

Internship Research Abstracts - DC Conference - Calgary - May 30, 2003

Title: The perception of traditional and market foods among adults in a first nations community

Author: HM Niederer-French, Northern Dietetic Internship Program with a First Nations Focus, Thunder Bay, Ontario

Objectives: To determine how First Nations people describe healthy eating considering availability of traditional and market foods in their community. The information gathered in Frenchman's Head will be used by First Nations and Inuit Health Branch of Health Canada (FNIHB) to revise the Native Foods and Nutrition reference manual.

Methods: Community members under the age of fifty (n=10) answered four questions in a semi-structured interview regarding the role of traditional and market foods in their community today. Elders (n=8) in the community were asked the same four questions in a round circle setting. Frenchman's Head, (where the research was conducted), is a drive in community located 40 km west of Sioux Lookout in the heart of Northwestern Ontario. Health professionals (n=5) from the community and surrounding communities were asked four different questions related to the role of traditional and market foods from a health care perspective. Health professionals included community health nurses, community health representatives, and registered dietitians. These questions were asked in person and over the phone in a semi-structure interview style. Results: Research not yet complete. Conclusion: Research not yet complete.

Title: Self-reported diet adherence in the Peritoneal Dialysis population at The Toronto Western Hospital

Author(s): L. Ingram*, M. Cheskes*, T. Lavallee, T. Burden, C. Chatalasingh D.G. Oreopoulos. University Health Network, (UHN) Toronto, ON

Objective: To determine the percentage of peritoneal dialysis [PD] clinic patients that report adherence to their diet and fluid guidelines using a validated self-reported questionnaire, at UHN. Methods: Forty PD patients who met the inclusion criteria were consented to participate in the study. At baseline, subjects were instructed on PD diet guidelines and to complete a 24-hour food recall. To assess knowledge skills, patients were asked to list high protein and phosphorus (PO₄) foods. Fourteen to twenty-eight days later, the investigators contacted participants to ascertain knowledge retention. At this time, subjects were again asked to complete the 24-hour food recall; list high protein and PO₄ foods and complete the validated self-reported questionnaire. Results: Analysis of the 24-hour food recall indicated 60% of patients were not adhering to their phosphorus recommendations and 60% continue to be non-adherent fourteen to twenty-eight days post intervention. Twenty-two percent of patients report strict adherence to their diet recommendations and 55% report deviating from their diet only one to four days within a fourteen-day period. Implications and Conclusions: A significant number of PD patients are not following their PO₄ recommendations and alternative strategies to improve compliance will need to be addressed.

Title: Medical directives for clinical dietitians: a one-year follow-up study to evaluate the change in the efficiency of nutrition care delivery pertaining to prescribing enteral nutrition.

Author(s): EL Hawthorne, N Currie, Toronto Shared Dietetic Internship Program, Lakeridge Health Corporation, Oshawa, Ontario

Objectives: A study was completed one year ago to determine whether the implementation of medical directives for clinical dietitians enhanced the efficiency of nutrition care delivery at Lakeridge Health, Oshawa (LHO). There was a statistically significant improvement in the efficiency of the prescription of enteral nutrition by RD's. However, it was discovered that only 54% of enteral nutrition recommendations were ordered by RD's. RD comfort level was found to be a major confounding variable in prescribing enteral nutrition. The objectives of this follow-up study are to compare the prescribing of enteral nutrition by RD's to the previous study, and to assess the comfort level of RD's in regards to this medical directive. Methods: A list of patients who received enteral nutrition support between September to December 2002 at LHO was obtained (n=78). Data including whether the enteral nutrition order was recommended or ordered by an RD, as well as the number of days taken for an order to be implemented are to be collected. Results will be compared to data from the previous study (September – December, 2001). The RD's will complete questionnaires and participate in a follow-up focus group discussion to learn if there have been any changes in comfort level since the previous study. Implications: It is expected that this research will demonstrate an improvement in RD comfort level for prescribing enteral nutrition due to the RD's increased experience in utilizing the medical directive. It is expected that there will be an improvement in the efficiency of nutrition care delivery pertaining to prescribing enteral nutrition by clinical dietitians.

Title: Is malnutrition a predictor of ninety-day mortality following orthotopic liver transplantation?

Author(s): T. Yeung, C. Ionson-Reid, K. Mollot, J. Madill, University Health Network, Toronto, Ontario

Objective: To determine if malnutrition is a predictor of ninety-day mortality following Orthotopic Liver Transplantation (OLT). Preoperative malnutrition is a common complication in the liver transplant population. Research has shown that preoperative malnutrition is associated with higher risks of morbidity and mortality post-surgery. However, similar research studies in the adult liver transplant population are limited and lack statistical power due to insufficient sample sizes.

Methods: We retrospectively reviewed the charts of 659 patients who received liver transplants between November 26, 1985 and January 31, 2001 in the Toronto General Hospital Liver Transplant Program. Data was recorded in a prospective fashion and reviewed retrospectively. Preoperative nutritional status was determined as close to transplantation as possible, using Body Mass Index (BMI) for the non-ascitic patients and Subjective Global Assessment (SGA) for patients with ascites. Patients were grouped by BMI categories as $<17 \text{ kg/m}^2$, 17.1 to $<20 \text{ kg/m}^2$, and $\geq 20 \text{ kg/m}^2$ and SGA rankings of A, B, and C. Additional descriptive data was collected and analyzed.

Results: Preliminary descriptive data indicates 67/659 (10%) patients died within 90 days post transplant. Forty-five percent were malnourished and 45% died of infection. Further statistical analysis will be completed using a Cox regression model, to assess relationship between nutritional status and mortality.

Implications & Conclusions: In view of organ donor shortages and high costs of transplantation, improving a patient's nutritional status pre-transplant may help in decreasing postoperative morbidity and mortality and utilizing resources more efficiently. Nonetheless, further research is needed to confirm these findings.

Title: Protein and zinc intake in hemodialysis patients and the presence of skin ulcers: *A case-controlled study.*

Author(s): T. Thomas, N. Glauser, R. Figueroa, V. Jassal, T. Oliver, H. Bell, University Health Network (UHN), Toronto, Ontario.

Objective: Occurrence of skin ulcers is an ongoing problem in the hemodialysis (HD) population. Compromised intake of protein and zinc may contribute to this problem as HD patients are at elevated risk for protein and zinc deficiency, two key nutrients involved in wound healing. The purpose of this study was to ascertain if there is an association between oral protein and zinc intake and the presence of skin ulcers in HD patients at UHN.

Methods: Sixteen patients participated in the study. Subjects were divided into two groups: Eight HD patients with skin ulcers (cases) and eight HD patients without skin ulcers who were individually matched to cases for age, sex, diabetes mellitus, and dialysis frequency (controls). Protein and zinc intake of subjects was measured using a researcher-administered food frequency questionnaire.

Results: 100% (8/8) of cases and 63% (5/8) of controls had oral zinc and protein intake below current recommendations, however differences between the two groups did not reach statistical significance ($p = 0.10$). Protein and zinc intakes (median (range)) were lower in cases (protein: 0.67 (0.38-0.95) g/kg/day, zinc: 7.01 (4.19-7.98) mg/day), compared to controls (protein: 0.70(0.43-1.66) g/kg/day, zinc:7.91(3.61-17.02) mg/day) although this was not statistically significant.

