SN
SINGAPORE NUTRITION AND DIETETICS ASSOCIATION

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Promoting Healthy Living in Singapore

Diabetes and Nutrition Recommendations • Breastfeeding Mothers' Support Group
Diabetes and Obesity • Interview with Dr Mary Story

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Singapore Nutrition and Dietetics Association

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The Singapore Journal of

NUTRITION *and* DIETETICS

VOL. 2 No. 1 June 1992

Editorial

The ten year national campaign to promote a "Healthy Life, Better Life" in Singapore was launched in April 1992. Never before have Singaporeans been more conscious of their food and exercise habits. In this issue, we have a colourful report on the National Health Fair that was attended by 500,000 Singaporeans.

Dietitians and nutritionists are challenged to fulfil the need for public nutrition education in Singapore. As we rise to meet such challenges, let us make our individual contributions visible, by contributing articles, reports and data collected from our intervention and education strategies to our journal. Individual success paves the way for breakthroughs for our profession's future.

We are pleased to have received two interesting articles from Marion Franz, renowned diabetes educator with the International Diabetes Centre, Minneapolis, on the latest trends in the dietary management of diabetes and obesity.

For the first time, our Journal carries a face-to-face interview conducted by Kath Walsh. Kath has skilfully raised pertinent issues regarding the weight management of adolescents and children with Nutritionist, Dr Mary Story.

The Singapore Breast Feeding Mothers' Group has also contributed an informative piece on the status of breast feeding practices in Singapore and future directions of their group.

A report on the seminar for health professionals, "A Trimmer Generation — Meeting the Challenge", and the presentation by Dr R Stanko at the Annual General Meeting of the SNDA, are also included in this issue.

Looking forward to feedback on the contents and design of our journal.

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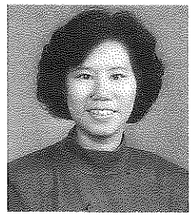

From the New President ...

1992 — '93
Forging Ties And Crossing Boundaries

The humble beginnings of the Singapore Nutrition and Dietetics Association (SNDA) in 1984, known then as the Singapore Dietitians' Association (SDA), sowed the seeds that today sprout pride, recognition, hope and challenge for all members who belong to this Association. Through the sheer dedication and hard work of the members, who believed in themselves and their profession, the Association was nurtured and has now gathered strength. The visibility of dietitians and nutritionists has increased dramatically under the leadership of our past presidents and the spirited teams of committee members that they led. More importantly, as an Association we gained recognition by working hand in hand with health professionals, to improve the nutritional status of our population. In the past eight years, SNDA grew through forging ties and crossing boundaries.

Forging Ties

From within, the Association provides a nurturing environment to develop friendship, which in turn creates support and a platform for unity among its growing numbers of members. To expand our role and horizon we joined forces and pooled our resources with local nutritionists, effecting the Association's change from SDA to SNDA in 1991. From a founding group of 24 (23 full, 1 affiliate) we now have 107 (52 full, 55 affiliate) members.

In forging ties, we share. Sharing creates the link between our members. There is giving as well as receiving in this unique process of communication. As a group, we share in the vision (1) of our profession and we partner each other in carrying out the programmes and activities of the Association.

The Journal of the SNDA, is our voice which transmits to readers our ideals, aspirations and charts our progress. It is the link which keeps members informed of the Association's activities and provides pertinent updates on current topics of interest in health and nutrition. It is a tribute to the Editorial Committee which sets a high and consistent standard, that we are better known and understood by both medical and para-medical profession as well as the public. The honour of being selected as the official channel of communication, among member organisations of the newly set up Asian Forum of Dietetic Professionals (AFDP), attests to the quality of service and the alliances we forge through the SNDA journal.

To reach out as an Association, we interact with other professional groups under the umbrella body of the Singapore Professional Centre (SPC).

Our members, both individually or collectively, have projected a positive professional image by sharing their knowledge and expertise with other health professionals, communities and the public, especially by participating in private and government initiated education programmes, seminars, training courses and publishing articles.

With invited representation of our Association on the various government committees on nutrition and health policy, such as the National Advisory Committee on Food and Nutrition (1989), the National Committee on Prevention and Control of Obesity (1991), and the current National Diabetes Commission (1992), we have confirmed our profession's competence and contribution towards health promotion and disease prevention in our country.

Crossing Boundaries

SNDA is unique in its multinational composition. Active members comprise professionals from Singapore, the United Kingdom, United States of America, Canada, India, Australia and neighbouring Asian countries. We work together and share ideas to be effective locally despite our diverse backgrounds. The diversity in training and experience has brought together a melting pot of creativity and dynamism that is yet to be fully tapped!

Realising the constant evolvement and advancement of nutritional science, our Association has participated in and co-sponsored international and regional seminars. Several members have attended major conferences and nutritional related seminars both locally and internationally to improve their knowledge and skills. As a member of The International Congress of Dietetics and as a founding member of the Asian Dietetics Forum of Dietetic Professionals, SNDA builds rapport, extends resouces and promotes mutually beneficial activities across the frontier.

Teaming Up To Make A Difference

In forging ties and crossing boundaries, we team up from within and with others to facilitate self improvement and enhance our status. To fulfil the vision for our members to be recognised by the public, government, industry and allied professions as the experts on food and nutrition, we must continuously promote professional competence that is versatile and relevant to the changing needs of society. Professional competence relates not only to our excellence as individual clinicians, teachers and counsellors but also to the upgrading of the status of our profession. SNDA's continuing education and registration scheme will provide the avenue for members to keep up the standards and provide the ground for higher recognition and reward. We must look at new participative ways of effecting changes, improving and delivering quality services and be ready to meet the many compelling issues facing our profession in the 1990's. The ten year National Healthy Lifestyle Programme initiated recently by the Singapore Government will see our community playing a fundamental and leadership role in shaping the nation's nutrition policies and its implementation (2). We must speak out on nutrition issues with credibility and be involved in the nutrition screening and monitoring of the nation. SNDA's credibility will ensure our voice is heard when important food, health and nutrition legislation and policies are implemented. There will be strong emphasis on "healthy foods" to improve the quality of a lengthening life span and meet our changing disease patterns. However, the explosion of knowledge regarding what is "healthy" requires constant programme and product adaption in order to remain current. Further emerging environmental issues will have a major impact on our life and resources as recently highlighted in the Earth Summit (The United Nation Conference on Environment and Development — UNCED). The scope and framework of food and nutrition within which we work will broaden. We must be knowledgeable of and sensitive to the issues relating to food safety, waste, pollution, chemicals, water and energy as they impact on food production and utilization. In essence, we must as an Association be pro-active, and chart our course with strategies to keep in time with the changes of the future.

It is an honour to be entrusted with leading the SNDA at the beginning of the next lap, I invite all members to join me in embarking on this new era of excitement and challenge for our profession and SNDA. Quoting President Fernand C.D. Mello of Brazil at the close of the Earth Summit meeting . "We sowed the seeds, a good harvest will depend on our collective effort and dedication". **Together we can.**

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YEONG BOON YEE, BSc. (*Hons*) RDS.
President
SNDA. 1992 — '93

Singapore Nutrition and Dietetics Association

APPLICATION FOR MEMBERSHIP

Application forms are available from the Honorary Secretary, Singapore Nutrition and Dietetics Association, Tanglin P.O. Box 180, Singapore 9124.

MEMBERSHIP

Full members must hold a Degree, Diploma or any other recognised professional qualification and/or experience in Dietetics or Nutrition. 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 or nutrition associations.

Affiliate members shall be:-

1. Any person who, in the opinion of the Committee, occupies a position in a field allied to the profession of dietetics, and/or nutrition.
2. Any person or corporate body interested in the promotion or advancement of dietetics, and /or nutrition, 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.

Diabetes and Nutrition Recommendations: A Practical Perspective

by Marion J. Franz MS, RD, CDE,

Diabetes is a chronic disease today that cannot be cured but can be controlled. Annually, a significant number of deaths are directly or indirectly attributed to diabetes. To avoid becoming part of these statistics, it is important that people with diabetes control their disease early in its course and continue to manage it carefully. This can mean major changes in lifestyles, especially in the areas of nutrition and exercise.

The overall goal in the medical management of diabetes is the restoration of euglycaemia, as well as the reduction of risk factors for the associated complications of diabetes. Nutritional management is a major therapeutic tool contributing to the achievement of medical management goals.

Nutrition Goals

The major goal of meal planning is to assist in the normalization of blood glucose levels by balancing food intake with insulin and activity levels. The ideal management plan for persons with insulin-dependent diabetes mellitus (IDDM) integrates insulin therapy into the eating habits. (1) Persons using insulin need to eat consistently and monitor blood glucose levels in order to integrate and adjust insulin appropriately. A detailed diet history should be taken, evaluated, and used as the basis for the management plan. By integrating insulin into the usual eating habits, food does not need to be artificially divided into percentages to be spread throughout the day. However, most persons managing diabetes with insulin do best with a meal plan of three meals and two to four snacks spread throughout the day.

For persons with non-insulin-dependent diabetes mellitus (NIDDM), weight control is the nutritional goal recommended to achieve the restoration of normal blood glucose levels. Although normalization of weight is often the objective, even a modest weight loss (2.3 to 9.1 kg) and/or calorie restriction may help acheve euglycemia.(2,3) If the initial intense efforts toward weight reduction are not successful, oral hypoglycaemic agents or insulin therapy may need to be used.

The type of obesity associated with metabolic diseases — non-insulin-dependent diabetes, hypertension and lipid abnormalities — is the android distribution of adipose tissue or obesity in the abdominal area. This is because upper-body obesity has been related to hyperinsulinaemia and insulin resistance, risk factors for metabolic diseases.

Marion Franz is a renowned diabetes educator who has pubished several interesting and valuable professional books on the subject. She is attached to the Nutrition and Publications Division of the International Diabetes Centre, Minneapolis.

As research (4-9) continues to elucidate why weight loss is difficult, perhaps the emphasis for persons with NIDDM needs to be shifted from weight loss and/or weight control to normalization of blood glucose levels. Major factors in achieving this goal are positive changes in lifestyle, including weight and exercise habits. Obesity often is not related to over-consumption of food, and a variety of reasons are emerging that helps us understand why.

