knowledge and expertise to help people develop skills to use nutrition information. They can help consumers to reduce risks of diet related diseases, which increasingly include the chronic degenerative diseases, through diet by casting diet advice in the context of overall risk reduction measures. They also help people to discriminate between sound and unsound advice and recommendations relating to food and diet. And they can serve as expert translators of food and nutrtion knowledge into the practical skills people need to eat wisely.

Dietitians' caring concern and expertise in translating food and nutrition knowledge from dietary prescriptions into clinical and food consumption realities help meet the special health and other needs of those who are at risk or already ill. They ensure that such recommendations are realized in consumption by tailoring their advice and guidance to assure that choices are available to the patient which maximize the quality of life involving food by keeping food preferences, cost constraints, health needs and lifestyles in mind while being sensitive to cultural and religious traditions. By emphasizing primary and secondary as well as tertiary prevention and nutritional support of other therapies, much unnecessary disease, disability and discomfort can be avoided. Dietitians need to continue to document the cost effectiveness of the various nutrition services they provide in these settings. Considerable information is already available to demonstrate their cost-effectiveness.

Dietitians have a special obligation to show compassion and to assist in bettering the lot of the most vulnerable in society by providing the special help they need to meet their food and nutritional needs. Of special concern are the aged. Most industrialized countries have rapidly growing populations of the elderly. These individuals may also be at a disadvantage because they are poor, ill and may be otherwise disadvantaged with respect to education or language. The poor who are ill and who also suffer from other disadvantages are also of special concern. In the United States, these high risk, the very old, patients receiving home care for acute conditions, and those in some shelters and extended care facilities. Dietitians must serve as advocates of public health and other efforts to better the lot of the disadvantaged, particularly those who are the least able to fend for themselves.

Finally, dietitians collaborate with others as good public citizens in developing and implementing sound national nutritional and health care policies, such as the "Guidelines for a Healthy Diet" of Singapore. They serve as staff and line personnel in public health programs. Publications such as "The Singapore Dietitian" provide sound assistance to other health and public health professionals as well as the general public, and as such perform a useful public service. They advocate and encourage the promulgation and passage of legislation in food, health, economic and educational sector which strengthens the nutritional health and well being of the nation's citizens. Thus, not only in their individual roles as educators, consumer advisors and advocates, health care providers and public health professionals, but in their larger roles as concerned and involved citizens they better the health, welfare and happiness of the nation.

The future directions physicians, dietitians, nurses and policy makers need to take in industrialized countries are to integrate preventively oriented dietary and other practices into the lifestyles of our clients or patients as well as ourselves. Food manufacturers need to supply foods which permit individuals to make such choices. Ultimately; the individual has to choose and determine his own lifestyle with respect to nutrition.

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QUESTIONS PEOPLE ASK ...

Vitamin and Mineral Supplements — Are they Necessary?

Yeong Boon Yee, B.Sc. (Hons), RDS

A growing number of our population are contributing towards the dazzling more than $10 million spent on vitamin/mineral supplements annually. One or more supplements are taken by many to avoid stress, cold, cancer; cure acne, baldness, aging, etc. Perhaps it's the peace of mind of — "just in case". Whatever the reasons, amazingly, despite the scientific consensus that most people don't need them, these supplements are becoming more popular than ever.

Here are answers to a few common questions about those 'wonder' tablets lining the pharmacy/health food shop shelves.

1. What is mega-vitamin therapy? What level of supplement intake is considered safe?

Mega-vitamin therapy refers to the routine use of one or more vitamins at many times the level of RDA*. Vitamins taken excessively in this manner would not be functioning as vitamins, they act more as pharmacological chemicals that may produce a drug-like or toxic effect.

Health authorities agree that for the majority of healthy people, taking a simple multi-vitamin/mineral supplement that provides from 50 to 100% of RDA for nutrients will be of no harm. But there is no evidence to prove that it is beneficial either. Read the label on the supplement to check the dosage you are taking. Prolonged usage at mega doses (especially the fat-soluble vitamins eg. vitamins A, D and E) is a hazard to health.

2. If one eats mainly fast foods or hawker foods, will taking supplements compensate for what is missing?

The problems with fast foods or hawker meals are not so much that they lack vitamins or minerals, but they are often too high in fat, calories and sodium while mostly low in fibre. No vitamin/mineral supplement will be able to counter these problems. The only way is to have a more balanced meal pattern.

3. Is it true that a supplement of 500mg or more of vitamin C will prevent and help alleviate the common cold?

Despite all the claims, no studies have conclusively shown that vitamin C can prevent or cure common cold. Vitamin C is the single most widely consumed supplement and often taken at hundreds of times above the RDA level of 60mg. This RDA level can easily be provided by one cup of fresh orange juice. Vitamin C is present in a large number of fruits and vegetables as well as added to many supermarket products. Regular and prolonged high intake from supplements may precipitate the formation of uric stones while abrupt cessation may lead to symptoms of scurvy. This is because the body, used to the high intake level, cannot readjust to the sudden lower intake. This can occur in newborns too if the mother consumes megadoses of vitamin C while pregnant.