Implications & Conclusion: All HD patients with skin ulcers in this study had low zinc and protein intake, as did the majority of HD patients without skin ulcers. A trend towards a higher prevalence of low protein and zinc intake in HD patients with skin ulcers was observed. Lower intake of protein and zinc may play a contributing role in the development of skin ulcers.

Title: The EAT-26 Test and intakes of young adult ballet dancers

Author(s): Papageorgiou H*, Plourde H., McGill University, Montreal, Quebec

The EAT-26 test is used to assess eating disorder risks in the general population [1]. The question remains whether this tool reflects nutritional eating habit of athletes participating in esthetic sports such as ballet, where being thin provides a competitive edge. This study investigated the possible relationship between EAT-26 test scores and dietary intakes of young adult ballet dancers. Nineteen participants, four male and fifteen female between the ages of 17 and 20, completed the EAT-26 questionnaire and submitted a 3-day food record. Responses to each question, as well as the total score and sub-scores (dieting, oral control, bulimia and food preoccupation) were then compared to total caloric intake, macronutrient distribution and amount of carbohydrate, protein and fat ingested. The total test score correlated best with the dieting sub-score ($r=0.94$), followed by the bulimia and food preoccupation sub-score ($r=0.77$) and finally with the oral control sub-score ($r=0.40$). High total test scores did not correspond to lower total energy intakes ($r= -0.25$). However, as test scores increased, so did the percent protein intakes ($r=0.46$). Lower carbohydrate intakes were also correlated to higher total test scores ($r= -0.45$). In contrast, high dieting sub-scores correlated to higher carbohydrate intakes ($r=0.52$). The lack of significant correlation between the EAT-26 test and total energy intake indicates that high EAT-26 results do not imply low energy intakes and therefore cannot be used as a screening tool of energy intakes in this population group. A screening tool, borrowing the EAT-26 concepts, must be developed as there is an important risk for eating disorders in this population group.

1. Garner, DM, Olmsted, MP, Polivy, J. Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *Int. J. Eat Disord.* 1983(2):15-34.

Title: Tolerance of a post-surgical diet progression in gastrointestinal surgical patients: A pilot project

Author(s): Louis-François Côté, Professional Practice (Stage) in Dietetics, McGill University, Montreal, Quebec

The traditional diet progression post-surgery is clear liquids, full fluids and then regular diet. Recent literature suggests that full fluids can be omitted for the introduction of solid foods earlier in gastrointestinal surgeries.

Objective: Evaluate the tolerance of a low residue, low lactose, small portions diet that provides approximately 1235 kcal in patients undergoing gastrointestinal surgery. *Methods:* 20 gastrointestinal surgical patients were attributed this post-surgical progression following clear fluids. Tolerance to this diet was assessed by the presence of nausea, vomiting, diarrhea and caloric intake, which were recorded daily. Energy intake was calculated by a combination of calorie count, direct observation, and patient reporting. *Results:* The average length of stay (LOS) was 13 days. The average energy intake before discharge was 1113 kcal/day; 10% of patients were able to meet energy requirements before discharge. Only 30% of patients had nausea and 10% experienced vomiting during the post-surgical progression. These symptoms were not worsened by the advancement of the progression in all but one patient. This patient was put NPO after receiving the post-surgical diet. Diarrhea was experienced in 15% of patients during the post-surgical progression; this figure excludes patients with ileostomies, colostomies and microbial causes of diarrhea. *Implications & Conclusion:* In all patients, caloric intake increased progressively until discharge, but most failed to meet their calculated energy requirements. Consequently, the achievement of adequate energy intake may take longer than average LOS. Although a minority of patients experienced nausea and vomiting during the post-surgical progression, these symptoms may not be attributable to an intolerance of the progression, but rather to other factors such as medication. Most patients tolerated the early introduction of solid foods after gastrointestinal surgery.

Title: Implementation of the "*Food Steps: A Guide to Eating Better*" for workplaces in the Kingston, Frontenac and Lennox & Addington area

Author: CM Dennis, Southeastern Ontario Comprehensive Dietetic Internship Program, Kingston, Ontario

Introduction: "*Food Steps: A Guide to Eating Better*" is a research-based, self-help, correspondence program for healthy eating with an emphasis on the reduction of dietary fat. The program is based on the Transtheoretical Model of Behaviour Change and consists of four, gender-specific, stage-based booklets.

Participants sign up for this self-help program and can move from stage to stage at their own pace. Objective: To make "*Foods Steps*" available to worksites in the Kingston, Frontenac and Lennox & Addington (KFL&A) area.

Methods: Workplaces were identified from a list of businesses interested in a healthy eating program generated from an existing program at the KFL&A Health Unit. Key workplaces (n=10) were contacted first by mail and then by telephone to identify their interest in the program. To recruit participants, e-mail and pay-check messages were sent to employees to inform them when a display would be at their workplace. Incentives were given to entice participants to sign up for "*Food Steps*" and motivational materials will be sent every four months to those who join.

Results: The program will be implemented in the spring of 2003. Employee participation rates are anticipated to be 25% in each workplace. Expected participation rate for each stage of change is as follows: precontemplation stage, 5%; contemplation stage, 20%; action stage, 50%; and maintenance stage 25%. Conclusion: The goal is to promote and implement "*Food Steps*" to ten workplaces and to achieve an employee participation rate of 25%. Participation in the program will help adult men and women make healthy food choices that are lower in fat.

Title: Enhancement of literacy and nutrition knowledge of parents with children aged 1 – 6 years

Author: DM Deveaux, Southeastern Ontario Comprehensive Dietetic Internship Program, Kingston, Ontario

Objectives: The Good Food Box (GFB) is a non-profit fresh fruit and vegetable distribution system, serving approximately 400 individuals in the Kingston, Frontenac and Lennox & Addington (KFL&A) area. Food For You, Food For Two (FFY) is a nutrition support program for high-risk pregnant women in the KFL&A area. Two Early Literacy Specialists approached the KFL&A Health Unit with the idea of combining food and literacy into activities for GFB and FFY participants with the objective of enhancing literacy and nutrition knowledge of both parents and children. Methods: GFB (n=63) recipients completed a questionnaire to identify literacy and nutrition topics of interest to them and their preferred methods for receiving this information. A focus group with FFY participants (n=11) was asked similar questions. Results: Key literacy and nutrition topics of interest included recipes, snack ideas, counting, songs, reading, and color distinguishing activities. Preferred method for receiving this information included calendars and activity cards. For feasibility and cost reasons, we decided to develop and distribute activity cards to GFB and FFY participants. Activity cards contain at least two rhymes, activity ideas for parents, a recipe, and a nutrition tip. Twelve cards will be developed, one for each month, 8 ½” x 5 ½” in size, and printed on cardstock. A questionnaire will evaluate their usefulness and effectiveness. Anticipated results include: 50% of parents will use the activity cards, do a nutrition activity with their children once a month, prepare food or meals with their children, and read to their children once a week. Conclusion: The goal is that activities from these cards will enhance literacy and nutrition knowledge of both parents and children.