Additional nutritional concerns for persons with diabetes are related to achieving ideal lipid levels (cholesterol and triglycerides). Recommended lipid levels for persons with diabetes are similar to those of the general population as outlined in the United States National Cholesterol Education Program. (10) The prevalence of cardiovascular disease in the population with diabetes is approximately two- to four-fold the prevalence in the population without diabetes. This is true even in the absence of other risk factors (hypertension, smoking and lipid abnormalities). It affects both men and women; females with diabetes have the same risk as males without diabetes, but the imposition of these factors on the increased risk inherent in diabetes results in a markedly increased overall mortality in persons with diabetes. (11)

Macronutrient Composition

From the discovery of insulin to the 1970's, the basis of nutrition therapy for diabetes was a low-carbohydrate diet, which resulted in a high-fat diet. In the early 1970's there began a gradual change in nutritional recommendations. Evidence showed that a high fat intake was related to elevations of blood lipids, and recommendations were made to decrease fat intake. At about the same time, studies showed that as long as calories remained constant, liberalising carbohydrate intake did not compromise blood glucose control. (12) Current research and a re-evaluation of previous research and recommendations continues into the 1990s, and reminds us that ideal nutritional recommendations for persons with diabetes are still undefined.

Carbohydrate Percentages

The ideal percentage of carbohydrate is controversial. (13,14) The American Diabetes Association (ADA) recommendations (15) state that up to 55 to 60% of the total calories from carbohydrate is the ideal. However, emphasis is placed on the need to individualise the amount of carbohydrate in meal plans based on a person's eating habits, and the impact of the types and level of carbohydrate on blood glucose and lipid levels. The concern about high carbohydrate diets is because of its potential detrimental effect on triglycerides in persons with Type II diabetes. (16,17) However, the effect has been reported to be heterogeneous (18), and less of a concern in persons with Type I diabetes (19). Practically, it's difficult to plan diets with more than 50% of the calories from carbohydrate, especially on lower calorie diets, which are recommended for most persons with Type II diabetes.

Sucrose

Although the use of complex carbohydrate is encouraged and persons with diabetes are usually advised to limit simple or refined sugars, the ADA has broken tradition and suggested that modest amounts of sucrose and other refined sugars are acceptable contingent on metabolic control and body weight. (15) It is a commonly held belief that simple sugars are rapidly absorbed and cause a relatively large rise in blood glucose, whereas complex carbohydrates (primarily starches) are digested and absorbed slowly, resulting in a smaller increase in blood glucose. However, recent studies (20-23) do not support the belief that sucrose aggravates hyperglycemia. A different viewpoint expresses concern that sucrose can cause an increase in triglyceride levels in persons with Type II diabetes. (24)

It should be noted that moderate amounts of sucrose can be used as a replacement for complex carbohydrate, not additive carbohydrate. The recommendations were not made to encourage use of sucrose, but to help persons with diabetes use these foods correctly. It is difficult to avoid sucrose in the diet. Portion sizes of foods that can be substituted in the diet are small; foods with sucrose are often high in fat and calories as well.

Fibre

Evidence suggests that fibre, especially the soluble variety may improve carbohydrate metabolism and lower lipids, as well as enhance weight loss in obese persons on hypocaloric diets. (25-27). Structural or insoluble fibres are of benefit in decreasing transit time in the gastrointestinal tract and increasing satiety of the diet. Sources of soluble fibre include legumes, oats, barley, some fruits and vegetables. Sources of insoluble fibre include whole wheat, corn bran and some vegetables.

However, the effectiveness of a high-fibre diet for blood glucose control is also controversial. (28-30) The ADA recommendations suggest that current fibre intake should be doubled up to 40 grams per day, or 25 grams per 1,000 calories. (15) Realistically, it is difficult to increase fibre up to 40 grams. But, from a nutrition standpoint, it would seem to be good advice to encourage a gradual increase of dietary fibre. Foods high in fibre are usually high in other nutrients as well.

Fat Percentages

Because persons with diabetes have a high risk of cardiovascular disease (CVD) and because increased CVD is associated with a high intake of dietary fat and cholesterol as well as abnormalities in plasma lipids, fat-modified meal plans are generally recommended. (31) However, the ideal percentage of fat is in question. The ADA recommends that total dietary fat should be less than 30% of the calories. Others have suggested that fat be increased to 40% of total calories (to avoid high-carbohydrate diets) and their potential effect on triglyceride levels, and that the use of monounsaturated fats be encouraged. (32) Others (33) have questioned the wisdom of recommending fat of any kind in the diets of obese persons. Not only is the ease of consuming high caloric diets with a high fat intake a concern, but also of concern is the ease with which the body appears to be able to store food fats. (34-37)

The total fat content causes increased chylomicrons, leading to atherogenic remnant particles. However, it appears that it is the saturated fats that have the major effect on LDL- cholesterol levels. Polyunsaturated (omega 6) and monounsaturated fats have a cholesterol-lowering effect, but monounsaturated fats appear to have the added advantage of not lowering HDL-cholesterol levels. Omega 3 (fish oils) have an antiplatelet effect and lower serum triglycerides and as a result serum cholesterol levels, but in capsule form they elevate blood glucose levels. Dietery cholesterol can affect LDL-cholesterol levels and cell receptors for LDL-cholesterol. Soluble fibers have also been shown to have a hypocholesterolemic effect.

Other Nutrition-Related Recommendations

Caloric Sweeteners

Caloric or nutritive sweeteners include fructose, honey, corn syrup, molasses, sorbitol, mannitol, hydrogenated starch hydrolysates, fruit juice or fruit juice concentrates. Their use is acceptable dependent on metabolic and weight control, but the calories from these sweeteners must be accounted for in the meal plan.

Noncaloric Sweeteners

Non- or low caloric sweeteners include saccharin, aspartame, acesulfame K, cyclamates, sucralose, alitame. For each sweetener an acceptable daily intake (ADI) is determined. The ADI is defined as the amount that is determined to be safe to consume on a daily basis over a person's lifetime without any adverse effects. It includes a 100-fold safety factor.

Sodium

Moderation of salt (sodium) intake is recommended, especially for persons who are hypertensive. It is generally recommended that sodium intake not exceed 3,000 milligrams per day.

Alcohol

Research suggests that under normal circumstances, blood glucose levels will not be affected by the moderate use of alcohol when diabetes is well-controlled. Moderation is defined as two equivalents (or two drinks) of an alcoholic beverage once or twice a week. The following are an equivalent: 1.5 oz "shot" of a distilled beverage, 12 oz beer, 4 oz wine.

For persons using insulin, two equivalents once or twice a week can be consumed in addition to the usual meal plan. Hypoglycemia is the major concern when alcohol is consumed without food and may occur up to 12 to 16 hours after ingestion as well. Alcohol blocks gluconeogenesis, augments the glucose-lowering effects of insulin, and does not require insulin to be metabolized.

For persons with NIDDM, alcohol should be substituted for fat exchanges; one equivalent equals two fat exchanges. It is counted as fat exchanges because it is metabolized in a manner most similar to

fat and because of the caloric content.

Possible problems that can occur from the use of alcohol, besides hypoglycaemia, include altered glycemic control, obesity, hypertriglyceridaemia, and/or alcohol abuse.

Guidelines for the Role of Nutrition in Diabetes Management:

1. Meal plans should be individualised based on the lifestyle of the person's with diabetes and the changes he or she is willing and able to make.
2. Recommendations should be practical, reasonable, and achievable in the "real world".
3. Changes need to be done sequentially, rather than simultaneously; follow-up and support must be provided.
4. The basic goal of meal planning is to assist the normalization of blood glucose and lipids, and there are many different ways to achieve these goals.
5. Nutrition recommendations should encourage a healthy diet and lifestyle for the entire family and/or support system.

Summary

It is clear that additional research is needed to confirm or contradict current nutritional recommendations. Health professionals need to keep an open mind as new evidence emerges. Until clear-cut answers are available, the following guidelines are proposed for the role of nutrition in diabetes management. However, with information now available, it is possible to make the diet more flexible and compatible with lifestyles, leading to improved health and life expectancy for persons with diabetes.

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President's Annual Report
1991 — '92

1. The 1991/92 Central Committee

The Committee was elected to office at the 8th Annual General Meeting on 27 April 1991. Committee members elected were:

President	: Mrs Evelyn Fong
Vice President	: Mrs Yeong Boon Yee
Hon. Secretary	: Mrs Sue Hixson
Hon. Treasurer	: Mrs Tan Wei Ling
Committee Members	: Mrs Lynn Alexander
	Ms Nicole Gilbert
	Ms Germaine Heng
	Mrs Anna Jacob
	Ms Annie Ling
	Ms Diana Peers

13 central committee meetings were held.

2. Membership

The Association's membership increased by 8% this fiscal year.

Category	'88/89	'89/90	'90/91	'91/92
Full	34	36	48	52
Affiliate	23	59	51	55
Honorary	—	—	—	—
Total	57	95	99	107

3. Professional/Academic Meetings

Seven professional/academic meetings were organised this year:

30.5.92 - "Current Topics in Nutritional Support for Specific Disease States" (1 CE points) by Dr RT Stanko. Sponsored by Abbott Laboratories (S) Pte Ltd.

24.5.92 - "A Trimmer Generation — Meeting the Challenge" jointly co-sponsored by ILSI, MOH and SNDA. (2 CE points). This seminar was organised in conjunction with the National Healthy Lifestyle Campaign 1992.

11.1.92 - Tour of high-tech poultry farm. (1/2 CE point)

5.10.91 - Tour of Yakult factory.

21.9.91 - 2nd Australasian Clinical Nutrition Conference. SNDA sponsored the $50/- registration fee for each full member attending. 18 of our full members took up the offer. (3 CE points).

25.6.91 - Presentation by Aladdin Foodservice Systems

11.5.91 - Fabristeel Seminar

4. Continuing Education

The continuing education sub-committee was re-formed. Its members are Yeong B.Y., Tan K.H., N. Evans, L. Walter and M. Letchumi.

Four articles and tests worth 1/2 CE point each have been sent to all full members to help chalk up CE points. (Total: 2 CE points)

A member survey was conducted on the preferred processing method of continuing education points. The majority voted to continue with the Singapore Professional Centre (SPC). The Continuing Education Certificate will therefore be awarded by the SPC at a processing fee of $20/- and an administrative fee of $5/- to the SNDA. (Total: $25/-)

If members took advantage of all the SNDA organised programmes to accumulate CE points, they would have been able to attain a total of 7.5 CE points. To maintain registration with the SNDA, a total of 10 CE points over a 2 year period (3 of which must be SNDA organised) need be accumulated.

