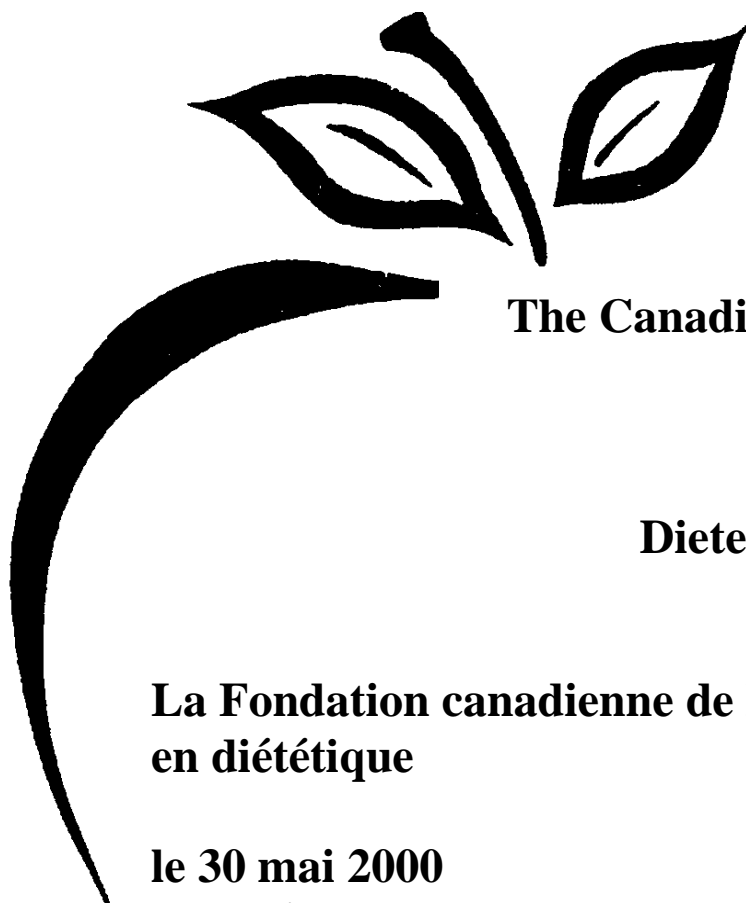


*Canadian Journal of
Dietetic Practice and
Research*

**A supplement to Vol. 61, No.
2, June 2000**

Publication Mail Permit No. 6422



**The Canadian Foundation for
Dietetic Research**

**May 30, 2000
Dietetic Research Event
Abstracts**

**La Fondation canadienne de la recherche
en diététique**

**le 30 mai 2000
Journée de la recherche
en diététique**

*Revue canadienne de la
pratique et de la recherche
en diététique*

June 2000 Supplement

Editor/Rédactrice en chef

Dawna Royall, MSc, RDN, Fergus, Ontario

Associate Editor/Rédactrice adjointe

Hélène Delisle, PhD, DtP, Montréal, Québec

Resource Review Editor/Rédactrice des comptes rendus

Lise Smedmor, BAsc, RD, Orton, Ontario

Abstracts Editor/Rédactrice des résumés

Paula D.N. Dworatzek, MSc, RD, Toronto, Ontario

The *Canadian Journal of Dietetic Practice and Research* is the official peer-reviewed publication of Dietitians of Canada. The *Journal* publishes reports of original research and other articles that contribute to best practice in dietetics. Opinions expressed in articles published in the *Journal* are those of the authors and do not imply policy of the Association unless so stated.

Editorial Correspondence – Manuscripts, letters to the editor and resources for review should be sent to The *Canadian Journal of Dietetic Practice and Research*, c/o PG Communications, 500 Cochrane Drive, #5, Markham, ON L3R 8E2. Tel: (905) 940-0200, Fax: (905) 940-0204, E-mail: pgcomm@pgcomm.com. A Guide for Authors is available from the Dietitians of Canada Web site at: http://www.dietitians.ca/research/i1_1.htm or upon request from PG Communications in English and in French.

Reproduction – Authorization to make a single copy of any article for personal research, teaching or internal use is granted by the copyright owner. Requests to make multiple copies for the above uses, or permission to reproduce material in new works should be addressed to Dietitians of Canada. Multiple copies for resale at profit is not permitted. The *Canadian Journal of Dietetic Practice and Research* is available via microform and/or electronic database from Bell & Howell Information and Learning, P.O. Box 1346, Ann Arbor, MI 48106-1346. For further information on format availability contact Bell & Howell Information and Learning at 1-800-521-0600 or check their Web site: <http://www.bellhowell.infolearning.com>.

Subscriptions – The *Canadian Journal of Dietetic Practice and Research* is published quarterly, one volume per year. Subscriptions and change of address should be sent to Dietitians of Canada, #604 - 480 University Avenue, Toronto, ON M5G 1V2. Tel: (416) 596-0857. Annual subscription rates are: CAN \$75 (plus GST or HST); US and Overseas - US \$75. Single copy: Canada - CAN \$15 (plus GST or HST); US and Overseas - US \$15. DC members: \$6/year.

Advertising – All inquiries and correspondence concerning advertising should be addressed to Canadian Journal of Dietetic Practice and Research, c/o PG Communications, 500 Cochrane Drive, #5, Markham, ON L3R 8E2. Tel: (905) 940-0200. Publication of an advertisement in the *Journal* should not be construed as an endorsement by the Association of the product or the advertiser. Publications mail No. 6422. All rights reserved.

La *Revue canadienne de la pratique et de la recherche* en diététique est l'organe officiel des Diététistes du Canada. La *Revue* publie, sur l'avis d'un comité de lecture, des rapports de recherche inédits et d'autres articles qui contribuent à améliorer la pratique diététique. Les opinions exprimées dans les articles publiés dans la *Revue* sont la responsabilité des auteurs et leur parution ne suppose pas que les DC en ont fait une politique, à moins d'avis contraire.

Correspondance – Les manuscrits, les lettres à la rédaction et les ressources à évaluer doivent être envoyés à la *Revue canadienne de la pratique et de la recherche en diététique*, a/s PG Communications, 500 Cochrane Drive, #5, Markham, ON L3R 8E2. Tél. : (905) 940-0200, Téléc. : (905) 940-0204, Courriel : pgcomm@pgcomm.com. Un Guide de rédaction en anglais est offert sur le site Web des Diététistes du Canada à l'adresse suivante : http://www.dietitians.ca/research/i1_1.htm. On peut également se procurer le Guide en français ou en anglais en s'adressant à PG Communications.

Reproduction – On peut obtenir l'autorisation de reproduire un seul article à des fins personnelles de recherche, d'enseignement ou pour l'usage interne en s'adressant au détenteur du copyright. On peut obtenir la permission de faire plusieurs copies réservées aux usages mentionnés ci-dessus ou de reproduire des extraits de travaux nouveaux en s'adressant au bureau des Diététistes du Canada. Il est interdit de reproduire des articles en plusieurs exemplaires pour les vendre à profit. La *Revue de la pratique et de la recherche en diététique* est offerte sur microforme ou base de données électronique par Bell & Howell Information and Learning, P.O. Box 1346, Ann Arbor, MI 48106-1346. Pour obtenir plus d'information, prière de s'adresser à Bell & Howell Information and Learning au numéro 1-800-521-0600 ou consulter leur site Web : <http://www.bellhowell.infolearning.com>.

Abonnements – La *Revue canadienne de la pratique et de la recherche en diététique* est une publication trimestrielle; chaque volume correspond à une année. Les demandes d'abonnement et de changement d'adresse doivent être envoyées aux Diététistes du Canada, 480, University Avenue, Bureau 604, Toronto, ON M5G 1V2. Tél. : (416) 596-0857. Abonnement annuel : 75 \$CAN (plus TPS ou TVH); étranger : 75 \$US. Prix à l'unité : 15 \$CAN (plus TPS ou TVH); étranger : 15 \$US. Membres des DC : 6 \$ par année.

Publicité – Les demandes et la correspondance relatives à la publicité doivent être adressées à la *Revue canadienne de la pratique et de la recherche en diététique*, a/s PG Communications, 500 Cochrane Drive, #5, Markham, ON L3R 8E2. Tél. : (905) 940-0200. La publication d'une annonce dans la *Revue* ne doit pas être interprétée comme une approbation du produit ou de l'annonceur par l'association.

Envoi de publication – Enregistrement n° 6422. Tous droits réservés.

ISSN 1486-3847: Issue Date June 2000/Date de parution : juin 2000

Canadian Foundation for Dietetic Research

Dietetic Research Event – May 30, 2000

These abstracts represent research projects of dietitians that were accepted through a peer-review process for presentation.

**Indicates the presenter*

[R] = Research abstract

[E] = Experience-sharing abstract

Outcomes of Intervention

Effects of in-patient nutrition counseling on clients' perceptions

R. Nasser, S.L. Cook and B.L. Webster. Regina Health District, Regina, Saskatchewan. [R]*

Demonstrating the effectiveness and benefits of nutrition counseling is imperative, not only to ensure successful patient outcomes but also to secure funding levels. Consequently, there exists a growing need for studies designed to assess the adequacy and value of nutrition counseling. To measure clients' perceptions of the value of in-patient nutrition counseling, the 'Clients Perceptions about Nutrition Counseling' survey (Hauchecorne *et al.*, 1994) was self-administered by 61 participants one week following discharge from hospital. The majority of respondents identified that the information provided by the Dietitian was useful and that the Dietitian was knowledgeable (95% and 97%, respectively). Seventy-eight percent of respondents identified that after speaking to the Dietitian they knew what to eat, while 72% reported that they had changed their diet according to the Dietitians' recommendations. Fifty-nine percent of respondents reported that they felt better emotionally, 43% identified that they felt better physically, and 62% felt more in control of their condition. Finally, the majority of respondents (84%) felt that the Dietitian provided support and encouragement and 95% agreed that others with the same condition should also consult a Dietitian. The results of this research confirm that in-patient nutrition counseling is perceived as valuable for the majority of clients. In addition, Dietitians may find these results encouraging as it demonstrates that dietitian services can make a difference in our clients' lives.

Validation of a qualitative tool to assess food behaviour changes resulting from participation in Canada Prenatal Nutrition Programs

J. Sheeshka, E. Murkin, Dept. of Family Relations & Applied Nutrition, University of Guelph, Guelph, Ontario. [E]*

The Canada Prenatal Nutrition Program (CPNP) assists pregnant women at risk of having low birthweight babies by providing food vouchers or groceries, and where available, nutrition counselling. This study sought to develop and validate a simple qualitative tool that program staff without nutrition expertise could use to assess the program's impact on participants' food behaviours. A set of 18 questions from the four food groups was developed for use in a pre-, post-program fashion. Pretesting at three Ontario sites established that the questions were understood when translated and were inclusive of important ethnic foods (content validity). A pilot study involving 20 CPNP sites in B.C., Manitoba and Ontario was then conducted to determine if the tool could capture self-reported changes in food behaviours. In total, 137 CPNP participants completed the FBQ pre-program; 80/137 also completed a 101 item semi-quantitative food frequency questionnaire (FFQ) used to assess concurrent validity. Consistency between the FBQ and specific foods on the FFQ ranged from 83-98% for milk & milk products, 75-99% for grain products, 61-95% for vegetables/fruits, 60-94% for meat/meat alternates. Responses for less frequently consumed foods (e.g., fish with bones, 60%) were less likely to be consistent. Forty-eight participants completed the FBQ again after 6 program sessions and many reported increased consumption of milk (35%), leafy greens (21%), orange vegetables (13%) and other vegetables (31%), fruit (17%), grain products (15-23%), meat/meat alternates (6-17%). The FBQ appears to have sufficient validity for use as an indicator of changes in food consumption as a result of CPNP participation. Reliability testing and more extensive validity testing are needed to determine its suitability for research.

Funding from Health Canada is gratefully acknowledged.

Adequate preconceptional folic acid intake: Unexpected results in a region of Quebec.

M.C. Bélanger, and J. Grégoire, Département de Nutrition Clinique, Centre Hospitalier Beauce-Étchemin, St-Georges, Québec. [R]*

Adequate preconception folic acid intake in Canadian women is low and varies between 2 % and 17 %. Raising women's awareness of neural tube defects and folic acid intake before conception remains a challenge. It is not known whether a regional promotional program has an impact on preconceptional folic acid use by primigravid women. This survey was designed as base line assessment for an evaluation study of a folic acid promotional program starting in June 2000. Data from this survey was used to determine the actual rate of adequate preconceptional folic acid intake in the region of Chaudière-Appalaches. All of the primigravid women participating in prenatal care programs in the region of Chaudière-Appalaches were approached to fill out a survey questionnaire. Of the estimated 1500 primigravid women in the region, a total of 405 (27.0%) women completed the questionnaire between September 1999 and January 2000. Results showed that 41.7 % (95 % CI 36.9-46.5) of women had vitamin supplementation in the period prior to conception. Overall, 30.4 % (95% CI 25.9-34.9) of fetuses were exposed to ideal doses (400 ug/d or more) of folic acid during embryogenesis. This high proportion of adequate preconceptional folic acid intake found in Chaudières-Appalaches could be attributed to a regional program promoting periconceptional folic acid supplementation 3 years ago. The higher than expected proportion of women taking folic acid (30.4 %) in this region suggest that even small regional informational programs can have a significant impact on folic acid use. Dietitians and other health professionals should be aware that, even on a local basis, programs promoting preconceptional folic acid supplementation have promising and positive outcomes.