Title: Hydration management: A protocol for complex continuing care

Author: DJ Saari, Southeastern Ontario Comprehensive Dietetic Internship Program, Belleville, Ontario

Objectives: To prevent the dehydration and over-hydration of elderly patients in hospital complex

continuing care units. Methods: A hydration management protocol was developed based on information from

published research and recommendations from a director of complex continuing care, nurse managers, and a

registered dietitian with expertise in this area. A two-week case control pilot study was used /developed to assess the

effectiveness of the hydration management protocol. Complex continuing care patients at one hospital who were at

risk for dehydration (n=8) were matched with complex continuing care patients (n=8) at a second hospital based on

gender, age, diet, diagnosis, and lab parameters. The hydration management protocol was implemented at only one

of these hospitals (study group) while patients from the other hospital acted as the control group. Results: The

effectiveness of the protocol will be evaluated by comparing lab parameters, intake/output records, physical signs of

hydration status, and nursing observations for the two groups. It is expected that the study group will have improved

hydration status from baseline as well as compared to the control group. Conclusion: The goal is to improve the

hydration status of complex continuing care patients with the implementation of an effective hydration management protocol.

Title: School-based approaches to healthy eating

Author: JP Ho, Southeastern Ontario Comprehensive Dietetic Internship Program, Kingston, Ontario.

Objectives: The North Kingston Community Health Centre (NKCHC) is working with schools, other organizations, and the broader community to find appropriate strategies to address the issue of childhood obesity by encouraging healthy eating. The objective of this project was to identify possible strategies. Methods: Principals of north Kingston elementary schools (n=8) participated in a structured interview about childhood obesity. The interview focussed on principals' perceptions of the obesity problem at their school, current activities addressing obesity, barriers to implementing initiatives, and a possible role for the NKCHC. Representatives from the eight elementary schools, two school boards, the local health unit, and the Kingston & Area Active Schools Action Team were invited to a meeting at the NKCHC to discuss interview results and offer their input. Results: The eight principals expressed concerns about poor eating habits, lack of physical activity, poor body image, and inappropriate weight reduction practices of students as well as gaps in parental awareness about healthy eating. Current initiatives taking place at some schools include: implementing guidelines for foods brought into schools, teaching children healthy cooking skills, and encouraging daily physical activity. Principals identified resistance from parents, cost, and lack of staff time as barriers to implementing these initiatives. Four strategies were proposed and discussed: implementing guidelines concerning foods brought from home or sold in schools; providing opportunities for students to learn about nutrition and practice cooking skills; sharing nutrition information through newsletters and presentations for students, staff, and parents; and creating partnerships with interested individuals and groups to work together to plan and implement the initiatives. Conclusion: The strategies discussed provide a starting point to ensure children in north Kingston elementary schools have healthy eating options to support healthy weights.

Title: Developing a workplace virtual supermarket tour for blue-collar workers in Northumberland County

Author: J Smith, Southeastern Ontario Comprehensive Dietetic Internship Program, Port Hope, Ontario

Objective: A pilot supermarket tour to be conducted in the workplace has been developed to educate blue-collar employees on making healthier food choices. This will be a portable nutrition education tool that will include the same components taught at a regular supermarket tour such as healthier food choices and reading food labels. The goal is to decrease risk of chronic disease through improving dietary choices. Methods: A focus group was conducted with eight workplace employees at a manufacturing company to determine nutrition concerns, interest in attending a nutrition education event, and barriers to making healthier food choices. A telephone interview was conducted with two occupational health nurses, one human resource employee, and one staff member involved in health promotion from four different manufacturing companies. They were asked about anticipated staff participation in a nutrition education event and management support for such an event. Results: Focus group participants and health promotion representatives were supportive of an education event. A virtual supermarket tour will be pilot-tested in a worksite during the spring of 2003. A pre-post test on label reading will be used to assess workers' learning. Conclusion: The information gathered from the pilot project will be used to adapt the supermarket tours as necessary in order to meet the nutrition education needs of blue-collar workers in Northumberland County. Information will also be used to alter and deliver virtual supermarket tour to other groups such as people unable to stand through a regular supermarket tour or college/university students.

Title: Nutrition education for community-living older adults in Leeds, Grenville and Lanark Counties

Author: SA Baker, Southeastern Ontario Comprehensive Dietetic Internship Program, Brockville, Ontario

Objective: The objective is to determine the best approach to use when providing nutrition education for community-living older adults (>55 years of age) to encourage healthy eating. Methods: A questionnaire was administered to clients (n=80) of Rideau Lakes Home and Community Support Services (RLHCSS) to identify areas of nutritional concern, interest in nutrition education, key nutrition topics of interest, and preferred methods of receiving nutrition information. Key informant interviews were conducted with the program coordinators (n=3) of RLHCSS to gain their perspective on the need for and feasibility of various forms of nutrition education for their clients. Results: Interest in learning more about nutrition was identified by 79% (n=63) of the older adults who completed the questionnaire. The key informants also indicated that RLHCSS clients would benefit from nutrition education. The nutrition topics of interest to RLHCSS clients included: (1) cooking for one or two, (2) high cholesterol, heart attacks, strokes, and (3) making healthy meals/easy healthy cooking. The preferred methods of receiving nutrition information included: (1) things to read at home (e.g., fact sheet, pamphlet) and (2) recipes or cookbooks. Conclusions: Based on these findings, a booklet entitled “Cooking for One or Two ... the Healthy Way!” was developed with the purpose of helping older adults make healthy food choices and prepare healthy meals. The resource provides information on Canada’s Food Guide to Healthy Eating, shopping and cooking for one or two, fact sheets (e.g., fibre, osteoporosis, vitamins and minerals, decreasing fat and salt intake), and healthy recipes for one or two. After a month-long trial period, three focus groups are planned with RLHCSS clients to evaluate whether the booklet assisted them in eating healthy.

Title: Evaluating the delivery of diabetes education classes at Providence Continuing Care Centre – St. Vincent de Paul Hospital Diabetes Education Centre

Author(s): MA Dockeray, Southeastern Ontario Comprehensive Dietetic Internship Program, Brockville, Ontario

Introduction: The Diabetes Education Centre (DEC) helps people with diabetes live healthier lives. Diabetes education classes are designed to reduce diabetes-related stress and improve self-management of diabetes.

Objective: The purpose of this study was to evaluate the effectiveness of the diabetes education program offered by the DEC in helping people self-manage their diabetes and to make recommendations for improvements to the program.

Method: Diabetes educators in the area (n = 7) completed a questionnaire to identify barriers to self-management of diabetes and to suggest ways to improve the diabetes education program. Graduates of the DEC program (n = 9) participated in a focus group to evaluate the program, explore issues related to diabetes education, and generate ideas about how to improve the delivery of the program. Results from the questionnaires and focus group were presented to clients (n = 27) attending DEC classes for feedback.

Results: In 2002, 86% of clients did not complete the program. Possible causes identified by educators and clients were classes are too long and overwhelming, psychosocial stressors are acting as barriers to learning, and clients are not ready for change.