Therefore, it is obvious that ample opportunities for continuing education have been provided by the SNDA.

5. Singapore Professional Centre

8.3.92 - Dialogue evening with BG Yeo. "Professionals as Singapore's Ambassadors When Travelling Out of The Country", Yeong B.Y., A. Jacob, Tan W.L. and S. Hixson represented SNDA at this dialogue.

4.10.91 - National Tribute Dinner for Senior Minister of State, Lee Kuan Yew. L. Alexander and E. Fong attended on behalf of the Association.

29.4.91 - Congratulatory dinner for Prime Minister Goh Chok Tong. The Association used this event as our annual "thank you makan" to members who served on the 1990/91 main committee and others who contributed in one way or another. Ten members attended this dinner.

6. New Logo

The Association adopted a new logo to reflect its new name.

7. The Singapore Journal of Nutrition and Dietetics

With the name change of the Association, the name of our journal has now changed from *The Singapore Dietitian* to *The Singapore Journal of Nutrition and Dietetics*

August 1991 saw the resignation of Lynn Alexander as Chairman of the Editorial Committee. The Association would like to thank her for her pioneering endeavours that launched this journal and saw it through its first seven years. Anna Jacob is now Chairman of the Editorial Committee, and together with the other members they will uphold the high standards set under Lynn's leadership.

Our journal has been recognised for its excellence by being chosen as the official channel of communication for the Asia Forum of Dietetics Professionls. (AFDP).

8. The Asian Forum of Dietetic Professionals (AFDP)

History was made at the Sixth Asian Congress of Nutrition held in Kuala Lumpur from 16 — 19 September 1991, when a group of representatives from the Asian Dietetic Associations adopted a resolution to form the Asian Forum of Dietetics Professionals. The idea for this body was mooted by the President of the Taipei Dietitians Association, Dr Chwang Leh-Chii, who felt there was a need for joint co-operation between the different countries. Having such a forum would serve to enhance the level of professionalism of dietetics practitioners and facilitate regional meetings. The President-Elect of the Forum is the President of the Taipei Dietitian's Association, Dr Chwang Leh-Chii, and the Secretary-General is the President of the Indonesian Nutrition Association, Mrs Murni I.D. Prakaso.

9. Sixth Asian Congress of Nutrition (16 — 19 Sept 1991) K.L.

Tan W.L. presented a paper on "Interfacing Nutrition Policy With Dietetic Practice" as an SNDA speaker. She was sponsored by Diethelm through the SNDA. Eleven full members attended this congress.

10. National Health Fair (19 April — 4 May 1992)

A sub-committee was formed consisting of Tan W.L., L. Alexander, M. Hayes and E. Fong. The SNDA took a booth at this fair. It was manned by a student helper during weekday daytime hours. Members volunteered to man the booth in the wevenings and at the weekends.

Three SNDA pamphlets were printed for distribution at the fair.

- A list entitled "Nutrition and Dietetic services available in Singapore" was compiled and given away.
- A booklet entitled "Nutrition Tips For Teens" was developed and distributed to the target group.
- The existing pamphlet "Promoting Health Through Good Nutrition" was updated to reflect the Association's name change.

In connection with the fair, a nutrition hotline "*Nutrilink*" was set up, the SNDA's tender for the hotline was accepted by MOH. This was subcontracted to Food and Nutrition Specialists Pte Ltd. Taped nutrition messages in four languages were available from 18 April — 4 May. After which two manned hotlines were available from 5 May — 17 May to answer questions on nutrition from the public.

11. SNDA Visa Credit Card From Maybank

The Association now has its own credit card arrangements with Maybank. Successful applicants will get a credit card with the name of the SNDA on it. Members are encouraged to apply.

12. Cholesterol Education Programme

The Cholesterol Education Programme was conducted at the Toa Payoh Polyclinic between June and July 1991. Fourteen participants enrolled for this programme which was conducted by various SNDA Full Members.

13. Dietetics As A Career

SNDA was invited to take part in the "When I Grow Up" programme. The programme was aimed at arousing the interest of primary school children in various career opportunities in Singapore. This programme, initiated by McDonald's and endorsed by the Ministry of Education, strived to encourage children to prepare for their "dream" career through their studies.

This project consists of a series of five-minute filmlets available on one video (produced by SBC and aired over Sunday Morning Singapore) on 13 different careers, activity books, game cards, posters and teacher's manuals.

Various members appeared on the filmlet to highlight the different aspects of dietetics.

14. National Diabetes Commission

SNDA will be represented on this Commission to provide MOH with expert advice on policy directions for the Diabetes Control Programme, to advise on the state-of-the-art methods of control, prevention and management of diabetes at all levels of health care. This would be an important part of the Diabetes Control Programme for the country. This Commission would also review and evaluate the Diabetes Control Programme on a regular basis.

15. Future Programmes for SNDA Members

- 15th International Congress of Nutrition (26 Sept — 1 Oct 1993) Adelaide, Australia.
  SNDA seeks sponsorship from various industries to enable deserving members of our Association the opportunity to attend.
- Talk on paediatric nutrition
  This will be a talk to be held sometime in Nov 92, sponsored by Heinz.
- Talk on marketing nutrition
  Full member Margaret Hayes will be conducting this talk soon.
- International Congress of Dietetics (ICD)
  The 12th ICD will be held in the Philippines in 1996. The 13th ICD will be held in Edinburough, Scotland in year 2000.

Once again, the SNDA will seek sponsorship from industry.

16. Acknowledgement

The Association wishes to recognise the Central Committee and the Sub-committee members who have been generous in volunteering their time and expertise to further the Association's goals of improving our professional standards and the nutritional care of the public. The

Association would also like to record its appreciation to all members and food-related industries who have, in one way or another, rendered their invaluable support and assistance to the Association's activities.

It has been a privilege for me to serve as the fourth president of the Association. I thank the members for entrusting me with the responsibility of heading the Association. Words seem inadequate to appropriately express my appreciation to all who contributed to the success of the activities during my term as president. As I reflect on the past year, there is a feeling of pride that each and every member can share. The SNDA is maturing to face its future.

Evelyn Fong

Mrs Evelyn Fong, B.Sc. R.D.S.
President, SNDA, 1991/92

SPECIAL REPORT:

The Nutritional Support of Hospitalized Patients

— a lecture presented by Dr. R.T. Stanko

Dr R.T. Stanko, an internationally recognized expert in nutrition was welcomed by the SNDA to talk on nutritional support of hospitalized patients at our Annual General Meeting on 30th May 1992.

Chief of the Nutritional Support Service at Montrefiore hospital in Pittsburgh, Dr Stanko highlighted many ways in which dietitians are invaluable in the field of nutritional support. One of the roles a dietitian has is to assess and make the appropriate choice of enteral feeds for individual patients.

The market for development of specialized feeds continues to expand, aiming to try and meet the unique requirements of specific disease states. As dietitians, we are being confronted with new formula feeds which claim to have many advantages and benefits over the standard feeds we may be more familiar with. Dr Stanko reviewed 3 specialized feeds and their use in hospitalized patients.

Hepatamine (S.M.S.) for use in liver disease is composed of synthetic amino acids (rich in branched chain amino acids (BCCA) but low in aromatic amino acids) and carbohydrate. Enteral feeding with this formula has been found to improve (normalize) the deranged amino acid balance typical of hepatic encephalopathy. However, there appears to be no improvement to a patient's coma status and one study, highlighted by an SNDA member, suggested that BCAA supplements may precipitate hepatic encephalopathy (1). Such a feed must therefore only be used under close supervision and its usage may not always by imperative.

Glucerna (Abbott) is a high fibre, low carbohydrate (33.3% of total calories), 1 cal/ml enteral feed, designed for diabetic patients with the aim of helping control blood glucose levels. It is a nutritionally complete liquid feed, providing 50% of total calories from fat. This was justified by a review of a study illustrating that a diet containing 60% fat (high proportion of monounsaturates) for non-insulin dependant diabetic patients led to an improvement of glycaemic control, with no worsening of the lipid profile (2).

Pulmocare (Abbott) is a high fat, low carbohydrate (50% and 33.3% respectively of total calories), 1.5 cal/ml liquid feed. It is designed to improve the respiratory quotient of patients by reducing CO_2 production. Ventilated patients can then usually be weaned off their ventilator earlier therefore reducing costs.

Overall, the review of these specialized feeds highlighted how and why manufacturers are developing products for particular disease states. By trying to manipulate the metabolism of diet related disease states it may be possible to improve a patients medical condition. Careful administration and patient monitoring is vital, together with assessment of the benefit to patients using these very expensive products.

— Lisa Cadman

Lisa Cadman graduated from Leeds Polytechnic and is now Dietitian at the National University Hospital, Singapore. Her major areas of interest are nutritional assessment and renal diets.

References

1. Chuah, S.Y. et al (1992) Exacerbation of hepatic encephalopathy by BCAA — a care report. J of Human Nutrition and Dietetics. 5: 53-56.
2. Grundy, et al (1988) Comparison of a high carbohydrate diet with a high mono-unsaturated fat diet in patients with N.I.D.D.M. New Eng. J of Med 319: 829-34.

Annual General Meeting of the Singapore Nutrition And Dietetics Association 30 May 1992

Central Committee Members of the SNDA, 1992 — '93
Seated from left to right: Sue Hixson (Hon. Secretary), Yeong Boon Yee (President), Lynn Alexander (Vice President), Nicola Gilbert (Hon. Treasurer);
Standing from left to right: Committee members — Diana Peers, Annie Ling, Tan Wei Ling, Evelyn Fong, Lisa Choi.

The Ninth Annual General Meeting of the Singapore Nutrition and Dietetics Association was held on Saturday 30th May 1992 at the Mandarin Hotel, Singapore.

The President's Report for the year 1991 — 92 presented at the meeting is published in full in this issue.

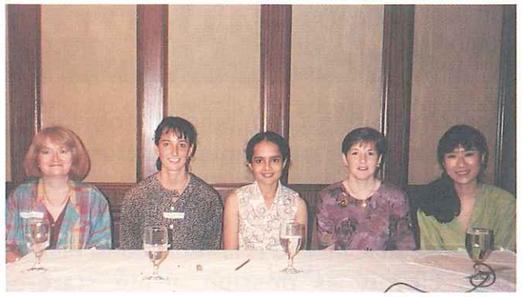
Election of office bearers for the year 1992 — 93 was also held.