Effects of the Quebec Heart Health Demonstration Project on adult dietary behaviors

I. Huot¹, G. Paradis², M. Ledoux¹ for the QHHDP research group, Montréal, Québec. [E]*

The Quebec Heart Health Demonstration Project (QHHDP) was a five-year, multi-factorial community-based heart disease prevention program conducted by regional public health departments in 3 sites: urban, suburban and rural. The QHHDP included site-specific health education and community development strategies and aimed to modify CVD risk factors through behavior changes. The program's impact on diet was assessed by a validated, self-administered food frequency questionnaire (FFQ) administered to independent samples of adults in the experimental and control sites before and after implementation of the QHHDP. The FFQ, adapted from the Ammerman Dietary Risk Assessment, consisted of 32 questions focusing mostly on total and saturated fat. Food items frequency selection were scored 0, 1 or 2, the higher score being associated with a higher fat intake. Individuals scores were averaged. Baseline mean score values were of 0.75 (SD: 0.20; Min.: 0.18; Max.: 1.47) in the experimental groups

and of 0.74 (SD: 0.20; Min.: 0.13; Max.: 1.53) in the control groups. Statistical analyses of program impact consisted of analysis of variance on 3 factors: site-3 levels ; year of survey-2 levels and group-2 levels among 4863 adults surveyed in 1993 and 5260 in 1997. The urban and suburban sites showed improvements in mean scores in both exposed and non-exposed groups while the rural site mean scores increased in both groups (n.s.). The group*year interaction terms were not significant for each site indicating that the intervention did not modify nutritional behaviors. Further analyses will be conducted in order to determine if sub-groups reacted more favorably to the program.

¹ Department of Nutrition, University of Montreal, Montreal, Quebec

² Department of Epidemiology and Biostatistics, McGill University, Montreal, Quebec

Supported by the Danone Institute

Comparison of the dietary exchange and plate model method for teaching a low fat diet

C.V. Greenberg, L.J. Martin, G.A. Lockwood, N.F. Boyd for the Canadian Diet and Breast Cancer Prevention Study Group, Division of Epidemiology and Statistics, Ontario Cancer Institute, Toronto, Ontario. [R]

This study was carried out in a subset of intervention group subjects of the Diet and Breast Cancer Prevention Study, a randomized multi-centre trial to determine if intervention in subjects with extensive mammographic densities with a low fat-high carbohydrate diet will reduce the incidence of breast cancer. The purpose was to compare the effectiveness of two methods of teaching the study diet. Subjects were randomized to the Dietary Exchange method which uses lists of specific foods or the Plate Model method which uses photographs of food to visually demonstrate the appropriate proportion of foods. The change in percentage fat intake at four months after diet instruction and nutrition knowledge test scores were compared between the groups. A total of 106 subjects in the Dietary Exchange group and 110 subjects in the Plate Model group completed the study. Total fat intake (as % of calories) dropped from 28.9% at baseline to 18.2% at 4 months (mean difference of 11.2 percentage points) in the Dietary Exchange group and from 28.9% to 18.5% (mean difference of 10.6 percentage points) in the Plate Model ($p = 0.70$ for difference between methods). The changes in carbohydrate and calorie intake and body weight were not significantly different between the groups. Nutrition knowledge scores were also similar. We conclude that a visual approach to diet instruction is as effective as the traditional exchange method in reducing the fat intake of trial participants in the short term. The longer term effect of the teaching methods on maintenance of dietary change is currently being investigated.

Teaching a very low fat semi-vegetarian diet vs the standard modified fat diet: effects on cardiac risk factors and nutrition-related quality of life

F. Johnson, S. Barr, J. Frohlich, University of British Columbia, Vancouver, British Columbia. [R]*

The effects of instructing adults with cardiovascular disease on a very low fat semi-vegetarian diet vs the standard modified fat were studied. 39 subjects (60±11 yr) were randomly assigned to a lacto-ovo-vegetarian plus fish diet (15% total fat, <6% saturates, <100 mg cholesterol) or the standard diet (30% fat, 7-10% saturates, 200-300 mg cholesterol) for 12 weeks. Body weight, waist circumference, serum lipids (total, LDL- and HDL-cholesterol, triglycerides), and nutrition-related quality of life were measured before and after the intervention. Diets were monitored by 3-day food records and analyzed using the Nutritionist IV™ 2.0 analysis program. Dietary adherence was assessed using a daily calendar. Repeated-measures analysis of variance revealed no group differences in actual diet followed (18% total fat, 5% saturates, 139 mg/d cholesterol) or outcome measures. For both groups combined, weight decreased by 2.1% (p<0.001), waist circumference by 1.8% (p<0.01), total cholesterol by 3.7% (p<0.05), and LDL-cholesterol by 5.3% (p<0.001). Quality of life was enhanced in both groups, particularly perceptions of health (p<0.01). Using linear regression analysis, LDL-cholesterol change was predicted by % weight difference (p<0.05), while % weight difference was predicted by perceptions of health and differences in energy intake (p<0.001). Adherence was associated with % weight difference (p<0.05) and fat intake (p<0.05), and was predicted by perceptions of health (p<0.01). In conclusion, we found no difference in short-term outcome by teaching a more restricted diet to subjects in a cardiac rehabilitation program. Results imply that both groups benefited equally from diet intervention, and that perceptions regarding health impact significantly on factors which affect energy intake, weight changes, and adherence to diet.

The relationship of preoperative nutritional indicators of older cardiac patients screened preoperatively before elective coronary bypass surgery to surgical outcome indices.

R.A. Elias, and R. Udayasekaran, Department of Nutrition Services, University Health Network, and Department of Nutrition, Ryerson Polytechnic University, Toronto, Ontario. [R]*

The purpose of this prospective study was to investigate the relationship of nutritional status assessed preoperatively of older cardiac patients undergoing elective coronary bypass surgery (ACB) to specific surgical outcome variables. Older cardiac patients (ages

60-80 years; n=55), admitted for elective ACB were screened for nutritional risk during pre-admission (1-2 weeks preoperatively). Patients meeting two or more of the following criteria were classified at nutritional risk: 1. Weight for height less than 75% of ideal body weight; 2. 10% unintentional weight loss within 1 month prior to admission; and 3. Subjective Global Assessment score of malnutrition. All patients were followed prospectively to assess frequency of infections (pneumonia, sternal and wound); length of intubation time in the intensive care unit and length of hospital stay (LOS). Results showed that 3.6% of these patients were assessed at high nutritional risk. Frequency of these patients showing postoperative infections were: pneumonia 1.9%; sternal infection 0%; wound infection (superficial and deep) 0%. Frequency of postoperative complications (sepsis, postoperative MI, reexploration for bleeding, atrial arrhythmia, reintubation for pneumonia, renal insufficiency, neurologic stroke) was 10%. Average LOS was 7.44 +4.76 days and length of intubation time was 12.95+34.5 hours. There was a significant association (Chi-square analysis) between low nutrition risk and low incidence of pneumonia (p<0.001) and postoperative complications (p< 0.001). These results indicate that there is a very low frequency of older cardiac patients undergoing elective ACB who are at nutritional risk and a low prevalence of infections and postoperative complications.

Successful treatment of an adult patient with refractory epilepsy using a ketogenic diet

C. E. Maloney, E. B. Marliss, F. Dubeau, McGill University Health Center, Montréal, Québec. [E]*

The ketogenic diet is designed to simulate the metabolism of fasting without compromising nutritional status. It is primarily used as the last resort to treat intractable epilepsy in pediatric patients when medications and surgery are unsuccessful. Its application, efficacy and adverse effects in adult patients are not well known. Since 1995, the Montreal Neurological Hospital has treated three adults with refractory epilepsy on a ketogenic diet. We report a 25 year old male patient with severe, multiple seizure types successfully treated on a 3:1 (fat to carbohydrate and protein) ketogenic diet for 23 months. The diet was initiated in hospital with multidisciplinary supervision. Seizure type and frequency, as well as, neurological, metabolic and nutritional statuses were monitored closely. Antiepileptic medications and the diet were adjusted based on these responses. During the first year, seizures decreased by at least 90% and medications were reduced by 50%. Two of the four medications were discontinued. Weight stabilized after an initial 10 % weight loss and nutritional status was maintained. Hypercholesterolemia, hypertriglyceridemia, hypokalemia, hypomagnesemia, hyperuricemia,

cholelithiasis and constipation developed and were treated successfully. During the second year, a 50% decrease in seizures was maintained despite patient developing a subdural hematoma and ventriculo-peritoneal shunt malfunction. The sum of the latter problems and the discipline of the ketogenic diet led to its discontinuation after the twenty-third month. Though medications were increased, less were required than before the diet. The ketogenic diet can thus be used successfully to control refractory epilepsy in selected adults. The potential benefits of the diet have to be weighed against its adverse effects and difficulty with adherence. Long-term effects need to be further studied.

Patient/caregiver satisfaction with dysphagia care in an acute care hospital: Implications for dietetic practice

M.L. Cushing, K.A. Traviss, E.O. Cabrera, University of British Columbia Hospital, Vancouver, British Columbia. [E]*

We conducted this study to examine patient/caregiver satisfaction with inpatient dysphagia care. Using a pre-tested, standardized interview guide, we interviewed 23 patients/caregivers, having screened 100 for study inclusion. Many of the patients screened were too ill to participate; in fact, about one-third died during hospitalization. Most participants were elderly (mean age 76 ± 16) and female (16, 70%). Most (19, 83%) were assessed to be at moderate to high nutritional risk. Key findings were: 1) Although patients/caregivers were generally not aware of the concept of an interdisciplinary dysphagia team, most rated various aspects of their care highly, with scores (mean \pm SD) on 5-point scales as follows: clarity of test explanation, 4.8 ± 0.4 ; helpfulness of team, 4.8 ± 0.6 ; clarity of advice, 4.8 ± 0.4 ; overall impression of care for dysphagia, 4.4 ± 1.2 ; overall impression of total hospital care, 4.5 ± 0.8 ; 2) Patients/caregivers referred dysphagia-related issues, if any, to a variety of team members; 3) Most patients/caregivers (15, 65%) commented that their lives had been negatively impacted by dysphagia; many mentioned decreased eating pleasure. Implications for dietetic practice: 1) Although these patients are at nutritional risk, the decision to undertake aggressive intervention must be made in consideration of expected prognosis, concurrent health issues, quality of life implications, and patient/caregiver wishes; 2) Dietitians need to be well versed in all aspects of dysphagia care, as patients/caregivers may rely on any team member for support and advice; 3) Since long-term dietary restrictions are life-altering, dietitians should be available to provide ongoing in- and out-patient care to these patients, frequently reassessing their need for restrictions, helping them to address diet-related problems arising, and being empathetic to their concerns. This research project was funded by the Vancouver

Hospital & Health Sciences Centre Interdisciplinary Research Grant Competition, 1998-99.

Treatment of obesity with sibutramine: is it possible to increase its weight-reducing effect while minimizing negative side effects ?

*S. Bérubé *, D. Prud'homme, S. St-Pierre, E. Doucet and A. Tremblay, Division of Kinesiology, Laval University, Ste-Foy, Quebec. [R]*

Sibutramine, a new pharmacological agent to treat obesity, has the potential to increase heart rate and blood pressure. We investigated if a supervised sibutramine-diet-exercise intervention could increase the body weight loss already reported while minimizing the potential cardiostimulating effects of this drug. This intervention was divided in two phases (6 weeks) in which sibutramine was taken once daily by subjects. Phase A consisted of an energy restriction whereas in Phase B, an aerobic exercise prescription and a low-fat diet were introduced. Systolic (SBP) and diastolic (DBP) blood pressure, resting heart rate (RHR) and body weight were measured every 2 weeks while resting metabolic rate (RMR) and plasma variables were determined before and after the protocol. This intervention produced a significant body weight loss (-10.7 kg, $p < 0.01$) which was about twice as much as reported in other 12-week studies. As expected, in Phase A RHR ($+4$ beats/min) and DBP ($+5$ mmHg, $p < 0.01$) were increased. However, after Phase B, DBP (-3 mmHg, $p < 0.01$), RHR (-8 beats/min, $p = 0.02$) and respiratory quotient (-0.03 , $p < 0.01$) were significantly decreased. Moreover, lymphocyte and neutrophil counts were slightly decreased. RMR also tended to be lower but this effect did not persist after adjustments for body weight. Taken together, these observations suggest that this combination therapy has a favorable risk/benefit profile since it enhanced weight loss without inducing cardiac, metabolic or immune side effects.