Recommendations to resolve these issues include using teaching aids to enhance learning, shortening classes to less than two hours, offering a support group for clients, suggesting clients attend only the classes they need, and investing more time in individual assessments to personalize the program. Conclusions: Recommendations to improve the delivery of the classes will be outlined in this study, including short and long-term plans. A revised DEC program will be implemented and evaluated later this year.

Title: The development of a questionnaire to determine the resource and program needs of health professionals in Ottawa

Authors: A. Simpson, H. Yannacoureas, The Ottawa Hospital Dietetic Internship Program, Ottawa, Ontario

Objective: To develop a questionnaire that will be used to determine the weight management resource and program needs of health professionals in Ottawa. Methods: The primary researchers and the research advisor designed the first draft of the questionnaire. A focus group with two dietitians and two nurses was held to review the initial draft of the questionnaire. The revised questionnaire was then pilot tested by six dietitians, two physicians, one nurse practitioner and one nurse who completed the survey by telephone. Two nurse practitioners completed the survey in writing. Information from the focus group and the pilot test was used to further revise the questionnaire. Results: The focus group defined time frames for certain questions, suggested changes to the wording of particular questions for clarification purposes and recommended modifying the format of the questionnaire. The pilot test revealed that some questions required rewording for better sentence flow while other questions needed rewording so that they would be interpreted correctly. Different health professional populations provided different types of responses to the questions that helped with the development of unique response codes for each population. Dietitians wanted to be prompted with examples of answers more often than the physician/nurse group. Conclusions: The results of the focus group and pilot test indicate that this questionnaire is a useful and valid tool for assessing the weight management resource and program needs of health professionals in Ottawa.

Title: Aggressive versus conservative parenteral protein administration in infants born weighing less than 1250g: effects on early protein intake

Author(s): I. Sirois¹, A. Nash², S. Merko², ¹Dietetic Intern, ²Perinatal Dietitians, Sunnybrook & Women's College Health Sciences Centre (SWCHSC), Toronto, Ontario

Objective: To compare protein intakes during the first week of life among infants with a birth weight < 1250g fed according to a more aggressive parenteral protein administration protocol (group1) than called for by the previous protocol (group 2). The aggressive approach called for introduction of parenteral protein on day 1 of life at a level of 1.5 g/kg with 1.0 g/kg increments daily, as tolerated. The conservative protocol was defined as parenteral protein administration initiated on day 2 of life at a level of 0.5 g/kg with 0.5 g/kg increments daily, as tolerated. Total protein intake goal remained unchanged. Study design & Methods: Medical charts of 48 infants (24/group; matched on birth weight) were reviewed and data were collected on parenteral and enteral protein intakes during the first week of life; length of time to reach total protein intake goal was also determined. Results: Parenteral protein intakes during the first 3 days of life were significantly greater in group 1 compared with group 2: 0.86g/kg vs. 0g/kg at 24 hours ($p<0.001$); 1.54 g/kg vs. 1.04 g/kg at 48 hours of life ($p<0.001$); 2.17 g/kg vs. 1.84 g/kg at 72 hours of life ($p=0.004$). Total protein was significantly greater in group 1 on days 1 (0.86 g/kg vs. 0 g/kg; $p<0.001$) and 2 (1.60 g/kg vs. 1.36g/kg; $p=0.011$) of life. Length of time to reach the total protein goal of 3.8 g/kg/d did not change following the adoption of the aggressive protocol (group 1=129h, group 2=125; $p=0.425$). Conclusions & Implications: In a group of infants born weighing < 1250 g at birth, more aggressive parenteral protein feeding (compared to previous management) resulted in significantly greater intakes during the first 3 days of life. Whether this increase in early protein intake is associated with long-term benefits remains unknown.

Title: Product wastage and nutrient consumption among acute stroke patients on texture modified diets

Author(s): BE Neville and MJ Taylor, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Objectives: To assess the wastage of texture modified products, and to determine if stroke patients consume an adequate amount of food to meet their daily energy and protein requirement. Methods: The sample consisted of patients from the Stroke/Medicine Unit at the Halifax Infirmary site of the QEII Health Sciences Centre. A plate waste audit was conducted (n=65 meals) for 17 patients receiving Modified Mechanical Soft Thickened Liquid (MMSTL) or Pureed Thickened Liquid (PTL) diets. Wastage of items was measured, using a five-point scale, individually and by category; thickened juice, thickened supplements, pureed fruit, thickened soup, pureed entrees, and minced items. Nutritional consumption analysis was conducted for those patients (n=11) with plate waste records obtained for breakfast, lunch and supper. Results: The average plate waste per meal was 40%. The wastage of items among patients on a PTL diet was 60%, compared to 28% among patients on a MMSTL diet. Thickened juices were found to have an average plate waste of 55%. There was less wastage (42%) of the thickened chocolate milk beverage supplement compared to juices. Pureed entrees had an average plate waste of 34%, with one beef combination having only 23% wastage. The consumption analysis indicated that patients, on average, met 60% of their daily energy requirements and 61% of their protein requirements. Conclusion: Patients on MMSTL diet are more likely to meet their nutritional needs than patients on PTL diet. Thus, it is important that diet prescriptions are advanced in accordance with the patients' tolerance.

Title: Employee beliefs about healthy eating

Author(s): D McKay and D Lucyk, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Background: Capital Health supports a healthy workplace strategy to assist employees with making personal choices to improve health. An important aspect of this includes workplace nutrition promotion. Objective: Survey employees to help identify their beliefs about healthy eating. Methods: The sampling frame consisted of all Capital Health employees within the Queen Elizabeth II (QEII) Health Sciences Centre (sampling frame = 6,225). A Human Resources' computer program was used to generate a systematic randomized list of employees (n = 900) within the QEII for mail-out of a self-administered questionnaire. The questionnaire was used to collect information about the usual eating habits of employees and about how employees define healthy eating practices. Demographic information was also collected to allow reporting of specific respondent characteristics. Results: The data is currently being analyzed. The findings will help identify how employees define healthy eating. The findings will also help determine whether or not there is an association between employee beliefs about healthy eating and employee eating habits. Implications & Conclusions: These findings can be used to help identify and implement priority actions for nutrition health promotion that will be practical, effective, and relevant to employees.

Title: The effectiveness of the family information session “Mealtime Madness” in improving feeding behavioral problems in children aged 1-5 years

Author(s): LA Burgess and JE Spiers, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Introduction: Many parents are anxious about their child’s feeding behaviors, even though their child is growing and developing normally. In an attempt to reduce the long waiting lists for information regarding this issue and to maximize cost efficiency, the Isaac Walton Killam Health Centre’s Psychology and Clinical Nutrition Departments initiated an information session called “Mealtime Madness” (MTM). Objectives: The purpose of this study is to determine if MTM is time and cost effective. Methods: Subjects (n=11) who attended MTM between January 1999 and September 2002 completed a three-day food record for their child and a Behavioral Pediatrics Feeding Assessment Scale (BPFAS). Subjects also completed these forms before attending MTM. There was a before and after comparison of this information to determine if there was an improvement in diet quality and parental report of troublesome feeding behaviors since attending MTM. Results: Data analysis is pending.