This year Abbot Laboratories (S) Pte Ltd sponsored the guest speaker, Dr R.T. Stanko (Associate Professor of Medicine and Assistant Head, Nutrition Service of the University of Pittsburg School of Medicine), who spoke on the topic "Current Topics in Nutritional Support for Specific Disease States". A brief summary of his presentation by Lisa Cadman is also included in this issue.

Evelyn Fong, outgoing President, receiving her gift from SNDA's new President Yeong Boon Yee.

SUBCOMMITTEES:

Continuing Education Committee
From left to right: Diana Peers, Nancy Evans, Yeong Boon Yee, Lesley Yu-Walters, Letchumi Meyappan.



Editorial Committee
From left to right: Kath Walsh, Lisa Cadman, Anna Jacob, Lynn Alexandra, Annie Ling.

The National Health Fair 1992 — Promoting Healthy Living

by Miss Annie Ling, B.Sc (NutrSc), M.Sc (Nutr)

The launch of the Fair marked the beginning of the month-long National Healthy Lifestyle Campaign which is part of a 10-year programme to help Singaporeans make healthy living a way of life. Known as the Healthland, the Fair was conceptualised as a theme park made of pavilions focusing on various health aspects. Messages were centred on a positive approach to disease risk prevention and improving overall well-being. A huge amphitheatre staged an interesting variety of activities. In the Lecture Theatre, doubts were cleared and questions answered by health experts at talks and discussion sessions. Before leaving the Fair at the end of the hall, visitors were reminded to put into practice what they had learnt by eating at the 'Health Rock' Cafe which sold a variety of healthier foods and drinks complete with the provision of nutritional information. Held over a 16-day period, the Fair attracted more than 512,000 visitors.

The Ministry of Health, in its National Health Policy for the 1990's has prioritised 'enhancing health promotion through health education and better nutrition' as one of its five major national programmes. This was among the recommendations of a high-level health review committee chaired by Dr Aline Wong, the Minister of State (Health). Such recommendations were based on documentations in other parts of the world that maximum returns for investments in health came from disease prevention and health promotion.

In response, a 10-year National Healthy Lifestyle Programme was launched based in the theme 'Healthy Family, Healthy Nation'. Spearheaded by the Ministry of Health, this is a multi-sectoral and community-based programme involving Ministries, statutory boards, employers and unions, community and voluntary organisations and professional bodies.

Objectives:

Targeted at Singaporeans of all ages, the main objectives of this long-term programme are fourfold:

- To promote awareness of the need to lead a healthy lifestyle;
- To increase knowledge of and promote positive attitude towards healthy eating habits;
- To inculcate a positive attitude towards appropriate physical activities/exercise; and
- To encourage the practice of healthy lifestyle habits in daily life.

To achieve these ends, annual campaigns will be held. This year's month-long campaign with the slogan 'Healthy Life, Better Life' was launched with the opening of the 16-day National Health Fair in Hall Three of the World Trade Centre.

Exhibits

Known as 'Healthland' and covering an area of 8,578 sq. metres, the Fair was unique in that it was conceptualised like a theme park with plenty of opportunities for hands-on experiences to encourage participation. Visitors had a chance to see, hear, touch and feel to get a total experience of the benefits of a healthy lifestyle.

On entering the Fair, visitors were greeted by the mannequin of the giant 'Health' logo busy stretching and exercising. Many proceeded to have their height and weight assessed by standing against coloured bands on walls in the *Orientation Terminal* or be entertained by a large videowall which screened light hearted TV commercials.

Going through a dimly-lit circular *Transporter* which aimed to give visitors a nostalgic glimpse of lives in Singapore in the early years, visitors felt a dramatic impact when 'transported' into the Fair dressed up with a streetscape of colourful signages and banners, flanked by pavilions depicting present lifestyles and health concerns.

There was the *Lifestyle Studio* whose facade was built like a departmental store with showcases depicting the common unhealthy lifestyles. In the 'change rooms', visitors could listen to pre-recorded messages on prevention and early detection of lifestyle-related diseases. With its colourful display of sculptures, videos, computer interactives and graphic panels, this pavilion highlighted the need to adopt healthy habits and provided an appropriate backdrop to subsequent pavilions which focussed more on the 'know-how' towards healthier lifestyles.

One of the biggest pavilions at the Healthland was the *NutriCentre*. Messages were geared towards what and how much to eat to stay healthy and trim without having to give up the pleasures of eating.

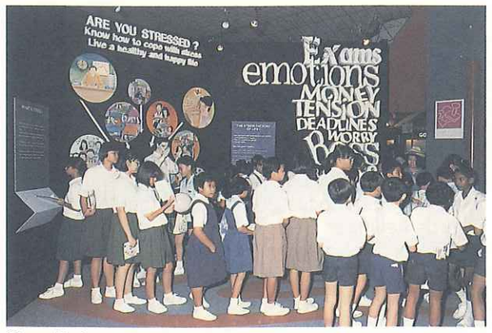
Visitors were greeted at the entrance by a giant icon. Constructed of different food replicas, it was a reminder that, basically, 'We are what we eat'. A walk through NutriCentre took visitors through changing facades. There was the familiar '*Kiasu Food Centre*' with menu boards showing the energy and fat contents of selected hawker foods, the posh '*Buffet Lovers Corner*' carrying an attractive spread of trays of food complete with the calorie and cholesterol values per serving, and the cheerful '*Speedy Service*' with computer programmes to assess the nutrient content of fast food menu selections as compared to daily recommendations.

Annie Ling, an active member of the SNDA, is currently a Nutritionist at the Food and Nutrition Department of the Ministry of Health. Annie was closely involved in planning and implementation of the National Health Fair.

NutriCentre.

A major crowd puller was the cooking demonstrations which featured a variety of recipes which ranged from party tempters and breakfast treats to ways with bread and quick and simple meals. Information displayed was made interesting with touch-button electronics, hands-on interactives and computer programmes. For example, cholesterol intake from food selections could be added up by electronic calculators. A series of mirrors depicted the concept of yo-yo dieting. Energy intake from foods versus energy used up in activities and one's weight for height could be asessed by computers. In addition, food model displays gave visitors a better idea of serving portions to include from the three food groups. Before leaving the NutriCentre, visitors were reminded by a rotating food pyramid on what foods to eat most, moderately or least.

Leaving the NutriCentre, visitors encountered the gloomy picture painted of a highway to *Life's Dead End*. A crushed vehicle, a mannequin in a giant cage and displays of preserved organs warned visitors of the possible consequences of using harmful substances such as alcohol, drugs and cigarettes. Large billboards, interactive exhibits and 'touch screen' computers further accentuated the need to remain drug-free.



Stress Factory.

Built like a huge exercise machine, the *Jungle Gym* saw long queues eager to try climbing the rock wall and to score a goal at the soccer game, basketball and golf machines.

A shattered facade led to the *Stress Factory*. The 'relaxation kiosks' in soothing pastel shades provided a sharp contrast to the 'stressful' lights and structures. In the kiosks which were fitted with audio-systems, people sat back, closed their eyes and tried out how to relax. Others preferred to watch a videotape to learn techniques of coping with stress

Lifestyle Amphitheatre, with its multi-purpose stage provided the appropriate setting for illustrating health in action. Lively multi-media presentations and live performances such as aerobics, martial arts, ballroom dancing, body building and weight training, etc proved that exercise could be fun. There were quizzes too, with prizes to win.

Amphitheatre.

Health Checks.

The *HomeFront* pavilion was a mock-up of an HDB home and translated the information presented at other pavilions into practical, everyday activities for a healthier lifestyle at home.

Opposite, at the *Health Check* pavilion, pre-registered visitors had their blood pressure, blood cholesterol and blood sugar levels checked.

At different times throughout the days, talks on various health topics were delivered in the *Lecture Theatre* by health professionals. Some visitors found these sessions so beneficial that came back several times to ask questions and to air their doubts.

At the *Park*, the Ministry of Health, together with fourteen other government departments, statutory boards, voluntary and professional organisations were present to publicise their programmes in conjunction with the National Healthy Lifestyle Programme.

What better way to drum home the healthy messages than through food! That was where the *Health Rock Cafe* came in. Situated at the end of the hall, only healthier food and drink choices were served. Innovative ideas were included on the menus, for example, vegetarian '*popiah*', turkey and peach roll spaghetti with smoked salmon, curry chicken with yoghurt, non-fat soft serve dessert etc. But before making their purchases, visitors had the opportunity to know the energy and fat content of their selections from computer terminals. Despite the availability of food outside the Hall, the Cafe was heavily patronised over the 16-day Fair. It was a clear indication that Singaporeans were interested not only in eating better but also healthier foods.

For those who wanted something from the Fair, the *Health Shops* offered books and other souvenirs. The pocket-sized book 'Your Personal Calorie Counter' was a sold-out. It contained the calorie content of 1,100 food items, of which 200 were cooked dishes local and unique to the various ethnic groups in Singapore.

Besides the National Health Fair, the Ministry of Health also promoted healthy lifestyle through a series of media and public activities, including the the 30-second TV commercials on 'Healthy Life, Better Life' to create public awareness; a seven-part TV quiz show 'Hands up for health' in which families took part; a series of public forums on weight management; and a month-long toll-free hotline 'NutriLink' to provide members of the public with healthy eating tips and to answer queries on food and nutrition. To drive home the message that good health could be enjoyed by all, mass events such as the National Swim and National Walk/Jog were opened to everyone.