A tri-dimensional strategy to lose weight: a case-study report.

V. Drapeau, S. St-Pierre, A. Tremblay, Division of Kinesiology, Laval University, Ste-Foy, Québec. [E]*

The combination of healthy nutrition, physical activity and pharmacological agent was investigated over a 4.5 year period in a 39-year old morbid obese woman (155.9 kg). Realistic goals were first established with the subject regarding changes in food and physical activity habits. The nutritionist introduced healthy food habits and worked on the control of appetite with the help of behavior journals completed by the subject before and after food intake. This first phase of supervision (2 years) produced a substantial body weight loss (18.6 kg) that was followed by a period of weight stabilization. Physical activity was then integrated to the lifestyle of the subject. A 10-min walk, 3-5 times a week was first

prescribed and the subject gradually performed more activities. Seven months later, a further weight loss of 10.2 kg was observed and the subject then experienced a weight regain of 8.3 kg. Another period of body weight stabilization was observed. Therefore, Orlistat (Xenical), a lipase inhibitor, was introduced in order to accentuate body weight loss. This pharmacological agent induced an additional weight loss of 21.8 kg. After the 4.5-year follow-up, the cumulative weight loss reached 42.3 kg.

At the end of the study, the subject maintained good food habits, was walking 6-7 hours a week, was taking Xenical 3 times per day and was still progressively losing weight. In conclusion, this case study showed that regular supervision by a health professional and the gradual integration of weight control strategies (healthy food habits, physical activity, pharmacological agent) seems to be appropriate to treat obesity on a long term basis.

Determinants of Food Choice

Can we afford to eat nutritiously? Pricing of a month of meals based on *Meals for Good Health*

K.M. Graham*, *Prairie Nutrition Services, Portage la Prairie, Manitoba. [E]*

Income status and literacy are key determinants of health. This research project's objective was to determine the actual cost of preparing a complete month of meals and snacks as shown in the plain language book *Meals for Good Health* (published in co-operation with the Canadian Diabetes Association). This book has life-size photographs of a month of easy-to-make, nutritious and realistic meals and snacks based on the Canada's Food Guide to Healthy Eating recommendations. This research project included: 1) Defining the meals and ingredients required for a 2,200 calorie/day intake as outlined in the large meals plus snacks of *Meals for Good Health* (using the information in *Meals for Good Health Manual*). 2) Conducting a food cost survey in a rural Manitoba large food store in January, 2000. 3) Calculating the individual and total average food costs per day, month and annually for an individual and for a family. And, 4) comparing these costs to other surveys. This study showed that it is possible to choose the nutritious and realistic meals and snacks outlined in *Meals for Good Health* on a restricted budget as the monthly cost was \$186.64/month. This is comparable to the 2000 Manitoba Food Cost Survey which is based on a nutritious food basket costing. However, providing these foods for a family on a limited income presents a challenge. This study will be of interest to nutrition counsellors as well as policy makers and those concerned about food security issues. It is recommended that this study be expanded to compare these food costs nationally; the author welcomes any Canadian university students or dietetic interns who might wish to assist.

Dietary attitudes and food choices in relation to an adequate diet among Quebecers aged 55-74.

B. Shatenstein*, S. Nadon, G. Ferland, *Centre de recherche, Institut universitaire de gériatrie de Montréal, Montréal, Québec. [R]*

Food choices in older people may depend on health status, income, gender and the aging process itself. The elderly often report a strong interest in nutrition and health and positive dietary action, but few investigators have examined whether nutritional awareness and declared action actually result in better diets. Dietary characteristics and associated factors were studied in a representative subset of participants aged 55-74 (n=460) from the 1990 Enquête québécoise sur la nutrition (EQN) dataset. Dietary attitudes and perceptions were taken from a self-administered questionnaire, and selected food-related behaviours from adjunct questions in the food frequency questionnaire. The 24-hour recall was used to score participants' diet quality using adaptations of the Dietary Diversity Score (maximum DDS = 4) and the Dietary Adequacy Score (maximum DAS = 18) corrected for intraindividual variation. Despite substantial proportions of respondents with stated positive dietary (78%) and body weight (50%) attitudes, these showed little relationship to diet quality scores. However, those stating that their food choices derived from nutrition-related health issues (heart disease, cancer, osteoporosis, hypertension, weight control) had a significantly higher DAS (mean±SEM) than those without health preoccupations. This was particularly true among women, where affirmative health and dietary concerns were related to higher DAS (14.1 ± 0.2 versus 13.0 ± 0.3, p<0.001), and weight concerns to better DDS (58% versus 45% scored 4/4, p<0.05). Better diets in men were driven mainly by fat and cholesterol concerns (DAS 15.2 ± 0.1 versus 14.4 ± 0.4, p<0.05). Stated attitudes in relation to reported dietary practices have implications for nutrition-based health promotion. Considering the critical link between nutrition and health in the elderly, effective targeted interventions can contribute to a compression of morbidity.

New Roles for Dietitians in Meeting Health Needs of Canadians

Attitudes of Canadian teachers about a food safety education kit

*B.J. Lacroix * Laboratory Services Division, University of Guelph and the Ontario Ministry of Agriculture Food and Rural Affairs, Guelph, Ontario. [E]*

Three hundred and twenty educators who purchased or borrowed the kit *Food safety can be fun* containing an award-winning episode of the CBC teen program, *Street Cents* and an educator's guide describing ten activities about safe food handling practices targeted to students in grades seven to nine, were surveyed during the summer of 1999 to assess the efficacy of the kit. The survey instrument consisted of 20 questions in four parts relating to the kit, its components and how they were used in the classroom, and some general demographic questions. Eighty-two responses (26% response rate) fit the criteria for analysis. The kit was used mostly in Family Studies/Home Economics classes (77%), with 34% of the respondents using the kit with Grade 9 students, and mainly in Ontario (80%). Almost half of the respondents (48%) agreed with the statement, "I feel confident that my students now know the difference between food spoilage (which spoils food but does not cause illness) and food pathogens (which causes foodborne illness even though the food may look, taste and smell fine)". Eighty-five percent agreed that the kit was part of a successful and effective approach for teaching food safety to teens. Working with partnerships to develop programs for teaching food safety is an effective way to get key messages to this group who will soon need information and skills as many are likely to be employed in food service operations such as fast food restaurants, long term care facilities or even feeding their own families.

Food biotechnology: exploration of views and assessment of resource needs of Canadian dietitians

R. Simonson, S. Whiting, M. Ryan-Harshman, S. Berenbaum, College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Saskatchewan. [R]*

We conducted a quantitative survey which assessed knowledge and attitudes of Canadian dietitians towards biotechnology with emphasis on genetically modified foods (*J Can Diet Assoc* 58:192, 1997). Attitude scores were low pertaining to the role of the dietitian, and pertaining to safety and labelling of genetically modified foods. The present study explored concerns of Canadian dietitians in depth, using qualitative methodology, to determine dietitians' views on controversial issues and to investigate adequacy of current biotechnology resources. Nationwide telephone interviews of 22 key informant dietitians were conducted in February/March, 1999. Issues covered included food safety and quality,

labelling, regulations, food production, education and resource needs pertaining to food biotechnology. Findings indicated that dietitians' perspectives on biotechnology are widespread and diversified nationwide. Views about how biotechnology may affect small producers, the local economy, food choices and food quality varied from very positive to very negative. Dietitians indicated a need for more education through discussions involving critical analysis and debate of issues by various stakeholders. It was agreed that the national organization, Dietitians of Canada, has a role to play in continuing education. Most participants felt that more concise, balanced and objective resources are needed. Further exploration of the educational needs of dietitians, are justified to develop appropriate education materials and programs.

Complementary alternative medicine (CAM) use in patients with HIV/AIDS

D.Cook, M.Morris, M.J.Marchand, D.Whitham, M.Harley, J.Genge, R.Hanning, P.Darling, St.Michael's Hospital (SMH), Toronto, Ontario. [R]*

The objectives of this study were to describe, within the HIV/AIDS population at SMH, 1) the proportion of individuals using CAM, defined in this study as vitamin, mineral and/or herbal use greater than 1 supplement/day, 2) the type of CAM used, 3) perceived effectiveness of CAM, 4) demographics of CAM users and 5) their sources of information. HIV/AIDS outpatients completed a validated, self-administered questionnaire. Of the 79 participants, 43 (54%) used CAM. Vitamin and/or mineral supplements were the most prevalent (71%) types of CAM used. A multivitamin with minerals supplement was the most common type taken (56%, n=44), followed by vitamin C. The median number of vitamins/minerals supplements taken daily by users was 3 (range 1-15). Twenty-five patients (46% of CAM users) also took herbs (median 2 supplements, range 1-10). The most commonly used herbal supplements were echinacea (n=10), ginseng (n=10), and garlic (n=9). The majority reported that their chosen supplements were effective and some believed herbal supplements increased immunity. Supplement use was positively associated with level of education ($p < 0.05$) and CAM users had post secondary education or higher. CAM users described themselves as either homosexuals (74%, n=32), heterosexuals (19%, n=8) or bisexuals (7%, n=3). Sources of information about herbal supplements were primarily friends and family followed by books/magazines and other health professionals (38%, 27% and 15% respectively). For vitamin/mineral use, 8 CAM users (16%) cited physicians as the source of information. This survey found that the majority of HIV/AIDS patients used some form of vitamin, mineral and/or herbal supplements and many used all three.

Health professionals should be aware of CAM use in order to more effectively help patients make informed choices.

Dietitian entrepreneurs in Canada

*S.L. Berenbaum**, *College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Saskatchewan. [R]*

Entrepreneurship has been promoted as an attractive and alternative career path for dietitians. However, little information exists as to the forms of this entrepreneurship, the functions entrepreneurs undertake and the context in which entrepreneurship takes place. The purpose of this study was to examine and describe the lives of dietitians who have chosen entrepreneurship as a career path. Specifically, the study aimed to: 1) investigate the driving forces that influenced dietitians to choose entrepreneurship as a career path, 2) determine how these entrepreneurs prepared for entrepreneurship, 3) identify whether entrepreneurial dietitians possess common characteristics, 4) identify the strategies dietitian entrepreneurs use to market their business, and 5) examine the measures of success dietitian entrepreneurs use for their own business. An exploratory qualitative design was used whereby dietitian entrepreneurs (N=25 from across Canada) were

interviewed to collect in-depth information about their experiences as an entrepreneur. Dietitians in this study became entrepreneurs for a variety of reasons. Most were seeking change and new challenges and more control of their work environment. Very few entered the field due to lack of job opportunities in more traditional settings. Most prepared themselves for their business venture by enrolling in small business courses, by reading business books and journals, and by consulting with others. The type of work done varied considerably and depended on interest, training, skill, and knowledge. Most were passionate about their work, were willing to take risks, and were creative and innovative. Almost all enjoyed the freedom and flexibility that came with being in business for themselves. However, the challenges included marketing one's self and business, determining what to charge for services rendered, and maintaining financial records. The entrepreneurs used several measures of success for their business; income earned was not the main criteria. Job satisfaction and client satisfaction were more important measures. Most felt they were successful entrepreneurs and would continue in that role. Entrepreneurship may be an attractive career path for some dietitians. Dietitians considering this path can benefit from the experiences of others.

Vulnerable Groups and their Nutritional Needs

Seniors Community Action For Nutrition

J. M. McBean¹, C.A. Watters², M. Atkins², J. Collins-Smith², L. Dawe², A. Dudman³, D. Gilbey², L. Gravells², S Hare⁴, L. Hanson⁵, A. Monaghan³, J. Watson⁶, M-F Wright⁷, J. Thirsk¹ [E]*

The number of seniors in Canada is increasing. The purpose of the Seniors' Community Action for Nutrition (SCAN) project was to identify nutrition needs and resources used by vulnerable seniors living in the community in Edmonton. A steering committee comprised of seniors, health professionals, and non-profit organizations serving seniors worked together to complete an environmental scan of services available for seniors and potential gaps. Information was gathered through interviews with seniors, healthcare professionals, community resource people, and caregivers. Interviews were structured around a set of open-ended questions adapted from nutrition risk screening questionnaires and the determinants of health. Over 300 seniors contributed information individually and in group settings, 27 health providers and 10 caregivers were interviewed. Qualitative data was organized into themes relating to nutritional vulnerability, food purchasing, food preparation and food consumption. Of the seniors interviewed individually, 26% were estimated to be at high nutritional risk, 42% were at medium nutritional

risk and 32% were at low nutritional risk. Results indicate all seniors used external supports for some aspects of food purchasing, preparation and consumption. Gaps in resources included a need for nutrition education and increased community resources (assistance in grocery stores, congregate meal programs, meal support, home help, transportation assistance). There needs to be a better awareness of the indicators of nutritional vulnerability, as well as increased support for community programs and resources to help seniors remain healthy and independent in the community.