Title: Peanut policy implementation and acceptance in the Halifax Regional School Board

Author(s): L Ward and M Murton, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Objectives: Peanut restrictive policies in schools are often controversial since they require commitment from many people, including non-allergic children and their families. Two schools within the Halifax Regional School Board with peanut policies have been selected: one in which the peanut policy has been implemented with relative acceptance, and another in which there has been resistance to policy implementation. Methods: Parent and administrator perspectives on the issue are being solicited. Parents received a short written questionnaire, sent home with the school newsletter. This solicits general information about parental knowledge, attitudes and practices regarding peanut policy, and requests participation in a follow-up, in-depth telephone interview. Telephone interviews will solicit more detailed information about the topics covered in the written tool. Principals of each school are to participate in a face-to-face interview with the researcher to discuss peanut policy implementation and level of parental acceptance. A statistician has been consulted. Results: Data analysis is pending. Conclusion: Results aim to provide a base from which more in-depth research on this topic may be conducted. Preliminary suggestions may be made to the HRSB regarding peanut policy implementation.

Title: The appropriateness of the good health eating guide for type 2 diabetes patients

Author(s): M Huxter and I Higgins-Bowser, Capital Health Dietetic Internship Program, Halifax, Nova Scotia
The Queen Elizabeth II Health Sciences Centre Diabetes Management Centre, as well as the Canadian Diabetes Association, would like feedback regarding the use of the Good Health Eating Guide (GHEG) for their Type 2 Diabetes Program. The Type 2 program is a two-day session that interactively teaches the management of Type 2 diabetes. The meal planning component of the session uses the Good Health Eating Guide to help patients make healthy food choices, based on their personal meal plan, calculated by a Registered Dietitian. Objectives: The main objective of this research was to analyze continuation of usage of the Good Health Eating Guide and to examine patients' perceptions of its physical characteristics. The tool may potentially be discontinued or modified in the program, if patients do not find it useful. Methods: Subjects (n=27) were selected randomly from Type 2 program patient files, based on date of attendance. They were selected from files dating six months to one year before the commencement of the research to assess the continued usage of the GHEG. Most participants stated in the interviewer- administered questionnaire, that they were continuing to use the GHEG and that its characteristics are appropriate. However, many subjects stated that they do not need to refer to the Good Health Eating Guide as frequently, because of their familiarity with its contents. Results and Conclusions: Analysis of the collected data is pending.

Title: The effect of nutrition education on weight gain and dietary behaviors associated with the use of atypical antipsychotic medications

Author(s): MK MacPhail, H Sandeson, J Palmer and D Whitehorn, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Introduction: Weight gain is a significant problem for many patients treated with atypical antipsychotic medications and as a result dietitians have experienced an increase in the number of referrals received for this patient group.

Objectives: This project aimed to explore how nutrition education might impact on weight gain and dietary behaviours of patients treated with atypical antipsychotic medications (olanzapine, clozapine, risperidone or quetiapine). The goal of nutrition intervention is to decrease or prevent weight gain and improve nutritional habits.

Methods: The participants for this study were followed by the Early Psychosis Program at the Nova Scotia Hospital and have a diagnosis of a schizophrenia-spectrum disorder (schizophrenia, schizoaffective disorder or schizophreniform disorder). Participants attended an individual one hour nutrition education session and a follow-up session one month later. Participants completed a “healthy habits” questionnaire and were weighed before the nutrition education and again during the follow-up. A pre-post experimental design was used to assess the relationship between nutrition-related behaviors and weight before and after the education session. Results: Two (n=2) subjects participated in this project. Analyses of data using a t-test are pending. Patient comments during the interventions will also be reported. The small size of the present study will limit the conclusions that can be drawn from the data. However, this study can serve as a pilot project that could be expanded to a larger patient population.

Title: Evaluation of group facilitated education in improving the dietary habits and satisfaction of Healthy Heart Clinic patients

Author(s): ME Wong and M Regan, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Introduction: Cardiovascular disease is currently Canada's number one killer, affecting one in four or approximately eight million Canadians. In order to determine if dietitians are utilizing their time effectively on education, periodic evaluations of education programs need to be conducted. Objectives: This study was conducted to examine three factors: 1) To determine if a dietitian facilitated Healthy Heart Habits Group Education session lead patients to make beneficial dietary changes, 2) To examine participant's level of comprehension on information provided in classes and 3) To obtain the overall level of satisfaction with the services provided by the outpatient nutrition clinic offered at the Dartmouth General Hospital site. Methods: Fifty-three outpatients attending the two-part class were recruited as subjects. Using convenience sampling employed through a descriptive survey design, data were collected from mail out self-administered questionnaires. Forty-two percent (n=22) responded, rating their change in dietary behaviour and answered true or false to questions used to test their comprehension level to the information provided in the classes. The questionnaire also employed a yes or no question format used to determine satisfaction level with the nutrition services. Data were analyzed using descriptive statistics where means, medians, modes, frequencies and percentages were calculated. Results: Thirteen females (59%) and nine males (52%) waited an average of 2.39 weeks for an appointment. Data analysis found 96% satisfied with the services, 72% average improvement to dietary habits and an overall 83% success rate to correctly answered comprehension questions. Conclusion: Patients who participated in a group facilitated nutrition education session taught by a registered dietitian provided high ratings to satisfaction, comprehension and dietary behaviours.

Title: The prevalence of anaphylactic peanut allergies and “peanut smart” programs in elementary schools

Author(s): S Olson and M Murton, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Introduction: An increase in the number of schools introducing “peanut smart” programs have been observed by Public Health Services. Although the Halifax Regional School Board (HRSB) has a “life-threatening allergies” policy, the approach for “peanut smart” programs is uncertain. Objective: The purpose of this research is to determine the prevalence of anaphylactic peanut allergies as well as reactive and preventative approaches within “peanut smart” school programs. Methods: A retrospective audit of Fluoride Mouthrinse Program parental consent forms (n=2366) for grade 2 students have been screened to determine the prevalence of anaphylactic peanut allergies, other food allergies, medicinal allergies and noted medical problems. E-mail containing research consent and a short closed-ended questionnaire will be sent to secretaries of elementary schools who have an e-mail address on the HRSB website. Results: Pending. Conclusion: Results of this study will indicate the percentage of students who have peanut and other food allergies in the HRSB. Responses from the questionnaire will indicate how many elementary schools have peanut programs (e.g. “peanut smart”) and what approaches (i.e. reactive or preventative) are currently followed. The prevalence of peanut and other food allergies will contribute to the conclusion of why “peanut smart” programs exist in certain schools and not others. Determining the approach followed by “peanut smart” programs will assist in assessing the need for development of a formal policy.