4. Can calcium supplements prevent the development of osteoporosis?

No conclusive evidence has shown that calcium supplements will stop the occurence of osteoporosis. Calcium is not the single main factor in reducing the risk of bone loss. Osteoporosis is associated with many factors — genetic, oestrogen status and amount of physical activity are equally important. The best source of calcium is milk and milk products, from which calcium absorption is also the greatest.

5. Who needs and will benefit from vitamin and mineral supplements?

Several groups of people may benefit from a daily vitamin/mineral supplement. These include women who are pregnant, breastfeeding, and those who regularly have heavy menstrual flow. Others are people whose food intake is very restricted, such as vegans, vegetarians, slimmers on very low calorie diets (less than 1000 kcals) and elderly on heavy medications and eating poorly. Patients under physical stress, eg. broken bones or surgery or with prolonged illness, may also benefit from appropriate supplementation.

* RDA (*Recommended Daily Allowances*) *are the levels of essential nutrients considered, on the basis of scientific knowledge, to be adequate to meet the nutritional needs of practically all healthy persons.*

Yeong Boon Yee is Director and Consultant Nutritionist/Dietitian with Food and Nutrition Specialists Pte Ltd, Singapore.

First SDA Symposium a Success

Dr Dixie Tan, MP for Ulu Pandan, officiating at the Opening Ceremony.

As our lifestyle changes with increased affluence, so too does our diet. Whether our current diet is appropriate to our changing lifestyle was the subject of the first ever symposium held by the Singapore Dietitians' Association. Marking the 5th Anniversary of the Association, the Symposium, held at the World Trade Centre on 4 November 1989, was attended by over 200 people. Officiating at the Opening Ceremony was Dr Dixie Tan, MP for Ulu Pandan.

In her keynote address, Dr Johanna Dwyer said there is growing evidence that a poor diet and over-consumption negatively influence the risk and course of diseases such as heart disease, diabetes, strokes, and some cancers. On the other hand, some health conscious individuals choose diets which are too extreme, including megadoses of vitamins, fish oil capsules and fibre supplements.

Two papers in this Symposium looked at the link between diet and specific diseases including heart disease and diabetes, both of which are on the rise in Singapore. In the over 40's, diabetes incidence rose from 5% in 1975 to 12% in 1986. Percentage of death from diseases of the circulatory system has risen from 6% in 1950 to 35% in 1986.

The Symposium focussed attention on nutrition at different stages of the lifespan. Professor Kraisid Tontisirin, a leading professor of paediatrics and nutrition from Thailand, discussed feeding problems in childhood. Breast feeding is strongly recommended for the first few months of life in order for infants to enjoy optimal health and development. Yet in Singapore only around 10% of babies are being breastfed at the age of six weeks.

Childhood obesity is a particular problem, prevalence being 12% in local school children. Dr Ho Ting Fei discussed the psychosocial problems of obesity as well as the long term coronary risk and other medical problems. Another paper by Dr Shirley Chen, a nutritionist based in Japan, explored strategies for nutrition education in the crucial formative years.

In adulthood it is still not too late to make lifestyle changes to help counteract diseases. Dr Oon Chong Hau, a local specialist in rehabilitation medicine, discussed modifying behaviour and eating habits, recreational patterns and health screening.

With a projected 348% increase in Singapore's elderly population by the year 2025, it was of interest to hear the latest from Professor Darwin Karyadi, an eminent professor of nutrition from Indonesia, on how diet can exert an influence in the aging process and health in old age.

The final session, of special interest to consumers and those in the food industry, looked at future trends in food marketing. We are fast reaching a point where for a new food product to be successfully launched it must boast some nutritional claim. Consumers were given pointers on how to distinguish if one product is really healthier than another, and how to tell fact from fiction. The subtleties of food advertising were revealed by David Miller, a creative director from a large advertising firm. Susani Karta, a registered dietitian and nutrition expert in market development, suggested the role the food industry can take in conducting research and developing products to promote health.

In summary, this Symposium highlighted the direction in which health professionals, food manufacturers, policy makers and individuals themselves must move, in order to effect appropriate dietary practices for the lifestyles of today.

Proceedings of the Symposium may be purchased from the Association at $20 per copy.

Prof. Kraisid Tontisirin highlighting the growing problem of childhood obesity.

Products on display at the Trade Exhibition.

Report on the 14th International Congress of Nutrition, Seoul, 1989

The 14th International Congress of Nutrition was held in Seoul, Korea from 20th to 25th August, 1989. Thirteen members from the Singapore Dietitians' Association attended the congress, of which nine full members were sponsored by local commercial companies.

The International Union of Nutritional Sciences (IUNS) which was founded in 1948, has its congress once every four years.

The theme of this year's congress was "New era! Global Harmony Through Nutrition." The purpose of this conference is to improve well-being of the world population by introducing new knowledge and technology in nutrition. Some 3000 nutritionists and related field workers from 89 countries participated in the congress.

The congress consisted of seven Plenary Lectures, 250 Symposia, and over 1500 research papers in the field of nutritional sciences, food policies, food production, agricultural economy and public health. There were also workshops, posters, free communications, exhibitions on nutrition products, instruments, equipments and books.