¹Dietitians of Canada, ²Capital Health Authority, ³Alberta Council on Aging, ⁴Caritas Health Group, ⁵Society for the Retired and Semi-Retired, ⁶Meals on Wheels, ⁷Health Canada. Edmonton, Alberta

Prevalence of nutritional risk in community-living seniors: the PREVENTS Project.

*J.D. McKenzie**, *H.H. Keller, M. Pattillo, S. Chamberlain, Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario. [R]*

PREVENTS is a longitudinal study designed to determine the level of nutritional risk in frail community-living seniors and its association with adverse health

outcomes. The interviewer-administered version of SCREEN (Seniors in the Community: Risk Evaluation for Eating and Nutrition) was used in conjunction with an extensive interview schedule in the baseline data collection of PREVENTS. Interviewers were trained and monitored throughout the baseline data collection. 367 participants were recruited from 23 service providers (e.g. home care, Meals on Wheels) in five communities in south-western Ontario. 73.6% of the participants were female and the average age was 79.3 years (+/- 7.9 years). The average SCREEN score was 46 (+/- 6.6) and 44.4% had scores less than 45, indicating high nutritional risk. Common nutrition problems as identified with low SCREEN item scores (0 to 2 on a scale of 0-4) included: intake of 3 or fewer fruits and vegetables a day (48%), restricting diet due to health reasons (45%), difficulties cooking (42.2%), difficulties grocery shopping (28.9%), difficulties chewing (34.6%), poor appetite (27.5%), difficulties swallowing (22.9%), and weight change more than 10 pounds in 6 months (21.8%). Although this study is not necessarily representative, it is the first large reported Canadian study that included frail seniors from a variety of community sites. The level of risk is high but consistent with previous reports in similarly frail seniors. It is of concern to note the nutrition problems that are most common in this group, especially as some contribute to significant health risk (e.g. weight loss and difficulties swallowing). This study provides valuable information on the prevalence of nutritional risk in community-living frail older adults.

Eating dependency of people with dementia living in long-term care: part one of an exploratory study.

A.J. Gibbs, H.H. Keller, D.L. Boudreau. Family Relations & Applied Nutrition Department, University of Guelph, Guelph, Ontario. [R]*

This study addresses the lack of current Canadian research in the area of mealtime care for people with dementia living in long-term care facilities (LTCF). The objective of this exploratory study is to initiate the development of a clinical theory which could guide multi-disciplinary assessment, implementation and monitoring of mealtime care in LTCF. The first component of the project involved collecting detailed observational data for twenty residents at varying stages of dementia from two LTC facilities in South-Western Ontario. Each resident was observed during three breakfasts, three lunches and three dinners on non-consecutive days over a two-month period (August-September, 1999). Eight residents required total assistance with all meals and it was found that caregivers provided few supportive cues and promoted limited social discourse for these residents. The remaining twelve required varying levels of assistance, which differed within and between residents from meal to meal. In these cases caregivers used verbal cues most often and less frequently provided "supportive care" through

positive reinforcement, physical cues and physical guidance. The problematic residential behaviours which were most common included: frequently leaving the table, focusing on distractions in the dining room and verbally/physically refusing food. Overall the observational findings suggested four main influences on residents' mealtime experiences: caregivers' behaviours, resident behaviours, dining room atmosphere and acceptability of the food. Interventions in these areas may promote improved food intake and nutritional states in demented seniors. These key themes will be further explored at the next step of the project where in-depth interviews will be conducted with a sample of Registered Dietitians, Registered Nurses and Health Care Aides working in LTCF.

Evaluation of the validity and the reliability of two simple malnutrition screening tools adapted to elderly populations in acute and long-term care facilities.

J. Thibodeau, L. Villalon and M. Laporte, Université de Moncton, Moncton, New Brunswick. [R]*

Three protein-energy malnutrition (PEM) screening tools were previously elaborated and carried out in two health care institutions in Campbellton. The screening tools classified the subjects in two PEM risk levels: low and high. The results of the screening tools were compared to those of a comprehensive nutritional assessment based on anthropometric and biochemical indicators, a dietary history and a physical examination. The tools were aimed at an adult and elderly population and proved to have a good level of validity. Nevertheless, the screening tools needed to be validated in another population of subjects and was consequently aimed at an elderly population only. The present study reintroduced two of the three screening tools, one including BMI and % of weight loss over time and one including BMI and blood albumin level. The screening tools were carried out at the Georges-Dumont Hospital on 160 elderly subjects divided in two categories: acute care elderly aged ≥ 65 (n=80) and long-term care elderly aged ≥ 65 (n=80). The temporal and spatial reliability was additionally measured. The screening tools applied to this population provide similar results to those of the previous elderly population studied in Campbellton, that is, validity levels $\geq 76\%$ for tool 1 (BMI and % of weight loss over time) and $\geq 84\%$ for tool 2 (BMI and albumin). The data for temporal and spatial reliability show a higher score than the ones reported in other studies. Simple screening tools will now be available for screening the risk of PEM in the elderly in short and long-term health care facilities.

Sponsored: Medical Research Fund of New Brunswick.

Dietary potassium, from fruit and vegetable intake, is associated with greater bone mineral density in men.

J. L. Boyle, S. J. Whiting, A. Thompson¹, R. A. Faulkner¹, R. Mirwald¹, Colleges of Pharmacy &*

Nutrition, and ¹Kinesiology, University of Saskatchewan, Saskatoon, Saskatchewan. [R]

The Saskatchewan Growth Follow Up Study is a study of physical activity and nutrition in adult subjects (men and women, ages 35-40 years) who were, as children, enrolled in a longitudinal study on growth at the University of Saskatchewan from 1964 to 1973. Current health indicators (fitness level, body composition, bone mineral density (BMD) and serum cholesterol) and lifestyle behaviours are being compared to previously collected data on physical activity and levels of physical fitness. Dietary assessment was conducted using the Block food frequency questionnaire (FFQ, also called the HHHQ), version 3.7. We determined diet-bone relationships for the 57 men who completed both the FFQ and BMD measures. All correlations controlled for body weight effects on BMD. There were significant ($p < 0.05$) positive correlations between current potassium (K) intake and BMD of the hip, the total body (TB) and the lumbar spine (LS). No significant relationships were seen at these bone sites for calcium (Ca) intake, which is not surprising for a group ingesting adequate amounts of calcium, 1200 ± 515 mg (mean \pm standard deviation). Fruit and vegetable intake, protein, and phosphorus showed significant correlations only for total body BMD. Fruit and vegetable intakes, however, were highly correlated with potassium intake. These results support a growing consensus that fruit and vegetable intake (providing dietary alkaline potassium) is important for adult bone health.

La consommation de suppléments alimentaires chez les gens âgées, mîte ou réalité?

H. Plourde(1), M. Proulx(2), (1)École de diététique et nutrition humaine, Université McGill, Ste. Anne de Bellevue, Québec, (2)Direction de la Santé Publique des Laurentides, St-Jérôme, Québec [R]*

La consommation de suppléments de vitamines et minéraux ou de produits naturels est une réalité que tous les diététistes doivent maintenant considérer dans leur pratique. Cette étude avait donc pour but d'estimer la consommation de suppléments chez les personnes de 65 ans et plus. Les sujets (208) interrogés recevaient ou avaient reçu des services du CLSC de leur région. Lors d'une entrevue effectuée à la résidence des sujets, ceux-ci devaient répondre à un questionnaire qui incluait des sections concernant leurs caractéristiques démographiques, leurs habitudes alimentaires et leur consommation de suppléments. L'échantillon obtenu avait un âge moyen de 79 ans et était composé de 69% de femmes. Des sujets interrogés, 65% ont dit avoir déjà consommé des produits naturels ou des suppléments alimentaires ou des vitamines et minéraux (48% dans les 12 derniers mois). En moyenne, les sujets consommaient 1.8 suppléments. Ce sont les suppléments de vitamines et

minéraux qui étaient les plus souvent utilisés. Les autres suppléments les plus populaires étaient (en ordre décroissant): la lécithine, la griffe du diable, l'ail, les tisanes, les substituts de repas et la luzerne. Les principales raisons alléguées pour justifier la consommation de ces suppléments étaient (en ordre décroissant): améliorer son état de santé, augmenter sa vitalité, améliorer la constipation / l'élimination et pour aider l'arthrite et les rhumatismes. L'achat de ces suppléments a été suggéré principalement par (ordre décroissant): un médecin, un parent ou ami, une chronique à la radio, une initiative personnelle ou un naturopathe. Les informations obtenues lors de cette étude confirment que la consommation de suppléments est substantielle chez les personnes âgées.

Factors affecting breastfeeding duration in Kings County, Nova Scotia

J.L. Rondeau, E. Johnston, E. Hogan, School of Nutrition and Food Science, Acadia University, Wolfville, Nova Scotia. [R]*

Breastfeeding initiation rates have been increasing in Canada, but the length of time women breastfeed is low compared to the recommended six months. The objective of this study was to investigate breastfeeding duration in the context of the entire breastfeeding experience. One question explored was whether timing and content of prenatal breastfeeding education affected subsequent breastfeeding duration. Other areas of interest were (1) the consistency of breastfeeding advice given by health professionals prior to and after the birth of the infant and (2) the influence this advice had on breastfeeding duration. A study sample of 20 women who had initiated breastfeeding with at least one child was recruited for participation. The researchers used a set of open-ended questions for each face-to-face interview with participants. The Ethnograph v5.0 was utilized for interpreting the qualitative data obtained. Participants made the decision to breastfeed their infants prior to becoming pregnant or early in pregnancy. Prenatal classes were not found to affect the duration of breastfeeding but women mentioned their husbands, mothers, friends, and the La Leche League as having a significant influence on breastfeeding duration. Family, friends, the La Leche League, and the hospital's lactation consultant gave the most useful information on breastfeeding to participants. Women considered the information they received on breastfeeding from health professionals to be fairly consistent. In conclusion, breastfeeding education should be focused towards young men and women before they decide to begin having children. Because of the influential role family and friends have on breastfeeding duration, they should be invited to participate in prenatal breastfeeding education classes.

Iron status, dietary sources and intakes of iron and inhibitors and enhancers of iron absorption in Caucasian and Chinese Infants.

P.L. Williams, S.M. Innis. Dept. Paeds., Univ. British Columbia, British Columbia. [R]*

The iron status and dietary sources and intakes of iron and inhibitors and enhancers of iron absorption were determined for 48 Chinese and 84 Caucasian infants of 8-26 mths of age in Vancouver. Dietary data was collected using a 3-day food record (3d-FR) and an interviewer-administered food frequency questionnaire (FFQ). The dietary data was analysed using Food Processor®. Iron deficiency anemia (IDA) (Hgb \leq 101 g/L, or Hgb $<$ 110 g/L + serum ferritin (SF) \leq 12 μ g/L) was present in 15% of Caucasian infants at 8-12 and 4% at 13-26 mths of age, and in 2% of Chinese infants at 8-12 mths, and 0% at 13-26 mths of age. Low iron stores (SF \leq 12 μ g/L) was present in 30% of the Caucasian infants and 19% of the Chinese infants. Caucasian infants of 8-12 mths had lower intakes of meats ($P<0.005$) and higher intakes of cereals ($P<0.05$), and Caucasian infants of both 8-12 and 13-26 mths of age had lower intakes of mixed dishes with meats ($P<0.01$) and iron-fortified formula ($P<0.05$), and higher intakes of human milk ($P<0.05$) than the Chinese infants. Thirty percent of the Chinese and 20% of the Caucasian infants had total iron intakes $<$ 77% of the Recommended Nutrient Intake (RNI). While the total iron intake from non-milk food sources was higher ($P<0.005$) among Caucasian than Chinese infants, the intake of heme iron was lower ($P<0.005$). Strategies for the prevention of iron deficiency among infants in Vancouver are needed and should include ways to ensure an adequate intake of heme iron or alternatives to this.

Supported by a grant from the B.C. Medical Services Foundation.

Folate intakes and knowledge of British Columbian women of childbearing age

M.R. French, R. Levy-Milne, Food, Nutrition and Health, University of British Columbia, Vancouver, British Columbia. [R]*

Women capable of becoming pregnant are encouraged to increase their folate intake to reduce the risk of neural tube defects. This cross-sectional study estimated folate intake and knowledge in a sample of 148 women of childbearing age (18-45 years) living in the Lower Mainland of BC. An interviewer-administered questionnaire was used to determine folate knowledge and folate intake was assessed by a validated semi-quantitative food frequency questionnaire. Folic acid fortification of bread and grain products increased folate intake by 104.38 ± 67.99 ug synthetic folic acid (SFA)/d from 295.68 ± 152.60 ug DFE/d to 469.99 ± 200.06 ug (DFE)/d ($p<0.001$). Supplements contributed an average of 204.53 ± 388.10 ug SFA/d. Mean daily folate intake

from food folate, fortified foods and supplementation was 811.55 ± 709.85 ug DFE/d. Even though 85.7% of women were meeting the Estimated Average Requirement (EAR; 320 ug DFE/d) for folate, only 25.7% were meeting the recommendation (400 ug SFA/d) for women capable of becoming pregnant. Most women (94.6%) had heard of folate but only 25% were aware that folate can prevent birth defects. One quarter of women had good or very good knowledge of foods containing folate. The most common sources of information on folate were magazines/newspapers, doctors and television/radio. A lack of awareness of the importance of folic acid was the most common reason for choosing not to use folic acid supplements before pregnancy. Seventy-eight percent of women indicated that, with knowledge of the benefits of folic acid, they would be willing to take a supplement containing folic acid daily to reduce the risk of birth abnormalities. Strategies are required to increase folate intake among women and to promote the benefits of periconceptual folic acid supplementation.