Title: The influence of nurses' attitudes on patient satisfaction with food service in acute care hospitals in Capital Health

Author(s): WS Lee and S MacIntosh, Capital Health Dietetic Internship Program, Halifax, Nova Scotia

Background: To maintain the highest level of food service to patients, it is important to evaluate food service quality continuously through feedback from patients. However, variables influencing patient satisfaction level are complex and multi-dimensional. In the health care team, practicing nurses may have a major influence on the satisfaction level of patients because of the closeness and time they spend with patients. As a result, nursing staff can potentially have an impact on patient satisfaction with food service. Objectives: (1) To investigate whether the attitude of nursing staff is linked to patient satisfaction with food service; (2) to compare the results from three hospitals of different sizes and locations to determine if this potential linkage changes according to hospital size and geographical location, and (3) to compare the satisfaction level of patients in three different hospitals. Method: A convenience sampling was used to draw samples from nurses and patients. A total of 81 patients (n=81) and 117 nurses (n=117) in the same selected patient units were recruited from Halifax Infirmary (Units 6.2, 7.3, 8.3, 8.4) Dartmouth General Hospital (General Surgery Unit), and Hants Community Hospital (Acute Care Unit). Patients were asked to complete a Patient Satisfaction Questionnaire and nurses were invited to complete another self-administered questionnaire that assessing their attitudes toward food services. Results from both questionnaires were analysed and rated. Pearson correlation was performed to determine an association between the two variables. Results and Conclusion: pending.

Title: Does the ketogenic diet affect bone mineral density and bone mineral content in children?

Authors: K. Blekaitis, A. Foldes, G. Ronen, B. Meaney, H. Pelletier, J. Fabe, Hamilton Health Sciences Dietetic Internship Program, Hamilton, Ontario

Objectives: Compare bone mineral density (BMD) and bone mineral content (BMC) in children on the ketogenic diet (KD) to age matched controls using dual energy x-ray absorptiometry scans, growth trends, and laboratory values . The KD is used for the management of difficult to control seizures. The KD may be deficient in nutrients that interfere with bone metabolism.

Methods: Retrospective, descriptive study of five pediatric patients on the KD for a minimum of one year. Data includes pre-KD BMD and BMC, BMD and BMC at one year after KD initiation, serial heights and weights, vitamins and minerals from KD and supplements, laboratory values, physical activity and anti-convulsant medications. Vitamins and minerals obtained from the KD and supplements are to be compared to age-matched Dietary Reference Intake values. Serial laboratory values for calcium, phosphorous, PTH, vitamin D, magnesium, zinc, and albumin will be evaluated. Serial BMDs and BMCs for each patient will be compared. BMDs and BMCs will also be compared to age matched controls. Potential confounding factors are recognized to be reduced physical activity and anticonvulsants on bone metabolism.

Title: The effect of Jevity Plus on the prevalence of *Clostridium difficile* in enterally fed patients on a medical floor; a pilot project.

Authors(s): KA Afghan, JP Murphy, A Mayhew, The Ottawa Hospital Dietetic Internship, Ottawa, Ontario

Objectives: To investigate the effects of fructo-oligosaccharides (FOS) on the prevalence of *Clostridium difficile* (C Dif) infection in enterally fed patients. Methods: This was a retrospective chart review of enterally fed patients on a general medicine floor. Data gathered included type of enteral formula, lab result for C Dif, most responsible diagnosis, days in hospital and ICU, number of antibiotics and laxatives used. Results: Thirty-six subjects were selected and separated into two groups based on discharge date. Both groups were similar in the most responsible diagnosis ($\chi^2 = 3.049$, $df = 5$), number of days in hospital ($t = -1.440$), and average number of days in ICU ($t = 0.074$). There was neither a significant difference in the prevalence of C Dif ($\chi^2 = 0.008$, $df = 1$), nor in the type of formula fed to patients ($\chi^2 = 1.496$, $df = 1$) between groups. Six patients were fed a formula containing FOS, none of which were positive for C Dif. Of the eight patients positive for C Dif, none were fed a formula containing FOS (Fisher's Exact Test = 0.302). There was no statistically significant difference in the number of antibiotics ($t = -0.855$) or the number of laxatives ($t = -1.211$) taken by patients who were C Dif positive compared to patients who were C Dif negative. Conclusion: Although not statistically significant, the prevalence of C Dif seems to be lower among tube fed patients fed a formula containing FOS than those patients fed a formula without FOS. Further research with a larger sample is needed to further address this issue.

Title: Quality assessment of Meals on Wheels: Determining client and volunteer satisfaction with the town of Yarmouth Meals on Wheels program

Author(s): AD Barkhouse, Acadia University Integrated Dietetic Internship Program, Wolfville, Nova Scotia

Objective: The town of Yarmouth Meals on Wheels Program delivers a hot lunch meal to residents of the town of Yarmouth, Nova Scotia who need nutritional support. The vast majority of clients are senior citizens.

Methods: Meal clients (n=12) and volunteer drivers (n=12) from both delivery routes completed a questionnaire via the telephone in May 2002, and were interviewed in person in February of 2003. The mostly closed ended questionnaire administered to meal clients involved questions pertaining to general health, the size of the meal and overall satisfaction with the delivered meal. The questionnaire administered to volunteers involved questions about the amount of time spent delivering the meal and amount of time spent with the recipient.

Results: Meal clients exhibited at least one medical condition at both test times, with arthritis and hypertension being frequently reported. At both test periods $\geq 75\%$ of respondents responded portion size was satisfactory. There was a decrease in overall client satisfaction from the initial test period. It is uncertain whether this is due to the new tray system being implemented, or can be attributed to a difference in recipients interviewed. All drivers responded that it takes at least one hour to deliver the meals. Data from the drivers indicated that most feel enough time is spent with the client, but this was only indicated by 66% of drivers. When meal clients were interviewed the majority felt that the drivers spent enough time with them when the meal was delivered.

Conclusion: More data needs to be collected to explain the decrease in client satisfaction, and methods of shortening delivery time.

Title: Inter-rater reliability: how similar are 24-hour recall assessments between dietitians working in the same clinic?

Authors: SA Rosen, HY Lovelace, Vancouver General Hospital, Vancouver, British Columbia.

Objectives: To determine if dietitians working within the same clinic elicit and categorize food data in a consistent (reliable) manner.

Methods: Ten participants recruited from Vancouver were randomly assigned to have a 24-hour recall elicited by one of two dietitians; subsequent 24-hour recalls were collected by the other dietitian. A researcher observed all interviews. Data were compared using correlations to determine whether results were consistent between dietitians. Categorizations were considered reliable if correlations met the criteria of $r \geq 0.75$ and $p < 0.05$.

Food category correlations ranged from 0.49-1.0. All food categories were significantly correlated except meat and alternatives. Only three food categories provided reliable information: milk products, fats/oils and alcohol ($r=0.88-1.0$). Interviewer error (both elicitation and classification errors) and respondent error contributed to correlation values. Most error was due to misclassification of food items into food categories and differences in assessing food portions. However, elicitation and respondent error also occurred, for example, cottage cheese was classified as a milk food item and a meat/alternate item by the two dietitians. Additionally, the respondent reported consuming different amounts of cottage cheese to each dietitian. These discrepancies contributed significantly to inter-rater reliability errors; once this error was accounted for, the correlation of the meat and alternates categories met the reliability criteria.

Implications & Conclusions:

Dietary information was reliable for 50% of the food categories analyzed; based on these results it is evident that dietary counselling provided by dietitians may be inconsistent. As a result, patients may receive conflicting messages from different dietitians. To maximize reliability and counselling efforts, dietitians should attempt to minimize elicitation and classification errors.