MEETINGS

5 — 8 August 1992

26th Singapore Malaysia Congress of Medicine

Venue:
Westin Stamford/Westin Plaza, Singapore

Contact:
Felicia Tang
Academy of Medicine
Ph: 223 8968

14 — 16, August 1992

Advanced Clinical Nutrition Care

Venue:
Kandang Kerbau Hospital

Contact:
Annie Chia
Chairperson,
Pharmaceutical Society Singapore
Ph: 221-1136

5 — 6 September 1992

4th Asean Congress on Chinese Medicine

Venue:
Mandarin Hotel, Singapore

Contact:
Mdm Goh Sock Kiang
Singapore Chinese Physician's Association
Ph: 251 3304

6 — 12 September 1992

2nd International Burn Nursing Conference
2nd International Burn Rehabilitation Conference

Venue:
Mandarin Hotel, Singapore

Contact:
ISBI Nursing Committee
Director of Nursing
Shriner's Burn Institute
610 Texas Avenue
Galveston, Texas 77550
Ph: 409-7706776

12 — 13 September 1992

4th Scientific Meeting: Renal Update 1992

Venue:
Singapore General Hospital

Contact:
Department of Renal Medicine
Singapore General Hospital

Registration Fee:
S$75/-

19 — 22 October 1992

75th Annual Meeting of the American Dietetic Association

Venue:
Washington, D.C.

Contact:
Ph 800 — 8771600 Ext 4867

26 September — 1 October 1993

15th International Congress of Nutrition

Venue:
Adelaide, Australia

Breastfeeding Mothers' Support Group (Singapore)

by Lynette Thomas, B.A., M.Ed.

The Breastfeeding Mothers' Support Group (Singapore) or BMSG (S) is an independently registered society run by volunteers. It aims to promote, protect and support breastfeeding in Singapore and does this in a number of ways so that it can reach as many people involved in the care of newborn infants as possible. This ranges from various health professionals to the mother and her support network.

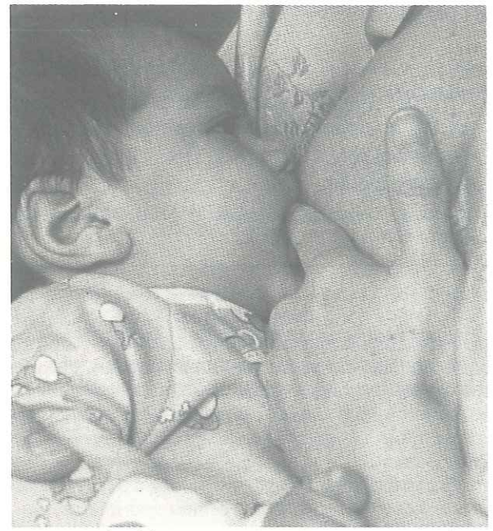
History of BMSG

From its inception in 1975, the Group has had the backing of the health profession, most notably in the early years from Professor Wong Hock Boon and Professor Maureen Tsakok. This support enabled the Group to progress from giving ante-natal breastfeeding talks to expectant mothers to running in-service seminars on lactation to nurses in various hospitals and training institutes. Last year BMSG (S) was officially launched as an independent society after 15 years under the umbrella of CASE (Consumers' Association of Singapore). To mark its new status, the Group organised a seminar for health professionals. Internationally renowned experts on breastfeeding, Professors Derrick and Patrice Jelliffe from the School of Public Health at UCLA, Dr Neil Campbell from the Royal Children Hospital in Melbourne and Dr Mark Belsey from WHO in Geneva all gave new insights into breastfeeding and its importance for babies everywhere.

International Efforts to promote breastfeeding

This year sees a number of important developments in breastfeeding worldwide, the result of many years' efforts by UNICEF, WHO and various NGOs concerned at the global decline in breastfeeding. This is especially serious in developing countries, where bottle feeding contributes to millions of infant deaths and incurs large deficits in the balance of payments. Singapore stands virtually alone among industrialised nations in its persistently low rate of breastfeeding, while others have seen a pronounced trend back towards breastfeeding.

In order to reverse the decline, UNICEF and WHO have launched a joint initiative called the Baby Friendly Hospital Initiative (BFHI), which is a global campaign to foster national action for the breastfeeding of infants and to end the supply of free and low cost infant formula to maternity institutes in all developing countries by December 1992. Hospitals are seen as playing a key role in encouraging women to breastfeed and are therefore encouraged to adopt the "Ten Steps to Successful Breastfeeding" to achieve this end. A Resolution concerning the adoption of these Ten Steps was passed at the FIGO World Congress of Gynaecology and Obstetrics in Singapore last September.



Picture reproduced by permission of Meidi-Ya (S) Pte Ltd. Sole distributor of Gerber products from the booklet "Breast-feeding and You". Copies available on request. Tel: 7791889.

However, the task of promoting, protecting and supporting breastfeeding is not seen as belonging solely to the health profession and the UN agencies, NGOs play a vital role too and, for the first time, those with an interest in breastfeeding have come together to form a World Alliance for Breatfeeding Action (WABA). Its focus for this year is the Baby Friendly Hospital Initiative, and this will be publicised actively during World Breastfeeding Week from 1 — 7 August.

Local Challenges

BMSG (S) hopes to be able to organise a community event and attract media interest to focus public attention on breastfeeding as the best nutritional and emotional start in life for the nation's children.

The Group continues, through the untiring efforts of its volunteer members, to realise its aims through its monthly public talks for expectant couples, the publication of a comprehensive handbook "Practical Hints on Breastfeeding", promotional activities, and continued dialogue with the health profession and the Ministry of Health. As UNICEF states, "Breastfeeding is an endangered practice. It needs an entire culture to support and nurture it back to its full, potent strength."

Newest findings on breastfeeding

— Prolonged exclusive breastfeeding is a particularly interesting mode of nutrition since the iron absorp-

Lynette Thomas is currently President of the Breastfeeding Mothers' Support Group in Singapore and mother of two children who were successfully breastfed.

tion seems to be extremely effective.
— Continued consumption of breast milk until the age of one year will help maintain an adequate iron status.
— In research providing a multivariate analysis of factors associated with prolonged breastfeeding and conversely early infant weaning, the weaned infant had greater than average numbers of curative health care visits and gained less weight during the first four months of life than breastfed infants.
— It is impossible to reproduce the exact composition of nutrients of breast milk. All the comprehensive nutrients are species specific and there is no possibility to substitute them by nutrients from the milk of other species.

Breastfeeding Fact Sheet 1991

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants and has an unique biological and emotional influence on the health of both mother and child. The anti-infective properties of breast milk help to protect infants against disease and there is an important relation between breastfeeding and child-spacing.

Protecting, Promoting and Supporting Breast-feeding: The Special Role of Maternity Services. A joint WHO/UNICEF Statement, Geneva, 1989.

Breastfeeding protects babies against illness.

A recent study indicated that breastfeeding was protective against Sudden Infant Death Syndrome (SIDS), consistent with an effect mediated through the prevention of gastrointestinal and/or respiratory illnesses.

Breastfed infants usually have milder forms of acute gastroenteritis than formula-fed infants.

The antibody levels of immunised infants were significantly higher in the breast-fed than the formula-fed group. These findings are strong evidence that breastfeeding enhances the active humoral immune response in the first year of life.

Mothers "immunize" their babies through breastfeeding.

In a population-based matched case-control analysis of risk factors of invasive Haemophilus influenzae type b (Hib) disease, breastfeeding for longer than 6 months was found to be protective.

Breast milk provides all the nutrition a baby needs for at least the first six months of life.

Prolonged exclusive breastfeeding is a particularly interesting mode of nutrition since the iron absorption seems to be extremely effective.

Continued consumption of breast milk until the age of one year will help maintain an adequate iron status.

Allergy occurence is less among breastfed infants.

Eczema was less common and milder in babies who were breastfed (22%) and whose mothers were on a restricted diet (48%). In infants fed casein hydrolysate, soy milk or cows' milk, 21%, 63% and 70% respectively, developed atopic eczema.

It is concluded that exclusive breastfeeding for more than 4 months is partially protective against the development of atopic disease among high risk infants.

Breastfeeding decreases the incidence of jaundice.

There was a strong dose-response relationship between feeding frequency and a decreased incidence of significant hyperbilirubinaemia on day 6. The results demonstrate that frequent suckling in the first days of life has numerous beneficial effects on the breastfed, full-term newborn.

Jaundice and current therapies for it may increase the risk for premature termination of breastfeeding and for development of the vulnerable child syndrome.

Breastfeeding delays the return of fertility.

Full and on-demand breastfeeding is thought to lengthen postpartum anovulation. In the absence of menses and supplementation, 93% of breastfeeding mothers remained anovular for 3 months postpartum and 88 — 89% for up to 6 months.

The risk of ovulation was reduced by a higher frequency of breastfeeds, longer duration of each feed and less supplementary feeding.

Growth patterns of breastfed infants differ from those of bottle-fed infants.

In research providing a multivariate analysis of factors associated with prolonged breastfeeding and conversely early infant weaning, the weaned infant had greater than average numbers of curative health care visits and gained less weight during the first four months of life than breastfed infants.

Breastfeeding provides maternal protection against breast cancer.

After controlling for age at first full-term pregnancy and other potentially confounding factors, parity and duration of breastfeeding also had a strong influence on the risk of breast cancer. Compared with parous women who never breastfed, women who had breastfed for 25 months or more had an adjusted relative risk.

Carotenoids, pigments in colostrum, might play a protective role with respect to breast cancer. These findings imply a difference in carotenoid transport by womens' breasts that have lactated as compared to those that have not.

Breastfeeding strengthens the infant's immune system.

The high concentration of thymosin a_1, a thymic hormone, in early postpartum human milk may have a beneficial effect on the immature gut-associated lymphoid tissue of the neonate and might play an important physiological role in the early development of the infant's immune system.

Human milk can transfer specific or non-specific immunities to the external mucosal surface of the intestine and possibly to the respiratory tract of the newborn. The acquisition of such passive immunity is particularly important in the early neonatal period, when the immune system is immature.

Breastfeeding has health benefits for the mother.

A marked reduction in the risk of developing epithelial ovarian cancer was associated with ever having breastfed.

Breastfeeding may have a preventative effect on urinary tract infection in both mother and baby.

Breastfeeding benefits children with special needs.

Human milk offers a number of advantages when used as the primary source of supplemental phenylalanine to the infant with phenylketonuria (PKU). Breastfeeding may be continued in the newly diagnosed phenylketonuric infant without any apparent adverse nutritional consequences.

In this study lack of breastfeeding was a risk factor associated with later development of Crohn's disease.

Breastfeeding enhances immunological development of the gastrointestinal tract.

Breastfeeding, irrespective of age or additional food, can deliver significant quantities of antimicrobial proteins that are believed to play an important role in the gut of the breastfed child.

The enhanced fecal SigA in breastfed infants versus standard formulated infants represents a stimulatory effect of breast milk on the gastrointestinal humoral immunologic development; it is not caused solely by the presence of IgA in breast milk.