Supported by BC Health Research Foundation.

Nutrition counselling at a new community health centre

K.A. Traviss, C.J. Boyle, P.J. Slattery, Vancouver Hospital & Health Sciences Centre; B.A. Grice, Vancouver Richmond Health Board; Vancouver, British Columbia. [R]*

We conducted a pilot project to determine whether providing outpatient dietitian counselling services at a recently established community health centre would help to address the needs of nutritionally vulnerable community residents. Although hospital dietitians and community nutritionists concur that nutrition counselling services for this clientele are needed, such clients are rarely referred to hospital outpatient dietitians, and community nutritionists have limited time for individual client consultations. During the trial, a hospital outpatient dietitian spent one afternoon per week at the centre, providing counselling to clients upon health professional- or self-referral. In all, 46 clients were seen (mean age 47 ± 21 years, 76% female), almost all (40, 89%) referred by physicians. The predominant reasons for referral were blood glucose abnormality (11, 26%), elevated lipids and/or blood pressure (8, 19%), GI disorder (7, 17%) and weight control (5, 12%). Only 4 clients were at risk of malnutrition. Most clients were positive about the community location, although almost all (37, 88%) would have accepted an appointment at the hospital. The dietitian involved noted that the nutritionally vulnerable clients she had hoped to see did not use the service, and having work responsibilities at two separate locations had operational disadvantages. We conclude that a community health centre such as this is likely to attract a relatively well, prevention-focused clientele. Nutrition services for community residents at

nutritional risk need to be integrated with existing community health services, and may need to be provided in a home setting. Physicians and other community health care providers need to be made more aware of the physical and social indicators of poor nutritional status, so they can help to identify individuals who may benefit from nutritional intervention.

Home Nutrition Support Service Client Survey

J. McGowan, M. Storey, Clinical Nutrition, Alberta Children's Hospital, Calgary, Alberta. [E]

In conjunction with the establishment of the Home Nutrition Support Service (HNSS) in February 1997, funding was made available for dietitian support of children on tube feedings. Some of these children were followed in a clinic or program where there was previously no dietitian assigned to provide ongoing follow up except through the DDR system. There was a need to define this population more clearly. Objectives: to (a) describe this population that was not necessarily followed on a regular basis previously, (b) collect a snapshot of basic anthropometric data, and (c) enquire about their needs for support. Methods: A short 5 – 10 minute telephone survey of the children on the HNSS dietitian's caseload was conducted by the HNSS dietitian as part of routine follow up contact over the months of July through mid November, 1999. Results: Fifty eight of a possible sixty families completed the survey. Most of the children had neurologic disorders. The average age at initiation of tube feedings was 3.2 years and the mean duration of tube feeding was 4.14 years. Most received 100% of nutrition provided by gastrostomy tube in bolus feedings throughout the day. The most recent contact with the dietitian was 7.5 months and the usual type of contact was by telephone. Most children were within their ideal body weight for height range however, several were less than the 5th percentile for both weight and height. Needs for support included having a resource to call with concerns and regular monitoring of their child's nutritional status. Conclusion: Recommendations made included the development of protocols for obtaining accurate anthropometric measurements and the establishment of regularly scheduled follow up appointments of this group of children with multiple medical problems.

What is it like to eat when you are sick?

C. Morley-Hauchecorne, A. H. Neufeldt, Community Rehabilitation and Disability Studies/Graduate Division of Educational Research, University of Calgary, Calgary, Alberta. [E]*

An interesting paradox was evident from a review of relevant literature. Some literature demonstrated that changed health status commonly prompts search for meaning and a (re)assessment of self. Other literature

identified food selection and eating behaviour as expressions of self. The paradox is that no research seems to have examined links, if any, between food selection/eating behaviour, the illness experience and "self". Initial interest in the topic stemmed from trying to make sense of clients' beliefs about the "power" of food, eating behaviour, and nutrition advice to affect disease outcome, bound up in issues of reward and punishment. This poster session examines questions of the intersection of knowledge about eating when one's health status has changed including meanings attributed to food/eating, the symbolic nature of food, family/social relationships involving food and eating, and meanings imbedded in verbal and nonverbal expressions about eating. This gap in understanding the phenomenon of eating when ill (that might be considered fundamental in dietetic practice) has prompted a hermeneutic phenomenologic inquiry of women's experiences of eating when living with changed health status.

Doctoral studentship assistance provided by The Danone Institute of Canada.

Health related quality of life and nutritional risk in frail community-living older adults; is there a link?

H.H. Keller, J.D. McKenzie, M. Pattillo. Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario. [R]*

PREVENTS is a longitudinal project designed to identify factors associated with adverse health outcomes in frail older adults living in the community. Nutritional risk was assessed with SCREEN (Seniors in the Community: Risk Evaluation for Eating and Nutrition) and other variables were collected with standardized interviewer administered questions. Health related quality of life (HRQOL) was assessed with eight specific questions (e.g. perceived health status) and the objective of this analysis was to determine if nutritional risk was associated with HRQOL. Participants (n=367) were recruited from 23 service providers (e.g. home care, Meals on Wheels) in five communities in south-western Ontario. Almost three-quarters of the participants were female and the average age was 79.3 (+/- 7.9 years) and 44.4% were considered to be at high nutritional risk. More than half (53%) of the participants indicated that their health was good to excellent and 41.4% believed their health to be better than others of a similar age. However, more than a third (35%) reported worse health than one year ago and 47% believed their health stood in the way of completing activities. Bivariate analyses found nutritional risk to be significantly ($p < 0.001$) associated with all of the HRQOL questions; those with higher nutritional risk reported a lower quality of life. Multiple linear regression for three continuous quality of life questions (number of poor physical, mental health and activity limited days in the past month) was also completed. SCREEN scores were found to be significant

and consistent predictors for all final regression models. Nutritional risk as assessed with SCREEN is associated with HRQOL in frail older adults.

Predicting nutritional quality of diets of older adults using a diet score based on Canada's Food Guide to Healthy Eating

K. A. Millan, J. A. DeWolfe, Kingston, Frontenac and Lennox and Addington Health Unit, Kingston, Ontario. [R]*

The study objective was to examine sensitivity and specificity of a diet score, based on Canada's Food Guide to Healthy Eating, to predict nutritional adequacy of diets of older adults. Three 24-hour recalls were collected from a convenience sample of community dwelling older adults. A three-day average diet score was calculated by assigning points for each serving or portion of serving consumed from the four food groups of Canada's Food Guide (maximum 18 points). An additional two points were given for consuming food from each of the four food groups to give a maximum diet score of 20. Nutritional adequacy was measured using mean adequacy ratio. Mean adequacy ratio was calculated from the nutrient adequacy ratios of 10 nutrients (ratio of actual to recommended intakes based on the 1990 Recommended Nutrient Intakes). We obtained food recalls from 105 older adults, 84 women and 21 men, with an average age of 74.2 years (range 65-95). Participants were predominantly "healthy" older adults with a high level of education. The mean diet score was 14.98 (range 8.4 – 20.0) indicating intakes less than the daily recommended intake for one or more food groups or total omission of a food group. The mean adequacy ratio for the group was 0.82 (range 0.53 – 0.90). The diet score turned out to be a good predictor of diet quality as measured by mean adequacy ratio (sensitivity 80.8%, specificity 78.4, predictive value 79-80%). Our results suggest that a diet score based on Canada's Food Guide to Healthy Eating can be used to identify older adults likely to have inadequate nutrient intake.

Evaluation of Evergreen Action Nutrition

S.I. Kirkpatrick, H.H. Keller, M.R. Hedley, P.D. Vanderkooy, Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario, N1G 2W1. [E]*

The Evergreen Action Nutrition program promotes the well-being of seniors in the Guelph area. Focusing on aspects of nutrition education proven to be effective in previous research, Evergreen Action Nutrition is using a community organization approach to encourage seniors in the community to identify nutrition-related issues, and to share in efforts to develop and implement services and activities to address these issues. Current activities include monthly displays, newsletter items, workshops,

and nutrition counseling. Comprehensive evaluation procedures have been planned and are being implemented to describe the participation of the seniors, and to identify areas where modifications are necessary to improve the program impact and outcomes. The evaluation plan considers process, impacts, and outcomes of services and activities, focusing on program goals and objectives, as well as on the program context and inputs. Methods include self-administered questionnaires, telephone interviews with participants, key informant interviews, observation, documentation of changes in nutritional status using pre- and post-testing with the Seniors in the Community: Risk Evaluation for Eating and Nutrition (SCREEN) tool, and tracking of participation rates and resource usage. The results of the evaluation will be used to facilitate replication of the community organization approach to health promotion, and to provide feedback to funding agencies and other stakeholders. Results to date have been notably positive, suggesting that the community organization approach is indeed an effective method of nutrition education for seniors. This experience-sharing session will share aspects of the evaluation plan, and results of the activity evaluations conducted so far.

This project is funded by Danone Institute of Canada.

Seniors plan nutrition education using results of the Evergreen Action Nutrition survey.

M.R. Hedley, H.H. Keller, Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario. [E]*

Evergreen Action Nutrition is a nutrition education program that uses a community organization approach to improve the nutritional health of seniors living in the community. The planning committee is comprised of members of the Evergreen Seniors Centre, researchers and a nutrition educator. They assess the need, plan, implement and evaluate activities and services to meet that goal. To assess nutrition needs and issues to be addressed by the program, the researchers mailed a copy of SCREEN (Seniors in the Community: Risk Evaluation for Eating and Nutrition) and a questionnaire about demographics, use of the centre and desired programs to a random sample of centre members. With a response rate of 62%, 247 responses were analyzed. The planning committee, reviewed and discussed the results of the survey, and identified four priority nutrition issues as: i) attitude towards eating; ii) eating three or fewer fruits and vegetables each day; iii) difficulties with cooking; and iv) special needs related to diseases and physical conditions. The nutrition educator has worked with the committee members and other centre volunteers to determine the content and format of the activities and services. They are being implemented, evaluated and enhanced as part of a three-year project. Activities and services include diet counselling by a registered dietitian, cooking workshops, Garden Fresh Box, monthly displays

and newsletter articles. This experience-sharing presentation will describe the successes and challenges of the planning process and provide more details about the activities and services.

This program is funded by Danone Institute of Canada.

Girls' eating attitudes are associated with bone mass and bone gain in early adolescence

S.I. Barr, M.A. Petit, J.C. Prior and Y.M. Vigna, Food, Nutrition and Health, University of B.C., Vancouver, British Columbia. [R]*

In adult women, we have found that eating attitudes, as reflected by high scores for cognitive dietary restraint (conscious control of food intake in an effort to control body weight), are associated with ovulatory disturbances and increased 24-hour cortisol excretion. Both of these variables can negatively affect bone metabolism. The purpose of this 2-yr prospective study was to determine whether eating attitudes in peripubertal girls are related to bone mineral acquisition. Forty-five girls, 10.5±0.6 years old, participated. Total body (TB) and lumbar spine (LS) bone mineral content (BMC), lean mass and fat mass were assessed annually by dual energy x-ray absorptiometry. Also assessed were nutrient intakes (3-d diet records and a calcium food frequency questionnaire), physical activity (questionnaire), sexual maturation (Tanner breast stage), height and weight. Eating attitudes were assessed using the Children's Eating Attitudes Test (ChEAT). Mean ChEAT subscale scores (dieting, oral control (OC), bulimia) did not change over time. A median split allowed comparison of girls with low (n=24) and high (n=21) OC. Despite similar calcium and energy intakes, physical activity, %fat and %lean mass, girls with higher OC scores had ~11-17% lower baseline and 2-yr TB and LS BMC measurements (P<0.05). These differences remained significant (~5-13%, P<0.01) after adjustment (height, weight, and Tanner stage). In addition, girls with high OC *gained* less TB (479 vs. 586 g, P=0.032) and LS (13.05 vs. 16.83 g, P=0.025) BMC over two years. After adjustment (baseline BMC, height, Tanner breast) BMC gain remained less (P<0.10). These data suggest that eating attitudes are established at a young age and influence bone gain during growth.

Supported by B.C. Health Research Foundation

Service provider satisfaction with a prenatal nutrition intervention program

D.L. MacLellan, D. Bradley, M. Brimacombe, Department of Family and Nutritional Sciences, University of Prince Edward Island, Charlottetown, Prince Edward Island. [R]*

A provincial program in Prince Edward Island has been providing nutrition support to low income women and those at high risk for poor birth outcomes since 1971.