Title: An Evaluation of the Basic Shelf: A Food Security Program for Low-income Prenatal Women Participating in the Best Beginning Program.

Author: A Yu, Calgary Regional Dietetic Internship Program, Calgary Alberta.

Objective: The Basic Shelf is a program designed to augment food hampers enabling low-income pregnant women to make nutritional choices and enhance food security. This is an evaluation to assess if the needs of the participants are being met and the cost effectiveness of the program.

Methods: Best Beginning staff members (n=25) were surveyed to evaluate the delivery and value of the Basic Shelf program. A cost analysis of the Basic Shelf for each participant and group site was also collected over one fiscal year to assess the cost of the program. A participant focus group is to be completed as an additional part of the evaluation process.

Results: 15 responses were collected from varying disciplines. Foods identified being the most valuable included canned tuna, dry pasta, and spaghetti sauce. Food items identified to be removed were soda crackers, mushroom soup and corn flakes. 83% of staff members responded agree or neutral on the ease of the administrative processes and all found the Basic Shelf program to be valuable and should be continued. 80% agreed the program is meeting the participants' health and nutrition needs however 86% were neutral or disagreed that the program was meeting the ethnic diversity of the participants. All agreed that further education regarding food use and preparation was necessary and the use of recipes, collective kitchen referrals and cooking demonstrations would be effective. The cost analysis showed the cost for 2002 – 2003 per site ranged from \$42.00 to \$521.30 per month and average cost per participants ranged from \$0.99 - \$5.72 per month.

Conclusion: The Basic Shelf appears to meet the needs of the participants and with changes such as more ethnic considerations it can better meet their needs. The cost of implementing this program was \$15,000 – \$20,000 per year, above what was targeted, therefore some changes such as offering less items or restricting the amount taken may allow the program to be more cost effective.

Title: Satisfaction and food waste among hospitalized renal patients.

Author(s): A Lau. Calgary Regional Dietetic Internship Program, Calgary, Alberta.

Objectives: A bulk food cart service was implemented on the renal unit at Foothills Medical Centre in replacement of a traditional centralized tray system. Goals of the change included improving patient satisfaction, reducing food wastage and increasing nutritional intake. Methods: Patients admitted to the renal unit were asked to complete a 9-question Patient Satisfaction and Preference Survey pre- (n=109) and post implementation (n=95) of the bulk food cart. Data was collected at eight meals: 2 breakfasts, 3 lunches, 3 suppers. Dietary staff audited the renal unit's dirty-tray carts with Food Item Acceptance surveys upon arrival in the kitchen. The trays, pre- (n=710) and post implementation (n=603), were analyzed at 21 meals: 6 breakfasts, 7 lunches, 8 suppers. Results: Analysis of data showed that patients were satisfied with the food service regardless of mode of service. Satisfaction surveys indicated patients who agreed or strongly agreed with the overall food service totaled 68.1% pre and 68.3% post-implementation. Waste studies showed that the number of trays returned without leftovers was 47% pre and 56% post-implementation. The nutritional intake study of this same population by AY Matsuno and A Lau showed a non-significant difference in total energy intake. Implications & Conclusions: A shift from a centralized tray service to a bulk food cart did not increase patient satisfaction among the hospitalized renal population. However, a decrease in food wastage on patient trays was observed thus demonstrating a benefit from this change in service systems.

Title: Identifying existing barriers of phenylketonuria patients treated by the Inherited Metabolic Disorder Clinic in the Calgary Health Region from adhering to their diets.

Authors: MA Drewniak, AY Lee, Calgary Regional Dietetic Internship Program, Calgary, Alberta

Objectives: To identify existing barriers of phenylketonuria (PKU) patients treated by the Inherited Metabolic Disorders Clinic (IMDC) in the Calgary Health Region from adhering to their strict low-protein diets. Methods: Patients (n=41) of the IMDC, or their parents will be surveyed to determine existing barriers for diet adherence. A twenty-eight-question telephone survey created in collaboration with the metabolic clinic staff will be used. The survey consists of questions pertaining to diet adherence, formula preferences, ability to comply when eating out and at home, accessibility of medical formulas/foods, and the quality of diet teaching provided. Participants included in this study will need to be of adequate mental cognition and able to communicate as determined by the clinical dietitian. If patients are not able to communicate for themselves, their legal guardian will be surveyed. Patients who are incoherent, unable to communicate, or are mentally retarded and do not have a legal guardian to speak on their behalf will be excluded. Results: Upon approval from the Conjoint Health Research Ethics Board, data collection will proceed as described above. Results will be tabulated and analyzed to identify existing barriers. Implications & Conclusions: By identifying the barriers PKU patients and families face in diet adherence, the IMDC will be able to re-assess their current methods of delivery of care and diet teaching.

Title: To determine if the nurses knowledge and attitudes influence the intake of calcium and vitamin D among the cognitively impaired residents in long term care (LTC)

Author(s): Brinda Rangarao & Hussein Mohamed, Calgary Regional Dietetic Internship Program, Calgary, Alberta.

Objectives: The purpose of this investigation was fourfold: to determine the knowledge and attitudes of nursing staff regarding calcium and vitamin D sources; to determine if the nursing staff influenced the intake of calcium and vitamin D; to determine barriers to adequate dietary calcium and vitamin D rich foods; and to provide suggestions for improvement in resident services and areas of staff training to reduce complications of osteoporosis. Methods: This study was completed in 2 phases. Phase 1 entailed carrying out a meal observation using a checklist and phase 2 involved surveying Registered Nurses, Licensed Practical Nurses (LPN) and Nursing Assistants (NA). Results: The nurses attitudes influences the intake of calcium and vitamin D among the cognitively impaired residents in LTC. The majority of nursing staff had a good knowledge of osteoporosis and knew about food sources of calcium and vitamin D. However, it was determined that poor nursing attitudes and practices created barriers, which affected the residents from obtaining adequate intake of food sources of calcium and vitamin D. Conclusion: It is recommended that the LTC develop and implement policies and procedures to ensure that nursing staff follow proper nutrition practices to ensure that this segment of population receives adequate food sources of calcium and vitamin D to reduce complications of osteoporosis.

Title: An Evaluation of “Feeding Your Baby”: a community based infant feeding class in the Calgary Health Region (CHR).