Human milk has advantages artifical foods cannot duplicate.

Human milk contains a plethora of compounds including sugars (both simple and complex), trace elements, electrolytes, simple and complex proteins, glycoproteins and peptides, vitamins (both lipid and water-soluble), lipids (including steroids, lecithin, mono- di- and triglycerides, and free fatty acids, nucleotides and cells (epithelial, macrophages, lymphocytes, neutrophils, etc.)

It is impossible to reproduce the exact composition of nutrients of breast milk. All the comprehensive nutrients are species specific and there is no possibility to substitute them by nutrients from the milk of other species.

Breastfeeding does not increase maternal risks.

There seems no reason to discourage women with compromised cardiovascular function or hypertension from breastfeeding.

Breastfeeding decreases insulin requirements in diabetic women. The reduction in the insulin dose post partum was significantly greater in those who were breastfeeding than in those who were bottle-feeding.

Breastfeeding provides a safety net for babies in disadvantaged environments.

The odds ratio relating breastfeeding to severe cholera reflected a substantial 70% reduction in the risk of severe cholera among breastfed children. The estimated reduction of risk was clearly evident in children up to 30 months of age.

Breastfeeding is associated with constant growth during infancy after adjustment for morbidity, season and sociodemographic covariates. Conversely, early breast milk substitute feeding is associated with under-nutrition after adjustment for covariates.

Information on infants and children with severe protein energy malnutrition (PEM) showed that in marasmus death was significantly associated with bottle-feeding and survival with breastfeeding.

The complete Breastfeeding Fact Sheet, is available on request from the Breastfeeding Mothers' Support Group (Singapore). Tel: 339-3558

Ten Steps to Successful Breastfeeding

Every facility providing maternity services and care for new-born infants should:

1. Have a written breast-feeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breast-feeding.
4. Help mothers initiate breast-feeding within a half-hour of birth.
5. Show mothers how to breast-feed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless *medically* indicated.
7. Practice rooming-in (allow mothers and infants to remain together) 24 hours a day.
8. Encourage breast-feeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breast-feeding infants.
10. Foster the establishment of breast-feeding support groups and refer mothers to them on discharge from the hospial or clinic.

From: Protecting, Promoting and Supporting Breast-feeding: The Special Role of Maternity Services. A joint WHO/UNICEF Statement, Published by the World Health Organization, 1211 Geneva 27, Switzerland, 1989.

Diabetes and Obesity — The Bad News And The Good News

by Marion J. Franz MS, RD, CDE.

Obesity — it's such an unattractive word! And unfortunately, many people who suffer from obesity also feel unattractive. However, today we are better able to understand what causes obesity, why it is so difficult to lose weight, and why medical professionals are concerned about excess weight. The good news for persons with diabetes, if they have a combination of obesity and type II (non-insulin-dependant) diabetes, is that moderate weight loss (just 5 to 10 pounds, as opposed to 40 or 50) is what is important for blood glucose control.

What Causes Obesity and Why Weight Loss Is Difficult

In the past ten years, more and more evidence related to the genetics of obesity has accumulated. (1-3) For instance, research has shown that identical twins, raised by different parents, as adults will still be nearly identical in weight — that is, if one is obese, chances are the other one will be also. Furthermore, adults adopted as children will be more similar in weight to their biological parents than their adoptive parents.

Other research has shown that our bodies seem to have a level of weight at which it is comfortable, and it is reluctant to change that weight. For some individuals that level of weight may be higher than is generally considered ideal. (4) It is speculated that a defective regulatory system maintains, in some individuals, an elevated body weight that it considers to be normal. (5,6) Research has also shown an increase in lipoprotein lipase activity after weight loss. Lipoprotein lipase is the enzyme responsible for the storage of triglycerides in adipose tissue. (7) After weight loss there is also a decreased caloric requirement; about 25% less than expected on the basis of metabolic body size. (8) One of the ways this can be accomplished is through a decrease in thermogenesis. (9) Furthermore, for many individuals, psychosocial issues make weight loss a low priority in their lives.

What it all comes down to is that some people are more likely than others to become — and remain — obese. But genes still do not determine how much we eat and exercise! Lifestyle is still a factor in determining if a person does become and stay obese — but for some, avoiding becoming obese is much more difficult than for others.

Furthermore, for those persons whose destiny it may be to stabilize at what might be considered too much, repeated failed attempts to lose weight and keep it off may do more harm, both emotionally and physically, than just staying obese. Research suggests that each time a person loses pounds and then puts them back on, they end up with more body fat and less lean muscle than they had previously, even if they only return to their starting weight. And the more fat someone has the more they are at risk of developing heart problems. (10-15)

Marion Franz is a renowned author on several interesting books on nutrition and exercise for diabetic patients. She is currently attached to the Nutrition and Publications, International Diabetes Centre, Minneapolis, MN.

Health Problems Associated with Obesity

Unfortunately, it is a proven fact that obesity raises the risk for developing health problems such as heart disease and hypertension. Additionally, many people who are obese also have problems with lipid abnormalities and type II diabetes. Indeed, many individuals would decrease their health risks if they could lose some weight.

It is known that when an individual's body has too much adipose tissue, it becomes resistant to insulin, and as a result, the body makes more and more insulin to try and overcome this resistance. This leads to hyperinsulinemia. Some individual's pancreas will not be able to keep up with this need to make more and more insulin, and they are the persons who develop type II diabetes. (16)

The "Deadly Quartet"

Furthermore, this hyperinsulinemia is associated with abnormal blood lipid levels, such as elevated triglycerides, and high blood pressure. These four problems — obesity, type II diabetes, dyslipidemia, and hypertension — have been called the "deadly quartet." This is because they are so often found together and all are believed to be related to the hyperinsulinemia. (17).

The Advantage of Being A "Pear" Over Being An "Apple"

Today it is also known that more important than total weight or obesity is where the extra fat is located on the body. Some people can weigh more than the range for their height on most height/weight charts and still not be at increased risk for compromised health.

Specifically, extra fat in the hips and thighs ("pear-shaped" individuals) does not appear to be associated with health problems, including type II diabetes. On the other hand, more and more evidence is accumulating to show that extra fat in the abdominal or stomach area ("apple-shaped" individuals) does contribute to a greater risk of health problems. (18,19) This abdominal fat appears to trigger undesirable changes such as increases in the releases of free fatty acids which stimulates hyperinsulinemia. This can lead to the onset of the symptoms of type II diabetes. (20) So it's not just how much fat a person is carrying but also where he or she is carrying the fat that is important.

Obesity and Type II Diabetes

The first goal of therapy is to assist persons with diabetes to keep blood glucose levels as normal as they possibly can. Eating right is the first step in helping to control blood glucose levels, and because of the association of obesity and type II diabetes, most people are also advised to lose weight.

But the good news is that even slight weight losses have been shown to dramatically improve blood glucose levels. (21) A study from Atlanta (22) reported on persons with type II diabetes who had successfully lost 20 pounds, reported that 41% of these people had been able to return their blood glucose levels to near normal. But they also discovered that the biggest improvement in blood glucose levels occurred after only 5 to 10 pounds of weight loss! However, 59% of the people studied did not have improved blood glucose levels even though they also lost 20 pounds. They needed either an oral hypoglycaemic agent or insulin injections to get their blood glucose under control.

The Bottom Line

For all persons with diabetes watching what they eat is important. However, for some it may involve making better food choices or looking at the distribution of your food intake — for example, shifting it from late in the day to earlier — rather than weight loss that is most important. Eating the right kinds and amounts of food to match the endogenous insulin is also important. Some people match their insulin best by dividing their day's food into three meals; others match their insulin better by eating smaller meals and snacks.

If weight loss is one of the goals, it is important to set realistic weight goals. One to two pounds per week of weight loss is excellent. 1200 to 1500 calories for women and 1500 to 1800 calories for men are usually realistic calorie levels. However, there are many people who are already eating a chronically low calorie diet. For them, other strategies for improvement in blood glucose levels will need to be tried. Source of calories may also play a role. Research has shown that the body is very efficient at storing fat calories, and also seems to be reluctant to convert carbohydrate calories to fat. (23,24)

The goal of the meal plan is to help control blood glucose and blood lipid levels. Weight loss is only one way of doing this. Needless to say, increased activity or exercise can be equally as important. (25) Exercise needs to be incorporated into lifestyle on a regular basis. Exercise of low intensity and long duration is the type that burns body fat. And finally some persons may also need to take an oral hypoglycaemic agent or insulin injections to successfully control their diabetes.

Whatever it takes — the bottom line is that it is important to do it. We know today that controlling blood glucose is just as important for the persons with type II diabetes as it is for the person with type I (insulin-dependent) diabetes.

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A Trimmer Generation — Meeting the Challenge

A seminar for Health Professionals, May 24th 1992

On May 24th 1992, SNDA co-sponsored a one-day seminar for health professionals on the topic of childhood and adolescent obesity. Held at Sheraton Towers Hotel, the seminar was also sponsored by International Life Sciences Institute (ILSI) and the Food and Nutrition Department, Ministry of Health, Singapore.

Over 220 people attended the seminar and in fact many people wishing to register had to be turned down due to limited places.

About the Sponsors

International Life Sciences Institute

This seminar was the first such meeting that ILSI has organised in Singapore. The International Life Sciences Institute (ILSI) is a public, non-profit scientific foundation headquartered in Washington, D.C. with branches in Argentina, Australia, Brazil, Europe, Japan, Mexico and North America. Through the cooperative efforts of scientists in academia, government, and industry, ILSI advances the understanding and resolution of scientific problems in nutrition, toxicology, and food and environmental safety. It is affiliated with the World Health Organization as a nongovernmental organization (NGO) and has specialized consultative status with the Food and Agriculture Organization of the United Nations.

ILSI's Human Nutrition Institute (HNI) serves as a catalyst in bringing together scientists from the public and private sectors to address and resolve nutrition issues involving food metabolism and the relationship between diet and disease. HNI improves the understanding of nutrition and its impact on health by funding research in critical areas and by helping to stimulate additional funding from other sources.