Also on display were 140 traditional Korean dishes including kimchi (a type of preserved pickles), rice cakes, and gruels along with dinner table settings, kitchen utensils and tableware. Korean food does not seem to be greatly diverse. However, subtle different cooking styles have been developed throughout the country's history. Specially decorative rice cakes and fermented vegetables have many varieties.

The congress started off with a grand opening ceremony, graced by Korea's Prime Minister, Dr Young Hoon Kang. A spectacular programme followed, including the welcome message by Dr MamdouchGabr, a song by mezzosprano, Professor Shin Ja Kim from Ewha Womans' University, and Korean music played by the Korean Traditional Music Ensemble. Dr Soon Cho, Deputy Prime Minister of Economic Planning Board delivered his keynote address, "The Role of Nutrition in National Development". A welcoming banquet, hosted by the Minister of Health and Social Affairs, Dr Chong In Kim, was held on 21 August evening. Tasty foods with many Korean specialties were served in buffet style. Some of the specialties were sushi, kimchi and rice cakes. One of the highlights of the congress was the "Korean Night" on August 22 when a dinner was held at the Ewha Womans' University followed by a performance of Korean traditional dance (performed by the Ewha Womans' University students).

The congress lasted for 5 days and ended with a farewell dinner where a traditional Korean costume show was performed. The congress not only strengthened field researchers in their knowledge of nutrition, but also promoted scientific exchange and friendship among many scientists from all over the world.

Tan Shok Eng

Kimchi

"A man can live without a wife but not without kimchi". So goes an ancient Korean saying about the country's fiery national food. A meal to Koreans means a bowl of rice and a dish of kimchi. Few Koreans feel satisfied unless their meal includes at least one pungent, fermented and highly spiced pickled vegetable (usually cabbage-based).

According to a recent survey there are more than 179 different kinds of kimchi. Basically there are 2 types — winter and seasonal. The winter kimchi is made of mature cabbage and is eaten through winter and early spring.

Cabbages are washed, salted and rinsed thoroughly in cold water. The following day the cabbage leaves are stuffed with a spicy mixture (slices of radish, powdered red pepper, chopped green onions and plenty of garlic). Special kimchi involves more expensive ingredients such as fermented fish guts, shrimp, oyster, fruit and chestnuts. The prepared cabbages are piled in giant clay vats and buried in the earth up to their lids to prevent freezing. The fermentation which then begins is the key to kimchi's long shelf life, complex flavours and heightened vitamin content. Korean scientists have found that when the lactic acid produced by fermentation reaches its optimum level, the flavour of kimchi is at its peak. Kimchi contains carotene, B1, B2, B12 and niacin.

Korean Dietary Guidelines

Traditional Korean diets are characterized by high levels of cereal such as rice and vegetables and low levels of animal foods. Such diets are typically high in complex carbohydrate, including fibre, and low in protein and fat.

Currently protein intakes as well as fat consumption, of Koreans show a large difference among various sectors of the population in respect of amount and quality or types. A large proportion of people in suburban and rural areas consume protein still far lower than recommended. Fat supplies, on the average, 14.7% of total calories which is below the recommended 20% level.

Calcium, vitamin A and riboflavin are among the most frequently deficient nutrients in Korean diets. Excess salt intake is considered one of the most serious problems and is thought to be associated with the high prevalence of hypertension.

Based on these facts, the Korean Nutrition Society in 1986 decided to recommend following dietary guidelines for Koreans:

1. Eat a variety of foods.
2. Keep ideal body weight.
3. Consume enough protein.
4. Keep fat consumption at 20% of energy intake.
5. Drink milk every day.
6. Reduce salt intake.
7. Keep good dental health.
8. Restrain alcohol and caffeine consumption, and smoking.
9. Keep the harmony between the diet and daily life.
10. Enjoy the meals.

BOOK REVIEW:

Breastfeeding Matters

Breastfeeding Matters
by Maureen Minchin
Alma Publications and George Allen & Unwin: Sydney, 1985 softcover, 348pp

I had the opportunity to meet the author of this fascinating book recently in Indonesia. There is no doubt that she is single-minded in her crusade to convince mothers, medical professionals and policy makers that breastfeeding matters a great deal more than is currently recognised.

Maureen Minchin is an Australian mother who has breastfed her children and encountered the many obstacles that society, medical dogma and culture have placed in her path. Her book is a marshalling of facts from the literature (over 600 references are cited) in support of breastfeeding. It is a reference text as well as a practical manual on managing breastfeeding problems.

The book is distinct from other texts in containing a most intriguing discourse on the history and politics of infant feeding. This includes the story of wet nursing, and early attempts at artifical feeding. The author makes the point that as scientific and technical skills were increasingly involved in modifying cow's milk, so mothers were pushed further out of the process of infant feeding.

"No one will find Breastfeeding Matters a comfortable book to read, as it challenges our complacency on every page."

Professor R Short,
Monash University

Why breastfeeding matters

The author sums up her conviction thus: "*Human milk is always best. There will always be some situations in which the optimal is not practical and people must choose the inferior. But that is no excuse for allowing the distinctions between best and second best to become so blurred that people ... believe the differences to be trivial*'.