Recent changes to the health system have caused concern that the program is becoming less effective. This study was part of a comprehensive evaluation of the PEI Prenatal Nutrition Intervention Program. The purpose of this component was to evaluate the program from the perspective of the service providers. A non-experimental cross-sectional survey design was used. The study sample included all 9 nutritionists involved with Program delivery between 1989 and 1996 and 57 health care professionals identified by the nutritionists as having made referrals to the Program during that time period. The subjects completed a modified version of the Pregnancy Outreach Program Assessment Questionnaire developed by the British Columbia Ministry of Health. Results indicated that overall satisfaction with the program was high. Perceived program strengths included the counselling approach, program quality, availability of food and income supplements and accessibility. Perceived program weaknesses included inadequate staff/time, administrative requirements, limited communication/awareness and difficulties with accessing clients. The service providers were satisfied with the referral process, but felt that it could be improved. The findings of this study suggest that there is a need to examine the current method of Program delivery to streamline the process and improve communication among the service providers.

The effect of gastrostomy on quality of life and feeding difficulties in children with neurodevelopmental disabilities: caregivers' perceptions

V. Hooper, S.L. Cook and R. Nasser. Regina Health District, Regina, Saskatchewan. [R]*

Very few studies exist which provide objective data to share with caregivers facing decisions regarding gastrostomy feeding for neurodevelopmentally disabled (NDD) children. Gastrostomy surgery has been successfully used to alleviate not only the chronic malnutrition characteristic of this population but also the distress and frustration associated with feeding. Despite this, many caregivers are often resistant to gastrostomy placement. In order to determine the impact of gastrostomy placement in children with NDD, a 37-item questionnaire was used to collect caregivers' perceptions both pre- and post-gastrostomy. Frequency and duration of feedings, feeding difficulties, as well as quality of life for both the child and caregiver were collected from 20 participants. The frequency of feedings decreased from 4.9 to 4.2 times per day following gastrostomy surgery (P=0.04) and duration of daily feeding also decreased significantly from 227 to 107 minutes (P=0.001). Pre-operative problems (such as vomiting, coughing/choking, inadequate intake, slow feeding) improved significantly (P=0.0001) following gastrostomy placement. Caregiver perception of quality of life for both themselves and their

child also improved significantly following gastrostomy ($P=0.0001$). All caregivers reported an improvement in the ability to administer medications post gastrostomy. The results of this study identify that gastrostomy

placement in NDD children positively impacts their quality of life and their caregivers. Caregivers may find these results encouraging if faced with the decision for gastrostomy surgery for their child.

Other

An Examination of At-Home Food Preparation in Relation to Women's Food Intakes and Food Security

C. McLaughlin, N. Kreiger, V. Tarasuk, Department of Nutritional Sciences, University of Toronto, Toronto, Ontario. [R]*

Improving food preparation skills has been the focus of many programs directed at low-income families. However, household food preparation activity is not typically assessed. A secondary analysis of data from a Toronto study of 153 women in families using food banks was undertaken to: i) develop a methodology to assess food preparation from 24-hour dietary intake recalls; ii) use this methodology to assess apparent food preparation in the sample; iii) examine the relationships between food preparation and household food security status and food intake. To assess food preparation, recall data from a stratified random sample of eating occasions (time periods when foods were consumed) were examined in detail, and complexity of at-home food preparation was quantified. This score was regressed on the number of foods in the eating occasion (differentiating foods denoted as recipe ingredients from other foods). The multiple regression equation derived was applied to generate food preparation scores for each eating occasion in the data set, and the frequency and complexity of food preparation for each participant was estimated over the three days of observed intake. The frequency and the complexity of food preparation were positively correlated with energy intake. There was a small but significant positive relationship between the frequency of food preparation and fruit & vegetable, grain product, and meat & meat alternate intakes (controlling for energy intake). The complexity of food preparation, but not the frequency, was significantly associated with food security status. At-home food preparation appears to exert a modest effect on women's food intake patterns, but is not related to household food security.

This project was funded by The Danone Institute of Canada.

Food preparation and cooking skill classes for adults living with diabetes: A needs assessment.

C. Andersons, J. Paisley, P. Duxbury and J. Zweig, Ryerson Polytechnic University, Toronto, Ontario. [R]*

Dietary change and maintenance are integral components of diabetes self-management. A variety of factors,

including inadequate food preparation and cooking skills, may contribute to the difficulty that many people experience when trying to change familiar dietary patterns. This study assessed the need for food preparation and cooking skills programming among adult clients of a large diabetes education centre in Ontario. A peer-reviewed, pre-tested survey was administered (either in person or by mail) to adults who attended a three-day diabetes education program. The survey assessed respondents' interest in food preparation and cooking skill classes, obtained a brief description of their cooking and eating habits, and demographic information. One hundred and five adults (35 males and 70 females), living with Type 1 or Type 2 diabetes, completed the survey. Eighty six percent of respondents were interested in attending cooking demonstrations or classes. Cooking classes featuring low fat cooking and quick, easy meals were of greatest interest to participants. Respondents reported that the most difficult aspects of preparing meals that fit their meal plans were understanding of appropriate portion sizes, preparing suitable meals within the time constraints of their lives, and ensuring sufficient variety in their food intake. Ninety three percent of respondents were willing to pay a fee (\$10 to \$15 or more) to attend a cooking class. Most respondents preferred that classes be lead by a dietitian. This study has demonstrated an interest among adults living with diabetes for cooking classes that feature preparation of quick, easy, low fat meals together with tips concerning portion sizes and enjoyment of a variety of foods.

Perspectives on Food Labelling: A Survey of Diabetes Educators

National Nutrition Committee, Nutrition Labelling Subcommittee, Canadian Diabetes Association, Toronto Ontario. [R]

Nutrition labelling on food products is important to the person with diabetes. Diabetes Educators from all disciplines are important stakeholders in current Health Canada consultations on food labelling policy. The Diabetes Educator Sector of the Canadian Diabetes Association is comprised of health professionals who are directly involved in diabetes education and management of diabetes care in Canada. Objectives of this research were to determine the use and understanding of nutrition labelling by diabetes educators and their clients, and to identify level of support and educational needs. A self-administered survey was designed, validated and mailed

to 1883 diabetes educators. A 5-point likert-type scale was utilized to assess components of the nutrition label. Both qualitative and quantitative data were evaluated. Two independent reviewers sorted qualitative data into common themes. The response rate was 23%. Responses were received from dietitians (60.9%), nurses (29.1%), pharmacists (6.3%), physicians (1.0%), and other (2.3%). Among all disciplines, use of food labels in diabetes education was 85.5%. Total fat, total carbohydrate, and dietary fibre were identified as useful components of the nutrition panel. The food claims “no added sugar”, “unsweetened” and “cholesterol free” were identified as not useful or not well understood by clients. The vast majority of diabetes educators (97%) want nutrition information on most food products, particularly on packaged food, restaurant foods and store-wrapped meats. Most educators (91%) want to be updated on any changes in food labelling in Canada. The survey identified that nutrition labelling is important to diabetes educators, although some components are more important than others. Food labels are widely used in client education by diabetes educators, and there is strong support among all disciplines for widespread nutrition labelling in Canada.

Development of learning opportunities to support entry into dietetic practice in Ontario

R.M. Hanning, J. Bellman, M. Hedley, J. Chappell, B.C. Davidson, Dietetic Educators Leadership Forum of Ontario (DELFO), Toronto, Ontario. [E]*

With the goal of enhancing and expanding the opportunities to meet the comprehensive competencies for entry into dietetic practice in Ontario, the DELFO project was initiated early in 1999. The objectives were: 1) to develop an inventory of new and non-traditional dietetic competency-attainment opportunities for dietetic learners in Ontario, and 2) to develop tools to support these learning opportunities. The project coordinator (BD) used letters (n = 106), phone calls and e-mail to identify learning opportunities and preceptors. The resulting inventory of confirmed placements included 175 individual opportunities of 2 to 12 weeks in length (median = 4). The 82 different learning opportunity sites represent 14 different sectors of dietetics: aboriginal health (n=4 sites), community health centres (CHCs, n=7), computer (n=1), food services (n=5), government (n=1), home care (n=2), industry (n=8), international (n=1), long-term care (n=12), media (n=1), nutrition care (n=8), private practice (n=3), public health (n=17), and remote / underserved communities (n=12). A number of tools were developed to support those providing and accessing the learning opportunities, including: guidelines for using the inventory, developing performance objectives and conducting evaluations; sample learning plans for generic, long-term care, CHC, public health and food services / industry opportunities;

and templates for evaluations. The inventory and support tools were distributed to the 14 DC-accredited Ontario internships in October 1999. We are currently monitoring use of the inventory, and evaluating the learning opportunities and process by interns, providers and internship coordinators. Ultimately, this project may help to expand opportunities to enter dietetic practice in Ontario and prepare learners for emerging positions in non-traditional sectors.

Supported by the College of Dietitians of Ontario

Students in Residence also Learn Nutrition: An Undergraduate Peer Nutrition Education Program

A.C. Garcia, C.J. Henry, University of Western Ontario, London, Ontario. [E]*

Students at the University of Western Ontario (UWO) are eating healthier, thanks to an exciting new peer nutrition education program created in a partnership between the Department of Human Ecology, Brescia College, and Division of Housing and Food Services, UWO. Launched in September 1998, this pilot project aimed at providing resources to encourage healthy eating behaviours among students living in the University residences was well received by students and university administration. Using descriptive and evaluation information this report describes the collaborative process, planning, organizing and pilot-testing of the peer nutrition education program including the development of a manual (Food Smart Manual), selecting & training of peer educators, conducting the workshop series and evaluation. The Food Smart Manual includes several self-contained modules describing topics on nutrition & physical fitness identified as priorities by students in UWO residences in recent years. An anonymous questionnaire administered following the workshops showed that most participants rated the program very positively regarding sensitivity to specific issues, delivery of information, ability to stimulate thought and awareness, and relevance to the university community. Recommendations for program revision and Implementation are highlighted. Students in university residences are showing a greater interest in health and nutrition matters more than ever before. If a healthier lifestyle is the goal, then clearly nutrition information should be available to help them make the changes necessary. This is important particularly on campus where healthier choices and physical activity may be the best measures to maintain overall health and vitality, important ingredients for sustained learning! Peer influence and role modelling can have a major impact upon changes in attitudes and behaviour of their peers.

Discover healthy eating! A teacher's resource for grades 1-6

*Region of Peel Health Department * (Mary Turfryer), Toronto Public Health, York Region Health Services, Ontario. [E]*

Discover Healthy Eating! A Teacher's Resource for Grades 1-6 is a curriculum resource to help students identify and choose a variety of foods for healthy eating. The objective of this resource is to provide teachers with background information and easy-to-use activities for use with their students. These activities provide an opportunity for children to explore the topics of food, nutrition, eating patterns, dental health and body image. Through various learning activities, students will become more knowledgeable and aware of the influence their own eating patterns have on their health and well being. In turn, students will increase their confidence in making health-enhancing decisions. The development of *Discover Healthy Eating!* involved many professionals with a variety of expertise. These professionals came together as a result of local mandates and needs expressed by their local Boards of Education following the publication of *The Ontario Curriculum Grades 1-8, Health and Physical Education* (1998). Registered Dietitians within Toronto Public Health, York Region Health Services and Region of Peel Health Department coordinated this project and collaborated with dental health educators, nurses, teachers and physical activity, body image and multicultural experts. The poster presentation will focus on the multi-sector and multi-disciplinary process undertaken to develop *Discover Healthy Eating!* It will also focus on the interest this resource has generated in other School Boards and Health Units within Ontario. This interest has led to a partnership with the Nutrition Resource Project (affiliated with the Ontario Public Health Association) to facilitate the dissemination of this resource across the province.

Awareness of dietary fat and fiber as cardiovascular risk factors

K. Maloney, B. Roebathan, R. Moore-Orr, Division of Community Health, Memorial University, St. John's, Newfoundland. [R]*

Are we reaching individuals with the message that lowering dietary fat and increasing dietary fiber are important risk factors for cardiovascular disease? A secondary analysis of survey data collected in 1996 by Nutrition Newfoundland and Labrador provided the opportunity to investigate this question. The subjects were a random sample of non-institutionalized, 18 to 74 year old adults living in metropolitan St. John's. Awareness was based on the respondents' answers to the following questions: 1) Would eating fewer high fat foods have little or no effect, a moderate effect, or a large effect in preventing heart disease? 2) Would eating more

high fiber foods have little or no effect, a moderate effect, or a large effect in preventing heart disease? The respondent also had the choice to answer "not sure" for each question. Chi Square tests of association were used to study the associations of sociodemographic variables, age, sex, income, education, with awareness of fat and awareness of fiber. There was a significantly greater awareness of the link between heart disease and eating fewer high-fat foods (76.5%) as compared to heart disease and eating more high-fiber foods (44.7%) ($p < 0.05$). Sex was the only demographic variable significantly associated with the respondent's awareness of dietary fat and dietary fiber. Females were more aware of the importance of decreasing dietary fat ($p < 0.05$). Almost 52% of the female respondents reported that eating more high fiber foods would have a large effect in preventing heart disease as compared to males (40.7%). It is obvious that certain subgroups of our population are unaware of the importance of some dietary factors in the prevention of cardiovascular disease.