Food and Nutrition Department, Ministry of Health

The Food and Nutrition Department (FND) was established in April 1990 under the purview of the Primary Health Division (PHD) of the Ministry of Health of Singapore. The mission of the department is to improve the nutritional status of the people. Its functions are:

1. The formulation of a national food and nutritional policy.
2. The promotion of healthy eating habits and the promotion of an environment conducive to good nutrition.
3. The periodic assessment of the state of food and nutrition in the country and of the nutritional status of the people.
4. The co-ordination of nutrition surveillance, research, and evaluation studies.
5. The maintenance of a comprehensive food data system.
6. The provision of training for nutrition related professionals.

Lynn Alexander, Vice-President of the SNDA and an active member of the Editorial Committee, is the Clinical Dietitian at Gleneagles Hospital.

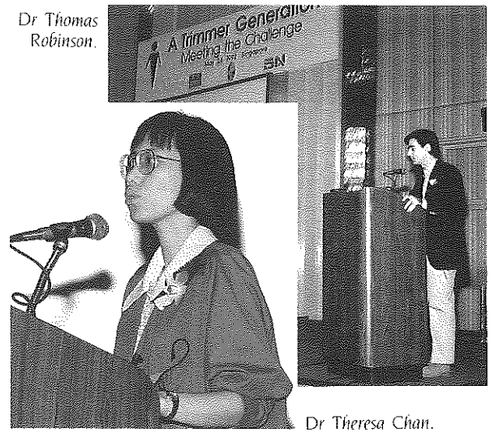
Seminar guests

We were very honoured to have present Dr Alex Malaspina, President of ILSI, Dr Lam Sian Lian, Deputy Director, Primary Health Care, Ministry of Health. In the audience were other VIPs including Dr Giam Choo Keong, President, Singapore Medical Association, Prof Khiang Aik Kin and Mr Yeow Kin Peng, President of the Singapore Institute of Food Science and Technology.

Seminar addresses

In her welcome address, SNDA's President, Evelyn Fong, pointed out that this seminar was timely, as obesity has been recognised as a major public health problem in Singapore, and the National Healthy Lifestyle Campaign had as one of its goals to reduce the overall obesity prevalence to 9% by the year 2000.

Dr Thomas Robinson.



Dr Theresa Chan.

After a brief introduction by Dr Suzanne Harris, Director of the ILSI Human Nutrition Institute, the seminar began with a keynote address by Dr Thomas Robinson of Stanford University. He acknowledged childhood obesity to be one of the most difficult problems confronting health professionals in both clinical and public health settings. He went on to conclude

that because of this, primary intervention to prevent obesity holds more promise than treating existing obesity.

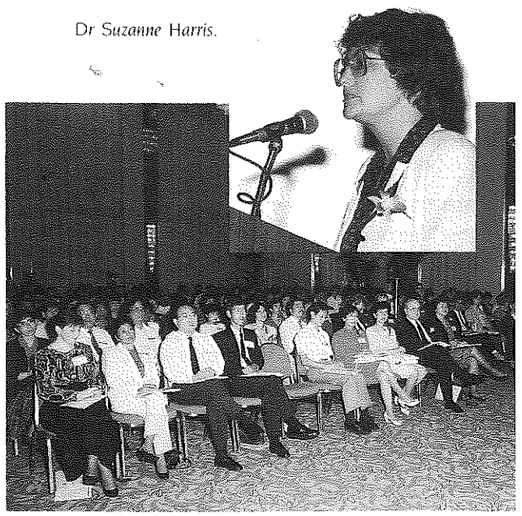
Putting childhood obesity in perspective locally, Dr Theresa Chan, Deputy Director of School Health Services, MOH, presented a paper on behalf of her Director, Dr Uma Rajan, which showed the startling rise in numbers of obese children in Singapore. In 1991, 15% of 6 – 16 year olds were obese. Obesity was more prevalent in boys at 14.8% with girls only 10.9% in 1990.

It was estimated that by 1995, 18% of National Service recruits would be obese – not a very comforting thought!

There has been an increase in height of Singapore children from the 1970s to 1990s of 11 cm. But this went hand in hand with a proportionately higher increase in weight of 34%.

Highlighting the serious consequences of obesity, Dr Chan revealed that in a study of 203 obese Primary 6 school children, 11% had blood cholesterol levels greater than 200mg/dl, and 32% had triglyceride level

Dr Suzanne Harris.



Audience at the seminar.

greater than 100mg/dl.

Dr Chan also noted that the fitness level of the students was low – latest figures showed that only 52% of Primary 4, 5 and 6 students passed the Physical Fitness Test.

Next, Dr Suzanne Harris presented the conclusions of the ILSI workshop on Childhood and Adolescent Obesity held in Virginia, USA, in November last year. Among the conclusions were that between 33 to 50% obese children do not become obese adults. Diets high in carbohydrate which provide fewer calories for storage, and physical activity to increase caloric expenditure seemed to promote leanness. So sensible eating patterns which focus on carbohydrate as the major energy source along with pleasurable physical activities may be the key to healthy lifestyle for both children and adults.

In an interesting paper on taste preference, Prof Adam Drewnowski of the University of Michigan, exploded the myth that sugar and a sweet tooth is large-

Dr Adam Drewnowski.

Mrs Tan Wei Ling.

ly responsible for obesity. He provided evidence showing that obese people often have a "fat tooth" rather than a "sweet tooth". He revealed that preference for sweet taste declined around 12 years of age.

Tan Wei Ling, Deputy Director of Food and Nutrition Department, Ministry of Health, revealed some interesting and very telling trends of Singapore food consumption patterns, which showed that parallel to increased standard of living over the last 30 years, has come greater availability of animal products including meat, eggs and milk, as well as fats and oils. Contributions to the diet by cereals and pulses had declined in the same period. This resulted in an apparent increase in protein and fat consumption.

Illustrating the rising trend in eating out, Mrs Tan quoted statistics showing that in 1988 households spent 45% of their food budget on cooked foods, compared to only 35% in 1977. 30% of people now ate breakfast out, 54% at lunch out and 12% ate dinner out.

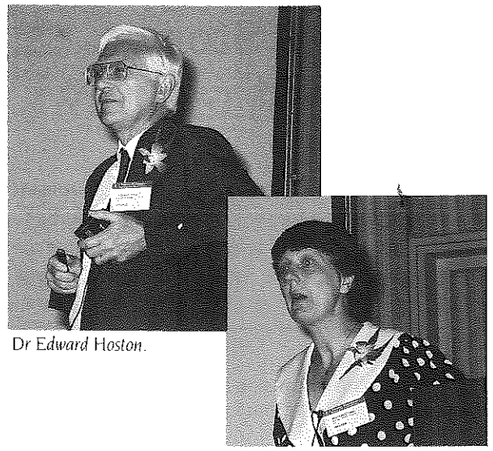
Mrs Tan concluded that changing food consumption trends have certainly contributed to the prevalence of obesity and other diet-related diseases.

A paper by a dietitian from University of Minnesota, Dr Mary Story, was of great interest to the many dietitians present, as it discussed the practical realities of trying to correct and prevent obesity through dietary counselling.

Dr Story said inappropriate calorie reduction was to be avoided, as growth failure has been documented in adolescents on severe weight loss regimes. The goal for younger children should be weight stabilisation. For older adolescents who had finished their growth spurt a weight loss of 1/2 to 1 lb per week was appropriate.

Dr Mary Story.

Education was the key to guiding children to adopt healthy diet habits. Showing fat content of food such as hamburgers vividly in the form of fat in a test tube was one way to illustrate that some foods should be eaten only occasionally. Hunger and satiety awareness was also demonstrated. It was important not to make children feel deprived by locking food away, and not to label any foods as "bad" – so con-



Dr Edward Horton.

Dr Elizabeth Poskitt.

fering that if a child ate a bad food he was a also a bad person. It was better not to have a set menu or to count calories but instead to emphasise healthier food choices and teach a system of food recognition highlighting foods which could be eaten freely, which to go easy on and which to have very sparingly. The traffic light system was one such successful system which had been developed.

In his lecture on exercise by Prof Edward Horton, from the University of Vermont, cited the fascinating observation that fidgeting or wiggling could account for 100 – 800 calories expenditure per day!

He said there was no doubt that those with a low resting metabolic rate were predisposed to obesity, but that increasing the expenditure by more physical activity could help compensate for this.

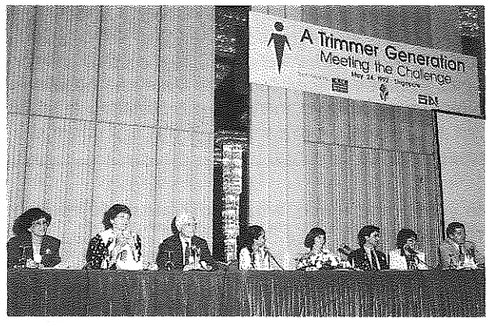
An exercise prescription should be tailored to individual needs. Children should be encouraged to expend more energy through normal daily activities (walking up stairs instead of using the lift etc). Structured schedules incorporating a variety of familiar activities would help make exercise a habit.

To enhance exercise adherence it should provide opportunity for social activity and family support should be encouraged.

Dr Elizabeth Poskitt from the Royal Liverpool Children's NHS Trust Hospital, provided us with some observations of childhood obesity in UK. At more risk of obesity were those children with fat parents, from less affluent homes, single parent families and single child families. Citing reasons why an only child may be more likely to be obese, she suggested overindulgence, over-protection and lack of emotional conflict with siblings. This may well be an important factor in the aetiology of obesity in Singapore children, in view of the trend towards having smaller families.

Tremendous natural variation was believed to exist in energy requirement between individuals. Obese children were observed to eat quickly and not to slow their rate of eating towards the end of the meals. Dr Poskitt noted that overweight school children may not exhibit the same natural restlessness of other children and some are noticeably indulged by their parents doing little for themselves.

Discussing measures to control obesity, Dr Poskitt encouraged family meals, as a means to improve the satisfaction gained from the meal. Children should not constantly "graze" but they do need to eat more frequently than adults. Snacks should be well planned and the timing scheduled. Satiety value of food is important, with high fibre foods being better than refined low fibre foods. Fostering independence in a child, to increase self-awareness and self-discipline was a good way of tackling the problem. Increasing a child's concern for others and for the environment was another way of helping him to be more outward looking and have interests besides food and eating.



Panel Discussion.

Developing hobbies and interests was part of helping the child to have a more positive and active approach to life.

The final part of the day's proceedings was a Panel Discussion in which some interesting questions from the floor were posed to the experts.