She goes on to explain why infant formula is not as nutritionally close to mother's milk as is often thought. The basic reason is that no exact standard for mother's milk exists — we do not know enough yet about bioavailability of nutrients for example. Moreover, a formula of fixed composition cannot match the flexible breast milk which can vary within a feed, from feed to feed, over time and from mother to mother.

The immunological differences between human and cow's milk are well documented, as is the fact that breastfeeding is significantly associated with lower incidence of allergy.

Reasons for breastfeeding failure

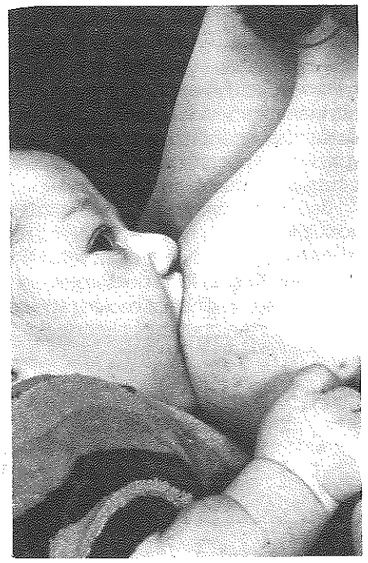
Who is responsible for breastfeeding failure? Hospitals must take a large part of the blame, says the author. In the immediate postpartum period there are many practices in hospitals which may hinder successful breastfeeding — for example, drugs to induce or assist labour, delayed suckling after birth, scheduled feed times and use of additional fluids.

The author states that by unnecessary use of artifical formula hospitals imply that it is equivalent to breast milk. By contrast, Sweden has legislated that all babies receive human mik for the first 10 days of life, and 80% of Norwegian hospitals routinely use donated human milk. Such practices state clearly that only human milk is good enough for human babies.

In a chapter entitled 'Breastfeeding and the Mother' the author dispels the myth that one reason why breastfeeding failure is common is that modern mothers do not spend enough time with their babies — the lack of constant contact somehow diminishing their breastmilk supply. She says we need to reject this convenient hypothesis and not allow it to be propagated — it will only increase incidence of breastfeeding failure because mothers who are not in constant contact with baby for whatever reason will feel anxious and their milk production may be inhibited as a result.

The main advantages of breastfeeding for mothers, continues the author, are reduced cost and enhancement of the sense of the mother's body as fundamentally good, powerful and pleasurable. The intensity of feelings of love and tranquillity are important benefits too. The author is quick, however, to point out that breastfeeding has potential for seriously disturbing the mother. Mothers can find it personally devastating, she says, if their child is unhappy or rejects the breast. Purely from a psychological point of view, if better help with breastfeeding is not available, such mothers would have been better to bottlefeed.

Ms Minchin also lays to rest the theory that breastfeeding is necessary for maternal bonding. Early experience can be an important part of the bonding process but it is not all-important.



Solutions

There is little point, argues the author, in exhortations to breastfeed, without better management of breastfeeding problems. She has illustrated such problems by documenting 15 case histories, and has devoted several chapters to the management of breastfeeding. Sufficient education on breastfeeding in the antenatal period is necessary, and the author's emphasis is on the need for accuracy of breastfeeding advice. How many new mothers have gone home from hospital with the impression that they do not have enough milk and that they need to give a supplementary bottle once a day?

Breastfeeding clinics

Ms Minchin feels there should be vastly improved medical management of breastfeeding problems. A full time

breastfeeding consultant in hospitals is a good start, she believes, with possible expansion into a breastfeeding clinic later on.

Breastfeeding clinics could serve as teaching centres for professionals as well as providing a comprehensive service for parents. Mothers may be seen in pregnancy, then helped during their hospital stay by experienced staff who have been taught at the clinic. After discharge mothers could have access to 24 hour telephone advice and would be recalled for regular checkups at 6 weeks or more frequently if they needed help.

The existence of breastfeeding clinics would convey the important message that breastfeeding is natural but not always easy. The author recognises that there would be dangers in establishing such specialised clinics. The temptation to make the management of lactation something only "experts" can handle would have to be resisted.

The other main areas for change which the author feels are necessary include consumer education, beginning in early childhood with breastfeeding dolls for example (as opposed to bottle feeding ones).

The author would also like to see human milk banking so that those infants unable to have breast milk from their own mother could have human milk. Changes in the workplace are also necessary — provision for breastfeeding babies in the workplace for example, and paid lactation leave. Changes in media and cultural attitudes are necessary too — for example, not depicting bottlefeeding on TV or in advertisements.

Finally the author has listed numerous international breastfeeding resources, organisations and support groups. She gives the address of the International Board of Lactation Consultant Examiners and the International Lactation Consultants' Association.

Maureen Minchin plans to develop a series of books in which she will examine specific breastfeeding issues and problems. She encourages mothers to write to her with an account of their problems — she wants to help solve their problems so that breastfeeding can be for every women the "life-enhancing experience" it was for her.