Preferences for diet, exercise and medications to prevent cardiovascular disease among Canadian South Asians.

S. Murtaza, P. Brauer, Department of Family Relations and Applied Nutrition, University of Guelph, Guelph, Ontario. [R]*

Multiple options exist for controlling the insulin resistance syndrome (Syndrome X) to prevent cardiovascular disease, which include diet, exercise, medications or a combination of the three. Adherence to multiple component disease prevention regimes has often been poor, however, and new approaches are needed. One promising approach is to involve clients in the treatment decision process, and when multiple options exist, to determine and give priority to their stated preferences. A pilot study was undertaken to determine if treatment preferences would vary, under a hypothetical scenario where diet, exercise and medication were assumed to be equally efficacious, but where each would have to be undertaken for a lifetime to prevent disease. A cross-sectional survey was conducted at a community bazaar with a convenience sample of adult South Asians over 30 years of age ($n = 167$), a group at high risk for cardiovascular disease because of insulin resistance. The sample represented the different regional backgrounds of South Asians living in Metro Toronto, as assessed by mother tongue. Ninety seven percent of respondents were willing to make changes with diet, exercise or medications to prevent heart disease. When asked which intervention would be most preferred, a much higher percentage of the respondents chose exercise (48%) or diet (40%), compared to medications (7%) ($p < 0.001$). Most respondents least preferred medications (72%) followed by diet (16%) and exercise (10%). More women least preferred exercise (21%) than men (4%),

and more men least preferred diet (19%) than women (11%) ($p < 0.001$ for association by gender). Stated preferences for the three interventions varied significantly within this sample, justifying further development to assess the potential of this strategy to improve adherence.

Food Group Sources of Calcium, Iron, and Folate in Canadian Women

*H. Ritter**, *K. Gray-Donald*, *School of Dietetics and Human Nutrition, McGill University, Ste. Anne-de-Bellevue, Québec. [R]*

In past nutrition surveys Canadian women report sub-optimal mean intakes of calcium, iron, and folate which are important for preventing osteoporosis, anemia and fetal neural tube defects. Nutrition counseling should focus on food sources acceptable to the general population rather than on sources encouraged for their nutrient density. Twenty-four hour recall data from the 1997-98 Food Habits of Canadians survey were analyzed ($n = 971$ women) in order to determine food sources of calcium, iron and folate in individuals meeting the RNI for these nutrients. Women were categorized into age groups according to RNI cut-offs. Fluid milk and cheese together contributed approximately twice (%) and 4-5 times (mg) as much calcium in women meeting the RNI for calcium compared to those not meeting the RNI. Women not meeting the RNI for calcium obtained a greater percent (not absolute) of calcium from breads, carbonated beverages, hamburgers/pizza, cakes/cookies/pies/granola bars, and other non-dark green vegetables. Women meeting the RNI for iron obtained more (%) and mg) from cereals and beef/veal than those not meeting the RNI. Foods contributing a greater percent (not absolute) to iron intake in women below the RNI were coffee/tea, other non-dark green vegetables, and hamburgers/pizza. Women meeting folate requirements obtained more (%) and mcg) from citrus fruit juices, lettuce/cabbages/greens, other non-dark green vegetables (except 25-49 year olds), other dark green vegetables, and citrus fruits. Women not meeting the RNI for folate obtained a greater percent from breads, milk/chocolate milk and coffee/tea. These results show the importance of encouraging intake of fluid milks, cheeses, cereals, beef/veal, citrus fruits and fruit juices to obtain adequate levels of nutrient intake in Canadian women.

Sensory assessment of food quality in institutions: improving upon measurement and evaluators' training

*D. St-Arnaud-McKenzie**, *C. Paquet*, *G. Ferland*, *L. Dubé*, *Institut universitaire de gériatrie de Montréal, Montréal, Québec. [R]*

Sensory evaluation of food quality in hospital food services is highly variable across institutions, in terms of the measurement scales being used, and the thoroughness with which evaluation is performed. Although judgments of sensory quality parameters are highly idiographic and organizational constraints real, we argue that significant improvement can be attained. Drawing from sensory evaluation research and practice in the food manufacturing industry, a theory-driven approach to the training of evaluators and to the measurement of the sensory quality of the food has been developed. This innovative method includes (1) establishing the profiles of various dishes using the most pertinent sensory parameters, (2) developing measurement scales for each parameter with anchors and gradations calibrated to capture actual sensory experiences; (3) training the evaluators to reach agreement on the meaning of the descriptors and their interpretation of assessment parameters and scales used. The present paper describes our approach and reports a validation study conducted in a mid-term geriatric healthcare facility. Prior to the training session, evaluators completed a traditional sensory quality assessment representative of current practice. After training, they completed both the traditional and the theory-driven assessment scales. Inter-evaluator reliability was calculated at various levels: traditional measure: pre-training, traditional measure: post-training; theory-driven measure: post-training. Results show that traditional scale failed to capture significant improvement in inter-evaluator reliability following training (Intraclass correlation coefficient = .38 vs .43). However, post-training inter-evaluator reliability using the theory-driven method outperformed the traditional measures (.43 vs .87). Results suggest that scientific development in both measurement and evaluator's training for sensory evaluation assessment are necessary.

Supported by the Medical Research Council of Canada.

Food Preferences of Hospitalized Patients - A Multi-Site Survey

L. Danielis, *M. Kestenbaum**, *D. Lapierre*, *D. Spigelski*, *L. Troppmann*, *Sodexo Marriott Services, McGill University Hospital Center Food Services, Montreal, Québec. [E]*

Objectives of the project were to determine food preferences of the patient population across four McGill University Health Centre (MUHC) sites, to see if unique food service needs exist at each site and to make recommendations for developing one across-site menu. Two hundred and sixty six acute and long term care patients (45% men, 55% women, 43% over 65 years old, average stay 39 days) responded to an interview survey. This consisted of 23 open and closed-ended questions about a 9 category food list and the food service experience in general. Data was analyzed by the SPSS

statistical package to determine frequency of preference for the individual food items. Responses to open ended questions and additional comments were coded and compiled by theme. For breakfast cold cereals, apple and orange juice, fresh fruit and hot breakfast items were most preferred. For lunch and supper, existing main entrees ranking as most preferred were chicken, beef and pasta. In addition, respondents asked for hamburgers, hot dogs, pizza and baked potatoes to be available. Particularly identified as comfort foods in time of illness were pasta, fresh fruit, vegetables and soup. Many patients asked for homogenized milk to be available. Despite different healthcare specialties at the four sites, it was found that there was no difference in patient needs and preferences. Apart from adhering to the identified food preferences, recommendations for across-site menu development included: a la carte choices for certain meal items; additional choices on the geriatric menu; increased variety of bread; and increased vegetarian choices. Preliminary calculations indicate that recommendations can be incorporated into the menu without increase in cost per meal.

Satisfaction and quality in hospital food services: From measurement to management

C. Paquet, D. St-Arnaud-McKenzie, L. Dubé, G. Ferland, Institut universitaire de gériatrie de Montréal, Montréal, Québec. [E]*

Quality of food and related services contributes importantly to patient food intake and general well-being in institutional settings. Significant developments have been made both in research and practice in the measurement and regular monitoring of patient satisfaction with food services, which have led to the identification of various moderators of satisfaction and to the development of cost-effective ways to optimally maintain patient satisfaction. Nevertheless, dietitians still lack a systematic and analytical approach to pinpoint areas of the service process that are linked to patient satisfaction. The objective of the present paper is to introduce the *blueprint method*, a technique borrowed from the service marketing management that allows the systematic mapping of a service process, by first identifying the processes that constitute the service with special emphasis on client-service provider encounters and then specifying how critical each of these points are to service quality and client satisfaction. The operational processes at each of these critical points are then mapped backward, specifying recovery measures in case of failure. It is to these critical encounter points that dietitians should pay heed in managing service quality and patient satisfaction. We applied the blueprint method to food services in a mid-term geriatric healthcare facility. Blueprints were developed at two levels. At the *patient-meal level*, activities that unfold around the meal are mapped from the patient perspective. The *nursing-unit meal level* blueprint articulates the

processes involved in the production, distribution and the delivery of the meal to the nursing unit. Results are presented in a schematic representation of the services which was used in a case study analysis to gain insights and suggest actions to improve patient satisfaction and service quality.

Supported by the Medical Research Council of Canada.

Establishing a City Wide Enteral Formulary

S. Behari, M. Donnelly-Vanderloo, R. Lowndes, S. Nocent, J. Pikul, R. Russell, C. Sigfrid, E. Spanner, C. Ulrich, N. Woodcock, Clinical Nutrition, London Health Sciences Centre, London, Ontario. [E]*

A Hospital Enteral Product Formulary is a necessary and important factor in providing nutrition care. While cost is an important reason for developing formularies, the needs of the patients served must be recognized. A formulary based on the needs of patients considers cost by minimizing inappropriate use of expensive formulas, providing a systematic approach for considering new formulas and avoiding duplication of formulas. The development of a city wide formulary for two large teaching hospitals located at five sites was initiated prospectively. A committee of dietitians of all sites in various specialties in the adult and pediatric areas identified parameters for product specifications from those established in the literature and their own expert knowledge. The second stage was the *development of ideal product specifications for the major disease states seen at the hospitals*. The creation of a master nutrient breakdown list of all enteral products available in Canada facilitated the third stage of the process, which was *identifying all products on the market that closely/completely fit the specifications*. The current and fourth stage of the project is *identifying the product of choice for the various disease states to be used by the hospitals*. This stage is influenced by existing contracts with enteral formulary companies. A draft of two formularies (adult and pediatric) for enteral, oral and occasional use products has been developed thus far. Future and ongoing steps include *working within the systems at the sites for the procurement/delivery of enteral formulas to implement the city wide formulary*. The implementation of city wide formulary is expected to result in significant cost savings and improved patient care.

Vitamin K Status In Children With Chronic Liver Disease

D. Mager, P.L. McGee, L. Bannister, E.A. Roberts and K. Furuya. Division of Gastroenterology and Nutrition and Research Institute, Hospital for Sick Children, Toronto, Ontario. [R]*

Children with liver disease are at risk for vitamin K deficiency secondary to fat malabsorption and inadequate dietary intake. The objective of this study

was to determine the prevalence of vitamin K deficiency in children with cholestatic and non-cholestatic liver disease. Vitamin K status was examined in 43 cholestatic (age 5.0 ± 4.9 years ; range 0.25-15.9 years) and 29 non-cholestatic (age 11.29 ± 5.0 years ; range 0.95-16.9 years). 18 out of 72 children were supplemented with vitamin K in the form of a multivitamin (0.2 mg/d) or a single vitamin preparation (5 mg, 2 to 7 times/week). Vitamin K status was assessed by plasma PIVKA-II (prothrombin induced in vitamin K absence) assay (ELISA). Baseline blood work (prothrombin time (PT), ALP, γ GT, AST, ALT, conjugated/unconjugated/delta bilirubin, bile salts, vitamin A and E) was collected to assess the relationship between vitamin K status and these biochemical variables. Determination of severity of liver disease was measured using the Child-Turcotte classification and the modified Pugh score. The mean plasma PIVKA-II (\pm SD) in cholestatic and non-cholestatic children was 61.9 ± 144.0 ng/ml (range: 0-857.7) and 1.2 ± 3.0 ng/ml (range: 0-16), respectively ($p < 0.05$). The mean plasma PIVKA-II (\pm SD) of cholestatic children supplemented with vitamin K was 57.9 ± 87.7 ng/ml (range: 0-304), indicating that current levels of vitamin K supplementation are insufficient in this population. Plasma conjugated bilirubin, bile acids, and severity of liver disease scores were positively correlated with plasma PIVKA-II levels ($p < 0.05$). **Conclusions:** This study demonstrates that sub-clinical vitamin K deficiency is prevalent in children with chronic liver disease. Elevated PIVKA-II levels occurred in children with a normal PT, indicating that more sensitive markers of vitamin K status should be used in children with liver disease. Vitamin K deficiency was related to increasing cholestasis and severity of liver disease in children. Vitamin K deficiency was also prevalent in cholestatic children supplemented with vitamin K indicating that current levels of supplementation are insufficient in this population.

Total Parenteral Nutrition Utilization In The Hospitalized Pediatric Population.