Finale

At the end of the day tokens of appreciation were awarded to the overseas speakers by Dr Lam, and to the local speakers and the panel moderator by Dr Malaspina.

To round off the seminar, those who wished to meet the speakers personally were invited to a tea reception. In conclusion, the day was a good opportunity to learn more about this difficult problem, and provided much food for thought for all who attended.

– Lynn Alexander

An Interview With Dr Mary Story on Dietary Management

by Kath Walsh

Obesity among adolescents and children is becoming a problem worldwide in industralised countries. To combat this, devising effective strategies for dietary management is essential. Dr Mary Story Ph.D., R.D. of the University of Minnesota talked with SNDA's Editorial Committee Member, Kath Walsh and offered her views and advice on the different aspects of dietary management during her recent visit to Singapore for the health professional seminar "A Trimmer Generation — Meeting The Challenge"

Walsh: What are the key psychosocial difficulties related to poor dietary management?

Story: Primarily it is a sense of failure which could possibly lead to low self-esteem. However, researchers do not know whether it is the the low self-esteem that leads to this sense of failure or vice-versa. Research has shown that not all obese adolescents have a low self-esteem. Other protective factors have to be considered. If the adolescent is talented or is highly intelligent, this will increase his sense of self-worth. In such cases the extra weight will not seem so important. Another crucial factor is whether the family offers loving support and has a positive attitude about the adolescent's extra weight. If this is so then self-esteem is not affected.

In your experience, what motivates adolescents to lose weight?

The motivation comes from an internal drive to do something for themselves. A particular example I remember is one boy who wanted to lose weight to be a better athlete. However, I would like to stress here that the end result must be realistic — to lose this extra weight to be a model is not realistic. Also the patient has to be committed as losing weight is a long and trying process.

What advice can you offer to avoid the development of eating disorders among adolescents, especially girls?

I would try to promote to the patients the acceptance of their body size and shape. I would also emphasise that self-worth in not dependent on how one looks. To avoid eating disorders, in especially young girls and women, self-esteem must not be so tied into attractiveness. These girls tend to buy into society's image of what an ideal woman should look like.

Can a traumatic event affect dietary management?

Events, like divorce, moving away from familiar surroundings, can precipitate overeating and/or under-exercising so causing a weight gain. Upsetting experiences are very much linked to depression, which may manifest itself with the patient eating too much and lethargy. However, it will depend on how the individual handles such stress. With susceptible individuals certain events can trigger off a weight gain through overeating or no exercise. Such individuals may use food to deal with their emotions.

How does the media sabotage dietary management?

People who are overweight are not portrayed in the U.S. prime-time television shows. What you see are the more negative stereotypes — the local bully with a loud and harsh voice and other such obnoxious characteristics. All this adds to the already poor image of being overweight. You do not see any obese actor in attractive commercials. The media is promoting the "thin image" and to be successful, popular and beautiful, you must adhere to this image.

To change this, the media needs to promote more acceptance of people with different body sizes and body types, like portraying overweight actors in positive situations in advertisements/T.V. shows.

What is the overall goal of your programme on dietary management?

The focus is on promoting a healthy lifestyle, that is healthful food choices and activity patterns and move away from an emphasis on weight loss.

General Advice To Promote Healthy Food Choices For Children And Adolescents
1. Provide no set diet
2. Don't label foods good or bad
3. Teach hunger and satiety awareness
4. Support a non-depriving food environment

Dr Story's paper "Diet in Weight Management : Relating Nutritional Recommendations to Weight Management of Children and Adolescents" will be in the proceedings of the seminar available in July 1992.

Kath Walsh is currently a Principal Lecturer of the English Language Centre at Ngee Ann Polytechnic, and a qualified Dietitian. She is an active member of the Editorial Committee of SNDA.

TRACE ELEMENTS IN HEALTH AND DISEASE

Edited by A. Aitio, A. Aro, J. Jarvisalo and V. Vainia
ISBN 0 85186 976 9
Approximately. 236 pp.
Hardcover
January 1991
Price £45.00

Description

During the past decade trace elements have been the focus of intensive research, especially with regard to toxicity and their essential role in human nutrition. There has long been a gap between toxicologists and nutrition researchers, even though they often cover common ground. This book is unique in covering both aspects of trace elements and is the first to bridge that gap.

Trace Elements in Health and Disease reviews the newest data available on both nutritional and toxicological aspects of trace elements and in doing so assesses the current state of knowledge on the relationship between trace elements and human health and disease.

The book looks at areas common to both such as analytical problems and mechanisms of action. In addition it provides the most up-to-date information on such topics as: the role of selenium and other micronutrients in protecting health; the carcinogenicity of different species of chromium and nickel' and the neurotoxicity of aluminium.

Trace Elements in Health and Disease is an essential addition to the libraries of nutrition researchers and toxicologists, worldwide.

Brief Contents

NUTRIENT CONTENT OF FOOD PORTIONS

Jill Davies and John Dickerson
ISBN 0 85186 426 0
Approximately 60 pp
Softcover
January 1991
Price £5.95

Description

Nutrient Content of Food Portions provides a quick and easy way to assess the nutritional value of food. In the past this has been a tedious and time consuming exercise, but with the aid of this invaluable new book, teachers and students of Home Economics and those interested in planning and assessing their diets, as well as nutritionists and dietitians, will be able to make their analyses in the minimum of time and without the need to determine portion sizes.

The book provides tables of the nutrient content of foods calculated from a 'normal' portion size and the information given in these tables includes: number, name and portion details for the food, energy values in kcal and kJ; and the content of the portion for 11 nutrients.

Nutrient Content of Food Portions is divided into two parts, the first providing an introductory text which gives clear guidelines for using the tables and the second consisting of tables for approximately 650 foods which are clearly presented and easy to follow. The nutrient values are based on the Official UK Food Tables, McCance and Widdowson's 'The Composition of Foods' 4th Edition and supplements.

Special Features

- includes new food portion size data and gives nutrient content for the portions
- covers a wide range of foods, including those relating to different cultures and health requirements
- food portion sizes obtained scientifically
- selected nutrients in accord with UK RDA's and healthy eating guidelines
- additional nutrients presented in supplementary tables
- presents vitamin A retinol equivalents and nicotinic acid equivalents to allow direct comparisons with RDA's
- assigns each food a number — useful if the data is used with a computer program
- very 'user friendly' tables.

Nutrient Content of Food Portions is an inexpensive publication that every student and teacher of Home Economics should have and every dietitian and nutritionist will want. It will also be of great use in nursing, catering and situations where lay persons wish to assess the nutrient content diets and menus.

ABSTRACTS

POST-GRADUATE EDUCATION OF DIETITIANS AND THEIR POTENTIAL ROLE IN MEDICAL EDUCATION. A. *Robertson and* W.P.T. *James, Journal of Human Nutrition and Dietetics*, 4, 335-339, 1991.

One dilemma of teaching nutrition to medical students includes the problem of translating nutritional science into practical therapy. Medical clinical nutritionists and dietitians need to join forces to solve this problem. For the purposes of this paper, a clinical nutritionist is defined as a medically qualified doctor with post-graduate qualifications in nutrition (e.g. M.D. or Ph.D) followed by a significant number of years (e.g. 10) in post-doctoral nutritional research; a dietitian is someone who qualifies with BSc. in nutrition and/or dietetics followed by or including 6 months clinical training leading to state registration in dietetics (S.R.D.). The question is how can these two disciplines integrate and develop their skills? One mechanism for linking two professional groups is in the training of medical students. In addition, a joint approach could ensure that nutritional prescription and dietetic therapy are more readily accepted and implemented within patient care.

CONTINUING EDUCATION — A STUDY OF DIETITIANS PARTICIPATION IN AND ATTITUDES TO CONTINUING EDUCATION. C. *Bond and* C. *Firman, Journal of Human Nutrition and Dietetics*, 4, 327-333, 1991.

It is now generally acknowledged that education and training is a continuing and lifelong process. It is also increasingly clear that education may take many forms, not all of them traditional. No longer can a person's education be associated exclusively with the period of induction and learning which occurs in the first 20 or so years of life. Nowhere is this more evident than in the professions.

The pace of scientific, technological, social and political change is now so rapid and intense that an initial period of professional training can only provide the foundations of knowledge, skills and attitudes on which further education and training must be built, if they are to remain current and valid.

This study seeks to inform the current debate within the profession, on the development of an education and training strategy for State Registered Dietitians. It reviews current participation in and attitudes towards continuing education among a random sample of British Dietetic Association members.

The authors conclude from the results that dietitians are aware of the need for continuing education but need to be more actively involved in initiating and directing their own professional development. Some suggestions as to how this may be achieved are included at the end of this article.

THE GROWTH AND DEVELOPMENT OF VEGAN CHILDREN T.A.B. *Sanders and* J. *Manning, Journal of Human Nutrition and Dietetics*, 5, 11-21, 1992.

The results of prospective study on the growth and diets, estimated from 7-day weighed food intake records, of 20 life vegan children (aged 5.8 — 12.8 years) are presented. The growth and development of the children were normal but they tended to be lighter in weight and exceptionally lean compared with standards. Heights were around the median recently proposed by the Department of Health. Energy intakes were similar to those reported in children of the same age in the general population, but dietary fibre intakes were very high which may have influenced the digestible energy. Sugar provided an average 25.6% of the dietary energy and this was supplied mainly by fruit and fruit juice. Mean fat intakes were close to the dietary reference values. Daily intakes of essential nutrients generally met the amounts recommended, with the exceptions of calcium and vitamin B_{12}. Many children received supplementary sources of vitamin B_{12} and only two children had intakes below the lower recommended nutrient intake. Intakes of saturated fatty acids were low and those of linoleic acid were high. The ratio of linoleic/α-linolenic acid was high. As docosahexaenoic acid is absent from vegan diets, it is suggested that vegans should use oils with a lower ratio of linoleic/α-linolenic acid. Future studies should also consider the influence of a vegan diet on retinal function. None of the children was immunized against whooping cough and 11 had not been immunized against polio; 16 of the children had suffered from whooping cough. Future studies need to take into account factors other than diet when assessing the health of vegans. The results of this study show that children can be successfully reared on a vegan diet providing sufficient care is taken to avoid the known pitfalls of a bulky diet and vitamin$_{12}$ deficiency.