Rarely do we find a book which is written in such openly biased and argumentative fashion, yet so thoroughly referenced. All the statments and claims the author makes are backed up with a reference. Any speculation on her part is admitted to be such. I recommend the book, not only as a good read, but as a challenge to all of us — parents and professionals alike — to think twice before making assumptions and decisions about infant feeding.

Lynn Alexander

BOOKS

FIT FOR LIFE
Harvard and Marilyn Diamond
Warner Books, 1987
softcover, 193 pp $15.50

The message from Harvey and Marilyn Diamond's book is to forget about eating your favourite fish porridge, chicken noodle or cornflakes with milk — if you want to live beyond fifty! They claim that "The human body is not designed to digest more than one concentrated food in the stomach at the same time". According to them, any food that is not a fruit or vegetable is concentrated. The results of "combining protein and starchy foods for example will then lead to destruction of nutrients, build up of toxins, causing bloating of cells which translate into fat stores", thus obesity.

For the next 190 or so pages, the authors expound at length and give examples of their "wonderful cure", which comprises of eating only one concentrated food each meal while relying on high-water-content fruits and vegetables for 70% of total food intake. In following their guide, one should only eat fruits exclusively before noon and never with or following other food, to allow for "detoxification" of the body.

No documented scientific or medical facts are cited to substantiate their claims and twists of basic physiology. Recommendations given run counter to established healthy dietary guidelines, and if taken literally will cause deficiencies in calcium, iron, zinc, vitamin B12 and possibly protein, especially for the vulnerable age groups. Those who follow their regime will lose weight mainly due to the consumption of low calorie fruits and vegetables as the major diet component.

Yeong Boon Yee

MANAGEMENT OF MEDICAL FOOD SERVICE
Catherine Sullivan, Ph.D, RD.
Van Nostrand Reinhold: New York, 1990, 2nd edition, hardcover, 459 pp, S$109.25

This textbook is a ready reference for practitioners and administrators in health care facilities. It describes a systems approach to management which stresses that a plan of operations is necessary to provide an intended level of food service on a consistent and continuous basis.

It rest on the theory that the menu is the 'hub' of the food service system, and all sub-systems revolve around it.

The book covers extensively management principles, menu planning, equipment, food purchasing, production and distribution, personnel and finance.

Appendices include weights and measures, direct reading tables for extending recipes, a guide to purchasing quantities with percentage yield from purchased weights and usual portion weights. Also included are the Joint Commission on Accreditation of Hospitals' "Standards for Dietary Services", and useful guidelines for planning and evaluating food service in long term care facilities.

PRODUCT NEWS

A COMPUTER PROGRAMME FOR MENU PLANNERS

RecipeTec is a computer programme specially designed for menu planners, cookbook writers, nutritional analysts, chefs, small caterers and other people who work professionally with recipes.

The user may enter his own ingredients, or use the list of 1,000 items that may be purchased with the system. The ingredient file is the basis of food costing, nutritional analysis (10 nutrients) and shopping lists.

To enter a new recipe, the user sets the number of servings and then lists the necessary ingredients, their quantities and units of measurement. Recipe units are automatically converted to purchase units for shopping lists.

The programme calculates the cost per recipe serving, and lets the user set a per-person price directly or set a cost ratio and let RecipeTec calculate what price to charge. This screen also lists the cost of each ingredient, beside its percentage of the total recipe cost.

RecipeTec has a comprehensive approach to menu planning, which includes automatic recipe scaling, automatic and manual pricing, elegant printouts with headings and recipe descriptions, shopping lists for the entire menu, printout of all recipes included, cost analysis as recipes are added, substracted or replaced. The user may set up standard menus for repeated use and occasional menus for special events.

A shopping list can be obtained for any recipe or menu. The list shows the cumulative amount of all ingredients required, and groups them by supplier, under a contact name and phone number. The total estimated cost of the ingredients is included.

RecipeTec runs on any IBM PC compatible computer with 640K RAM. It costs around S$3000 and is available from Eatec.

ABSTRACTS

CLINICAL IMPORTANCE OF VITAMIN E: A REVIEW *Goss-Sampson, M.A., Muller, D.P.R. and Lloyd, J.K.*
Journal of Human Nutrition and Dietetics (1989), 2, 145-150

In 1922 Evans and Bishop described a fat soluble factor which was necessary for normal reproduction in the rat, and this factor subsequently became known as vitamin E.

Even though vitamin E deficiency syndromes had been produced experimentally in animals, the role of the vitamin in human nutrition remained much disputed for a long time and little understood. Many ill-founded claims were made such as its ability to slow the aging process or to increase virility and fertility, and even, as reported in the American press, to protect against the effects of atomic fallout. Not surprisingly this led some cynics to dub vitamin E as "E for Everything". Evidence for its role in human nutrition was reported in the late 1950s. Oppenheimer (1956) and Blanc et al. (1958) showed that infants with cystic fibrosis had low serum vitamin E concentrations associated with widespread ceroid deposition in smooth muscle and focal necrosis of striated muscle. A pharmacological role is indicated for the vitamin in certain disorders affecting preterm infants; it has an important role in maintaining normal neurological structure and function, and it is an important biological antioxidant.