L. Bannister, D. Mager, Division of Gastroenterology/Nutrition, Hospital for Sick Children, Toronto, Ontario. [R]*

Children with gastrointestinal dysfunction are at risk of malnutrition. The extent and severity of this condition has been associated with increased morbidity and mortality risk and prolonged length of hospitalization. Significant gastrointestinal dysfunction can result in the need for intravenous support in order to meet nutritional and hydration requirements. A retrospective review (January 1998-December 1999) of Total Parenteral Nutrition (TPN) utilization in the GI/Nutrition/Nephrology/Rheumatology/Transplant Unit at the Hospital for Sick Children was conducted to assess

factors affecting delivery of TPN volumes. Comparison of delivered and ordered TPN volumes was done in order to quantify utilization of ordered TPN and to identify potential variables responsible for variations in these volumes. The total number of children on TPN reviewed during the study period was 207. This represented 92% of all cases of TPN on this unit during the study period. Children with Inflammatory Bowel Diseases ($n=99$), short gut and dysmotility ($n=52$), and chronic liver disease ($n=29$) represented approximately 87% of all TPN cases in this unit. The mean (\pm SD) percent of TPN volume delivery was $76.3 \pm 18.1\%$ (range 15-102%) of the ordered volume. Mean percent delivery of ordered TPN was greatest in central lines ($78.0\% \pm 18.2\%$), followed by midline ($77.7\% \pm 15.2\%$) and peripheral ($68.4\% \pm 22.5\%$) catheters. The major variables identified that affected efficiency of TPN volume delivery were the use of incompatible intravenous medications (58%), line access problems (21%) and catheter related sepsis (10%). **Conclusion:** Delivery of TPN in the pediatric patient can be affected by the use of incompatible intravenous medications, line access problems, and catheter related sepsis. The long term outcome of this study will be protocol development focused on TPN delivery strategies.

Effect of employee empowerment on trayline accuracy rates

S.L. Cook, B.L. Webster and S. Matt. Regina Health District, Regina, Saskatchewan. [R]*

The provision of cost-effective health care has necessitated that Nutrition and Food Services Departments ensure that the skills and abilities of all employees are utilized to their fullest potential. Several facilities in Canada have adapted to these financial constraints by removing the supervisor or 'checker' position from the patient meal trayline. However, none of these facilities stated any intention to empower front-line employees or prepare them for this change. The objective of this study was to determine the effects of front-line employee empowerment on trayline accuracy rates. Data were collected at two acute care facilities and consisted of three measurement periods of fourteen days each, separated by washout periods. Measurement 1 provided for baseline data with the trayline proceeding with normal staffing. Measurement 2 differed from baseline in that the checker was removed from the trayline. Measurement 3 was identical to that of measurement 2 except that dietary staff received an empowerment education session prior to the checkers removal. Within each measurement period, an average of 6400 trays were checked for accuracy. Chi square analyses were conducted to measure the difference in trayline error rates. Measurement 3 total error rates (7.2%) were significantly lower than that of both baseline (8.4%) ($P=0.001$) and measurement 2 (10.1%) ($P=0.0001$), while measurement 2 error rates were

significantly higher than that of baseline ($P=0.0001$). Trayline errors for therapeutic trays were significantly higher for measurement 2 (1.8%) as compared to both measurement 1 (1.1%) and measurement 3 (1.3%). The results of this study identify that employee empowerment has a positive effect on trayline accuracy rates and has a greater potential to impact trayline errors than does the presence of a checker.

Body image, dieting and eating practices in adult women

M-C. Paquette, K. Raine-Travers, B. Whetstone, J. Chambers, University of Alberta, Edmonton, Alberta. [R]*

Many women in our society are not satisfied with their bodies. This is not surprising considering the socially constructed standards equating thinness with beauty, physical fitness and health. The strong cultural value placed on women's thinness may lead to repetitive and restrictive dieting and unhealthy eating practices. This study's goal was to explore the factors influencing body image and eating practices across women's life course. Fifty women, ranging from 20 to 58 years old, were interviewed twice. The semi-structured interview guide focused on body image, weight, lifestyle habits including eating, dieting, and physical activity, social roles, and influence of the media and significant others on body image. Emergent findings suggest that eating practices are associated with women's body satisfaction. For women with a more negative body image, food was categorised by the moral dichotomy of good and bad. Women also categorised themselves as good and bad according to their dietary behaviours. Furthermore, this "food morality" discourse also included "tempting food," discipline, self-control and health professionals as figures of authority. Narratives of women with a more positive body image described dieting and eating as variable concepts. These women described engaging in a reflective process when receiving information about food and eating and often adapted the advice to fit their particular needs and life circumstances. Regardless of their body satisfaction, nearly all women's narratives spoke of the importance of healthy eating, but in the context of weight control rather than for health. Findings reaffirm that food is not solely a nutrition issue but also a

social issue. As dietitians we must take this carefully in consideration in order to provide adequate and effective nutritional counselling.

Randomized trial of psyllium-enhanced diet versus traditional dietary counselling in patients with mild dyslipidemia: rationale and study design

R.D. Reid, J.G. Fodor, K. Lydon-Hassen, M. Slovinec, L. DiFrancesco, Ottawa Heart Institute, Ottawa and Kellogg Canada, Toronto, Ontario. [E]*

Guidelines for patients with mild dyslipidemia recommend dietary therapy as the first line of intervention. While fat-restricted diets are most commonly used, long-term adherence to such regimens is problematic. As evidence also exists of a cholesterol-lowering effect of soluble fibre, e.g. psyllium, we wondered if patients might be more adherent to a psyllium-enhanced diet compared to dietary changes recommended in standard methods of dietary counselling. To answer this question, a randomized controlled trial is being conducted. A total of 150 adults, indicated for lipid lowering diet therapy and free of cardiovascular disease, are being recruited from the practices of primary care physicians. This study is using a 3-group design with random assignment to a Usual Care (UC) group, a Dietary Advice group (DA), or a Psyllium Enhancement (PE) group. Baseline, interim (13-week) and outcome (26-week) measures include adherence to prescribed advice, blood lipid profile and predictors of adherence. The UC group will receive dietary advice, based on the AHA Step II diet, from their physician on three occasions. The DA group will receive AHA Step II dietary counselling from a dietitian during three 1-hour group counselling and three 10-minute telephone sessions. The PE group will have their diet supplemented with 3g/day of psyllium fibre (from *Kellogg's All-Bran Buds*TM cereal with psyllium) and will receive dietitian counselling, based on the same schedule as the DA group, to increase soluble fibre intake to ≥ 10 g/day. Participants' motivational orientation towards dietary change is being assessed because these reasons may predict adherence. The impact of different dietary therapies on participants' continued self-regulation is also being evaluated.

Abstracts Presented by Dietetic Interns

Note: These abstracts represent research projects of dietetic interns across Canada and were not subject to the DC peer-review process.

1. Donna Mallet
Internat dn diététique, Hôpital régional
Dr Georges-L. Dumont, Moncton,
Nouveau-Brunswick. La malnutrition chez les patients hémodialysés.
2. Margo Gautreau
programme d'internat en diététique de
l'Hôpital régional
Dr Georges-L. Dumont, Moncton,
Nouveau-Brunswick. Le rôle de la diététiste en temps qu'intervenante au sein d'une équipe
interdisciplinaire en dysphagie.
3. Caroline Duguay
Interne en diététique, Hôpital régional
Dr Georges-L. Dumont, Moncton,
Nouveau-Brunswick. Effet de l'enseignement du régime cardiaque sur le mode
d'alimentation de la population à risque de complications cardio-
vasculaires.
4. Jessica N. Cane
Dietetic Intern, Kingston, Frontenac,
Lennox and Addington Health Unit,
Kingston, Ontario. Development of a Grade 8 Healthy Eating Education Resource.
5. Melissa Kolmel
Nutrition and Food Services, Health
Sciences Centre, Winnipeg, Manitoba. Development of an educational resource package: Healthy meal
preparation for young adults with a head injury.
6. Ranu Turka
Health Sciences Centre, Winnipeg,
Manitoba. Recommendations for dietary interventions for HIV asymptomatic
patients.
7. F. Devereaux and J. Kulcsar
Regina Health District Internship,
Regina, Saskatchewan. Childhood obesity: severity of childhood obesity in the outpatient
population of the Regina Health District.
8. J. Grossman
Regina Health District Internship,
Regina, Saskatchewan. Nutritional Screening in the Psychiatric Inpatient Population
9. T.M. Nichols, N.K. Wowk
Dietetic Internship Program, Regina,
Saskatchewan. Client perceptions of standard fluid diets following uncomplicated
surgery.
10. C. Rushfeldt and E. Miller
Regina Health District Dietetic
Internship, Regina, Saskatchewan. The Determination of Nutritionally at Risk Neonates Post
Discharge.
11. A. Mak and K. Madwid
Regina Health District Internship,
Regina, Saskatchewan. Adequacy of fluid intake in long-term care residents with dysphagia
receiving thickened or gelled fluid.
12. Laura A. Snowden
Capital Health Dietetic Internship
Program, Edmonton, Alberta. Adequacy of nutrition provision for critically ill, mechanically
ventilated patients.

13. Hana Madan
University Health Network, Toronto, Ontario.
An evaluation of a nutritional intervention program provided to patients with dyslipidemia at the Toronto General Hospital endocrinology clinic: a pilot study
14. Nicole L. Hambleton
University Health Network Internship Program, Toronto, Ontario.
The relationship between nutrition intervention, subjective global assessment scores, and incidence of peritonitis in renal outpatients undergoing peritoneal dialysis: a pilot study.
15. Iona Spudas
University Health Network, Toronto, Ontario.
A descriptive study of the relationship between body mass index and 90 day mortality in first liver transplant patients.
16. Cathy Richards
Comprehensive Dietetic Internship, KFL&A Health Unit, Kingston, Ontario.
H.E.A.L.T.H. Worksite Program
17. Rebecca A. Hemington
KFL&A Health Unit and North Kingston Community Health Centre, Kingston, Ontario.
Development of a resource to increase breastfeeding duration.
18. Ami C. Whitlock and Allyson J. Babb,
Ottawa Hospital Dietetic Internship, Ottawa, Ontario.
Satisfaction and meal consumption of patients on non-selective versus selective menus at the Ottawa Hospital, Civic and General Campuses
19. Melanie J. Kurrein
The Ottawa Hospital Internship Program, Ottawa, Ontario.
Obtaining blood glucose control in Type 2 diabetes mellitus by substituting low glycemic index food choices into the conventional diabetes diet: a pilot study
20. Krista M. Morris
The Ottawa Hospital, Ottawa, Ontario.
The effect of the change from a full service dining room to tray service on the amount of weight change during inpatient hospitalization in the Geriatric Assessment Unit (GAU)
21. Elana J. Kirsh
University Health Network, Toronto, Ontario.
The effect of enteral versus oral feeding on weight loss in head and neck cancer patients receiving radiation therapy
22. Sarah Farmer
McGill University Dietetics Program, Ste Anne de Bellevue, Québec.
In-service education improves non-unionized employees' knowledge of labour laws
23. L. McKellar, R. Therens, K. Zalinko
Saskatoon District Health Dietetic Internship Program, Saskatoon, Saskatchewan.
Nutritional analysis, resource and guideline development for the pediatric ketogenic diet.
24. D. Nelson and T. Gallant
Saskatoon District Health Dietetic Internship Program, Saskatoon, Saskatchewan.
Program development to improve customer service in non-revenue areas of Food and Nutrition Services
25. K. L. Birkenhead and T. L. Maess,
Saskatoon District Health Dietetic Internship Program, Saskatoon, Saskatchewan.
Development and evaluation of pureed menu items.

26. R. Maconochie and T. St. Laurent
Saskatoon District Health Dietetic
Internship Program, Saskatoon,
Saskatchewan. Nutritional recommendations for home care clients at risk for skin
breakdown.
27. T. L. Dwyer, W. Clancy
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. Identifying characteristics to help indicate preferred method of tube
feed in stroke patients
28. M. A. Durant
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. A pre-registration program in an ambulatory care setting and the
impact on appointment attendance.
29. J. R. Manning, A. Kleronomos-
MacAlpine
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. Home dialysis patient receiving nutritional follow-up – will
telephone intervention from a dietitian increase a patient’s diet
compliance?
30. J. M. Salib, J. Hughes
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. Cystic fibrosis and oral nutritional supplements: does
supplementation make a difference?
31. M. E. Hennigar, J. Palmer
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. The effectiveness of nutrition education on post-bowel surgery
patients’ level of comprehension and satisfaction: written education
materials vs. an individual education session.
32. M. Laffin, J. Sparkes, & N. Hatcher
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. The effectiveness of different education methods for cardiac
inpatient: group vs. video – is there a difference?
33. N. L. Doucet, S. MacIntosh
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. Benefits of volunteer assistance on rating and return rate of patient
satisfaction questionnaires
34. T. L. Hiltz, C. Doyle
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. Identifying barriers to making healthy food choices of amputee
patients
35. T. L. Nichol, C. Campbell
Queen Elizabeth II Health Sciences
Centre Dietetic Internship Program,
Halifax, Nova Scotia. The effect of nutrition education on increasing the calcium richness
of the diets of individuals with osteoporosis