FRUIT AND STOMACH CANCER
Burr, M.L. and Ruth M. Holliday
Human Nutrition and Dietetics (1989) 2, 95-104.

A case-control study of stomach cancer was conducted in hospital patients in South Wales. The frequency of fresh fruit consumption prior to the onset of illness was recorded in 149 stomach cancer patients and in 1934 control patients. The relative risk for stomach cancer among those who ate fresh fruit on most days was less than half of those who ate no fresh fruit. Fruit was eaten less frequently by the men than by the women, especially among the controls. Relative risks of stomach cancer in men and women were similar at each level of fruit-eating, suggesting that the sex-difference in stomach cancer mortality may, in part at least, be attributable to a difference in fruit consumption.

IN BRIEF

NEW US RDAS CALL FOR MORE CALCIUM

The newest version of the US Recommended Dietary Allowances has been announced by the National Academy of Sciences' Food and Nutrition Board.

A few noteworthy alterations have been made. The calcium level has been raised from 800 milligrams a day to 1,200 milligrams for men and women of 19 to 24 years old. Formerly, the 1,200 milligram recommendation applied only to 11 to 18 year-olds. The upward adjustment is the result of accumulated evidence suggesting that peak bone mass does not occur until a person reaches the mid-20s or even the early 30s. At some time after that peak is reached, calcium begins to be lost from the bones as a natural part of aging. That process can eventually lead to osteoporosis if too little calcium is "on reserve", so it is important to store as much as possible.

With respect to iron, the allowance for women in their childbearing years has actually been reduced from 18 to 15 milligrams, since 15 milligrams is now considered sufficient to meet the requirements of nearly all healthy, nonpregnant, nonlactating women. Still, surveys suggest women are consuming just 10 to 11 milligrams of iron a day — only about 65 to 70 percent of the new recommended allowance.

The recommendation for vitamin C has also increased, but only for smokers. Evidence shows that smokers metabolize vitamin C more quickly than non-smokers do and are therefore more likely to end up with less in the bloodstream and body tissues even if they consume the same amount. The new suggestion for vitamin C for smokers is to take in at least 100 milligrams, as opposed to 60 milligrams for other adults.

One nutrient the Food and Nutrition Board suggests reducing is sodium. In the previous edition of the RDAs, a sodium range of 1,100 to 3,300 milligrams was recommended. The new version does not give a range but says Americans would be safe with a minimum of 500 milligrams a day and alludes to an earlier government report that advises 2,400 milligrams — roughly the amount in a teaspoon of table salt — as the upper cutoff point. Presently, the majority of Americans take in anywhere from 3,000 to 6,000 milligrams or more sodium a day, not just by sprinkling salt on foods but also by eating heavily processed snacks and other prepackaged goods.

There are two new additions: RDAs have been set for the first time for vitamin K and selenium. The allowance for vitamin K is 80 micrograms for men and 65 for women. Selenium, which is crucial for the proper functioning of heart muscle, now has an RDA of 70 micrograms for men and 55 for women.

ALUMINIUM IN MILK POWDER

A child healthcare expert has hit back at a report which claims that bottle-fed babies face the risk of long-term brain and bone damage from aluminium in milk powder.

Dr Malika Ladjali, consultant of the technical services division of the International Planned Parenthood Federation, said scare stories about aluminium in milk powder made mothers feel guilty for not breast-feeding their children.

The reports, based on surveys at Surrey University in Britain, found powders were commonly contaminated with aluminium, sometimes 100 times more than breast milk.

Dr Ladjali urged people to be cautious about the results of a small number of surveys.

But Dr Neil Ward, a lecturer in chemistry at Surrey University, said: "There is still an area of alarm because there is still a very high order of magnitude, especially in terms of giving a dose to a new-born baby."

In some countries the problem is intensified by the use of aluminium salts to purify tap water. If this is used to make up the formula, particularly with soya milk powders which contain significantly more metal, then the baby will consume very high levels of aluminium.

Young babies are most at danger during the first weeks of life. The gut is more permeable and the risk of absorption into the bloodstream is higher.

Once absorbed it can affect the brain and has been linked to dementia in old age. "Aluminium, especially if it's given to children of very young age, will have as much an impact on their mental development as the known toxic metals like lead, "Dr Ward said.

Source: Far East Health, February 1989.

ABSTRACTS

DIETARY RECOMMENDATIONS FOR CHILDREN AND ADOLESCENTS WITH DIABETES — NUTRITION SUBCOMMITTEE OF THE PROFESSIONAL ADVISORY COMMITTEE OF THE BRITISH DIABETIC ASSOCIATION
Kinmonth, A-l., Magrath, G., Reckless, J.P.D., Connor, H., Court, S., Govindji, A., Hartland, B., Hockaday, T.D.R., Lean, M.E.J., Lord, K., Mann, J.I., Metcalfe, J., Southgate, D. and Thomas, B.J.

Dietary advice for diabetes has changed significantly over the last ten years, the emphasis being on a total energy intake matched to individual requirements and on the physical as well as chemical structure of food and meals. It is recommended that energy intake is still distributed through the day as regular meals and snacks using carbohydrate exchange system, but with 50% of dietary energy being derived from carbohydrate sources mainly in complex and unrefined form. This paper considers how far the dietary recommendations for adults can be applied to children.

METABOLISM OR APPETITE: QUESTIONS OF ENERGY BALANCE WITH PARTICULAR REFERENCE TO OBESITY *Prentice, A.M., Black, A.E., Murgatroyd, G.R., Goldberg and Coward, W.A.*
Journal of Human Nutrition and Dietetics (1989), 2, 95-104

This paper reviews recent work at the Dunn Nutrition Unit on obese subjects using calorimetry combined with measurements of total energy expenditure by the doubly-labelled water technique. This has shown no evidence of a metabolic defect in obese subjects leading to a reduced energy requirement. Energy expenditure per kilogram body weight was similar for lean and obese women. Total energy expenditure was higher in the obese consequent upon the greater body size. Studies from other centres that do show evidence for a metabolic defect are also presented, but the authors argue that the primary defect in obesity lies in control of appetite and/or the control of fat (as opposed to energy) balance.

LETTER TO THE EDITOR

Dear Madam,

Article on Brands Essence

Having seen an article in your publication entitled "Effect of chicken essence on metabolic rate and blood restoration" by Catherine Geissler, BDS, MA. Phd, I request I be given space to respond to this publication which appears to be a precursor to extensive media advertisement of this product. It is apparent that the tests were to done to provide a "scientific" basis for such advertisements.

As a medical practitioner who has been working with the Chinese community for a considerable time and in a Chinese New Village extensively for the last three years, I feel that such advertisements are misleading. People can ill afford the costs involved in purchasing such "remedies" as Brands Essence which of course will involve costs of a "blitz" in the media for promotion of such remedies.

Coming to the "scientific" evidence on the two aspects of Brands Essence, as published in the article, I tried the same Brands Essence on 10 adults of mixed ages and both sexes above 19, all Chinese. My clinical observations are:

The heart rate was increased in each subject from 7 to 10 beats/minute within 2 minutes of ingestion of Brands Essence and not so when given water. A marginal increase was recorded in 2 subjects when given water, the highest recorded 3 beats/minute.

I submit that this difference, as shown by a greater increase when given Brands Essence, can be accounted for by psychological factors due to the odour and sharp taste of Brands Essence. Water is insipid. So a comparison of metabolic rates where psychological factors are at play is fraught with scientific inaccuracies, since metabolic rates depend on sex, age, circulating levels of thyroid hormones and circulating epinephrine and norepinephrine levels.

Heart rate is affected by the following factors: inspiration, excitement, anger, most painful stimuli, hypoxia, exercise, norepinephrine, epinephrine, thyroid hormones, fever, bainbridge reflex etc.

Instead of water, a solution having the same taste and odour should have been administered. That only one ethnic group was tested also does not provide an answer based on factors like minor differences in metabolic rates.

Also an increase in body temperature speeds up chemical reactions and the basal metabolic rate rises approximately 14% for each Celsius degree of fever.

All along it appears that it is psychological stimuli rather than any hidden factors within Brands Essence which raises the metabolic rate.

Thank you.

Yours sincerely

Dr T. Jayabalan, MBBS
Bukit Merah New Village
Perak, Malaysia

SUBSCRIPTION FORM

(THE JOURNAL IS DISTRIBUTED FREE TO ALL MEMBERS)

To: The Editor, The Singapore Dietitian, Singapore Dietitians' Association, Tanglin P.O. Box 180, Singapore 9124, Republic of Singapore.

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MEETINGS

24 March 1990

NUTRITION SOCIETY OF MALAYSIA
5TH SCIENTIFIC CONFERENCE,
Kuala Lumpur
Contact: The Honorary Secretary,
Nutrition Society of Malaysia,
c/o Division of Human Nutrition,
Institute for Medical Research,
Jalan Pahang,
50588 KUALA LUMPUR.

24 — 26 May 1990

DIETITIAN's ASSOCIATION OF AUSTRALIA
Melbourne
Victoria, Australia
"TOWARDS 2000 — A DIETITIAN'S ODYSSEY"
Dietitians leading the way in nutrition excellence, innovation and discovery.

SCIENTIFIC PROGRAMME includes sessions on:

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SPORTS NUTRITION

PAEDIATRICS

FOOD SERVICES ADMINISTRATION

DIVERSITY AND INNOVATION

22 — 23 June 1990

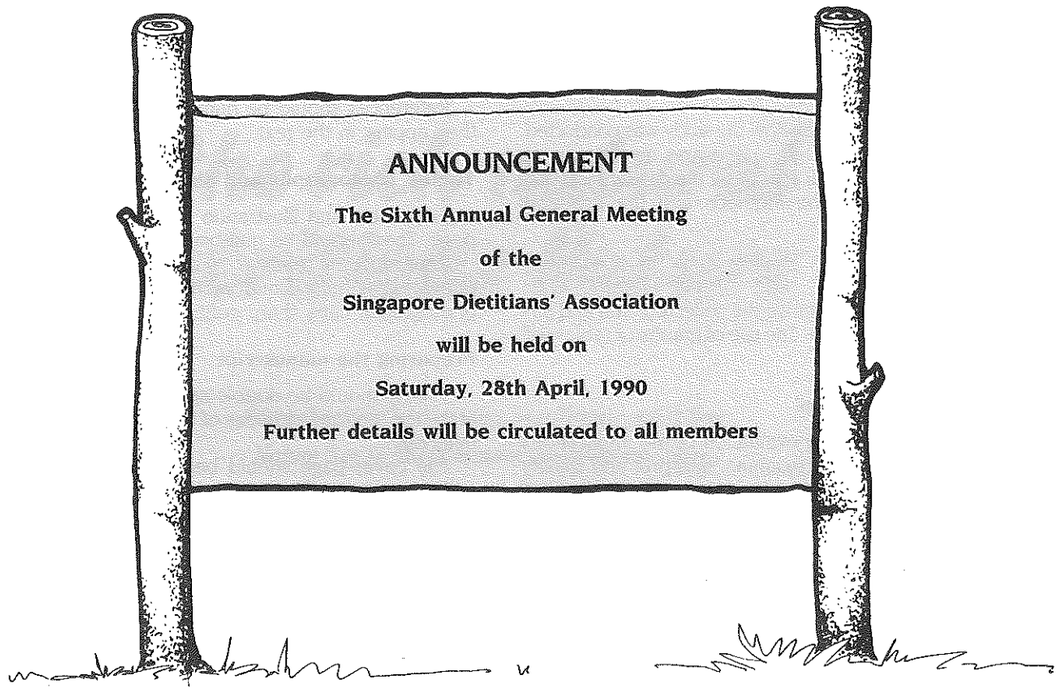
ASIAN SYMPOSIUM ON RICE AND NUTRITION AND ANNUAL CONVENTION OF THE TAIPEI DIETITIANS' ASSOCIATION
Taipei,
Taiwan, Republic of China

The president of the Singapore Dietitians' Association, Ms Susani K Karta, has been invited to co-chair one session in this meeting, and give a presentation entitled "Progress Achieved by Dietitians in Singapore".

17 — 20 July 1990

REGIONAL CONFERENCE OF THE INTERNATIONAL UNION FOR HEALTH EDUCATION (IUHE)
Mandarin Hotel, Singapore
Theme: EDUCATION TOWARDS HEALTH FOR ALL

Secretariat	: IUHE Conference Academy of Medicine, Singapore 16 College Road, #01-01 Singapore 0316	
Registration	: On or before 31.3.90	$350
	After 31.3.90	$450
	Day registration	$150



THE SINGAPORE DIETITIAN

Notice to Contributors

The following policies are implemented in an attempt to attain a reasonable standard and format for the *Journal* and at the same time encourage submission of manuscripts from professionals in fields allied to nutrition and dietetics.

The *Journal* will publish original research paper, review articles, short clinical communications and correspondence. Original research papers and short communications should be presented in the following format:

Title

The title should summarise the main idea of the paper in a concise statement. Its principle function is to inform readers about the nature of the paper, thus it should be self-explanatory when standing alone.

Abstracts

The abstract should briefly summarise the content and purpose of the article. It should allow the reader to survey the contents of an article quickly.

An abstract of a research paper should contain statements of the problem, method, results and conclusion. The subject population should also be specified.

The abstract should be typed immediately below the title and should not be labelled.

Method

This should clearly describe how the study was conducted. It should be detailed enough to allow an investigator to replicate the study. This will also allow the reader to assess the appropriateness of the methods and the probable reliability of the results.

Results

The results should summarise the collected data and any statistical treatment of them. The use of graphs or tables will clarify information.

Discussion and conclusion

These should present an evaluation of the implications of the results. They should examine, interpret and qualify the results and draw inferences from them. Similarities and differences between these results and the work of others should be cited.

References

In text cite references in arabic numerals in parentheses. All references cited and other relevant works should be listed on a separate page. The following convention should be followed:

In the case of books: author's surname and initials; title of book; name of publisher; place of publication; year of publication.

In the case of a chapter of a book: author's surname and initials; title of chapter; name of editor; book title publisher's name; place of publication; year of publication. See example 1 below.

In the case of a paper from a journal: author's surname and initials; title of paper; name of journal; volume, number, page numbers, year of publication. See example 2.

Example 1

Smith, A.B. Chapter title. In Tropical Medicine, 2nd edn., ed. Doe, J. Blackwell: Oxford, 1981.

Example 2

Brown, C.D. and Green A.T. Influences on eating habits of Asians in London. Hum. Nutr: Appl. Nutr. 40: 107-15, 1985.

References should be numbered in the order in which they appear in the text.

Tables, photographs and illustrations

Each table and illustration must appear on a separate page. They should be numbered and labelled.

Reproduction tends to soften contrast and detail in photographs. It is therefore necessary to ensure that all photographs have sharp contrasts.

Preparing the manuscript

Typing should be double spaced with a margin of 4cm at the top, bottom and sides of the page to allow for editorial markings.

The cover page should bear the manuscript title, the author's names, affiliations and address for correspondence.

Two copies, including the original, should be submitted to the Editor.

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