Author(s): D Baumler, Calgary Regional Dietetic Internship Program, Calgary, Alberta, K Douglas-England, K Grebenc, J Silzer, K Watson-Jarvis

In 2002, the Regional Infant Feeding Accreditation Team identified a gap in services to support nutrition and growth for infants. In response, the CHR developed and piloted a comprehensive infant feeding class for parents of infants 0-12 months. Objectives: The purpose of this evaluation was to: a) determine if the Feeding Your Baby (FYB) class had an impact on parents’ perceived knowledge and confidence in infant feeding practices and b) provide suggestions for future community-based infant feeding classes. Methods: All individuals attending the six FYB classes were asked to participate in the evaluation. A self-administered questionnaire was completed before and immediately after attending the FYB class, which collected participants’ self-perceived nutrition knowledge, confidence regarding infant feeding and demographic information. Two months after the class, a telephone survey was conducted to determine the level of knowledge retained by parents and changes in infant feeding practices implemented as a result of attending the class. In total, 127 individuals attended the classes between September 2002 and January 2003. Ninety one percent (N=115) completed the pre and post questionnaire and 77.4% (N=89) completed the telephone survey. The Wilcoxon Signed Ranks test was used to compare pre and post data. Results: Participants reported an overall 72.4% increase in level of knowledge about infant nutrition and feeding. A statistically significant ($p=.001$) improvement in the level of knowledge was observed when pre (9.5%) and post (81.9%) results were compared. In addition 83.2% of the telephone survey participants reported a high level of knowledge of infant feeding. Confidence levels increased significantly ($p=.001$) in infant feeding when pre and post results were compared (24%-54%). Furthermore 74%-94% of the telephone survey participants reported a high level of confidence in infant feeding. Conclusion: The FYB class taught by a registered dietitian (RD) increased knowledge and confidence about infant feeding. As well, participants reported that the RD made a difference because of their expertise, knowledge and experience. Participants suggested that it would be beneficial to tailor the classes toward infant age specific groups.

Title: Needs assessment of Calgary-area schools to support healthy school environments and Comprehensive School Health

Author: KL Rondeau, Calgary Regional Dietetic Internship Program, Calgary, Alberta

Objective: The School Nutrition Advisory Coalition (SNAC) initiated a needs assessment survey of Calgary-area schools to gather information that would guide the creation of a nutrition toolkit that supports healthy school environments and Comprehensive School Health (CSH). Methods: Elementary schools (K-6) and high schools (9-12) in the Calgary-area (n = 278) completed a written questionnaire to collect information on the food environment in schools and school food policies. Results: School administrators and parents are key players in decisions surrounding nutrition and food. Food sales to students are highly prevalent in high schools; fundraisers and special food days are common in elementary schools. Less than 20% of respondents in both groups indicated that school food policies exist for a given food distribution system. High schools identified a greater need for resources that support food sales than elementary schools. Barriers to providing nutritious choices in elementary schools include food choices being made at home and the lack of manpower to administrate nutrition initiatives. High schools cite the poor sales performance of healthy food items and the potential for lost revenue as important barriers.

Conclusion: There is a need in Calgary-area schools to develop school nutrition policies. Programs and initiatives need to be targeted at individuals and groups that can approve and implement them. These programs must be easy to administrate, integrate, and maintain. Resources and initiatives must be targeted to the appropriate grade level. By creating a toolkit that supports CSH, SNAC can help schools teach students skills, values, and behaviours for healthy lives both within and beyond the classroom.

Title: Outpatient Satisfaction with the Grace Osteoporosis Centre

Authors: J. Jager, L. Schopff, Calgary Regional Dietetic Internship Program, Calgary, AB.

Objective: To evaluate patient satisfaction with the services provided through the Grace Osteoporosis Centre (GOC), including a consultation with a Registered Dietitian (RD), to determine the perceived effectiveness of the current program, identify barriers to change, and provide suggestions for improvement.

Methods: Data were collected using a telephone survey. All patients who had a consultation with the RD in the previous six months were eligible. Of those, 36 participated in the survey. Responses were analyzed using Excel and SPSS.

Results: The majority of participants (86%) were very satisfied with the services provided by the GOC, however only 71% felt the GOC dealt very well with their major concerns regarding bone health. When asked about areas for improvement, 25% felt some improvement was needed with the GOC linking patients with other community services. With respect to the consultation with the RD, 83% felt it was very important for people with osteoporosis to see a RD. Participants stated the RD helped them with; understanding how nutrition affects osteoporosis (86%), reinforcing information they already knew (81%), finding practical ways to make dietary changes (67%), and providing new information (64%). Seventy-five percent stated that talking to the RD helped them to make dietary changes, however when asked how these changes have helped patients managed their bone health, 14% stated not helpful, and 22% stated they were unsure.

Conclusion: Overall patients were very satisfied with the services provided by the GOC however, an opportunity exists to develop better linkages between the GOC and services within the community. Additionally, although the majority of patients made dietary changes, developing strategies to help patients better relate the effects of dietary changes on bone health could be considered.

Title: Analysis of the dietary fibre content of meals offered in Carewest, a continuing care organization of the Calgary Health Region, and acceptability of higher fibre menu items

Author (s): SM Davis, Calgary Regional Dietetic Internship Program, Calgary, Alberta

Objectives: The provision of adequate dietary fibre to residents of long-term care is essential, as many are known to experience chronic constipation. A menu that provides adequate fibre will help to alleviate discomfort in elderly residents and may subsequently decrease expenditure on prescribed laxatives.

Additional benefits of a high fibre menu relevant to this population include positive effects on insulin sensitivity and a reduction in blood cholesterol levels. The objectives of this study were to analyze the daily fibre content of the meals offered to residents of Carewest and investigate ways of increasing the total fibre content in the menu that is acceptable to the residents. Methods: Menu analysis was performed to determine the daily and weekly fibre content in the standard four-week rotation winter menu using Food Smart® Nutrient Assessment Program. The highest fibre meal choices offered for lunch and supper were analyzed using Carewest standard portion sizes. Three Carewest recipes were adapted using barley flour as a substitute for all-purpose flour. The recipes were then brought to the Carewest Food Quality committee for taste testing and approval. Results: Analysis of the menu showed that 8.4g of fibre/day was offered with weekly averages ranging from 6.9 - 9.4 g/day. The adequate intake (AI) for total fibre for those over 70 years of age is 30 g/day for men and 21 g/day for women. The three commissary recipes containing barley flour were accepted and approved by the Carewest Food Quality committee. Conclusions: The amount of total dietary fibre offered in Carewest facilities could be successfully increased by the incorporation of barley flour into recipes produced by the Carewest Commissary. The organization is now considering expanding the number of recipes that include barley flour.

Title: Are the energy needs of children and adolescents with active Crohn's disease being met with current TPN therapy?

Authors: K. Cormier, D. Mager, H. Richards, C. Jackson, L. Bannister, P. Pencharz, The Hospital for Sick Children Toronto, Ontario

Objectives: To measure the energy requirements of parenterally fed children and adolescent inpatients with active Crohn's disease in order to assess whether the energy needs of this population are being met with current TPN therapy. Methods: Twenty hospitalized patients with active Crohn's disease who were fed exclusively via TPN were investigated. A chart review was conducted to assess disease duration and location, laboratory parameters and symptomology associated with Crohn's disease. Disease severity was quantified using the Pediatric Crohn's Disease Activity Index. Each subject underwent indirect calorimetry, bioelectrical impedance analysis and anthropometric assessment once the ordered TPN met estimated macronutrient requirements of each patient. Predicted resting energy expenditure was determined using the FAO/WHO/UNU equation. Results: Resting energy expenditure (REE) showed a strong correlation with predicted resting energy expenditure ($r=0.8545$, $p<0.01$). Mean number of calories infused via TPN (1490.4 ± 496.1 kcal/d) was not significantly different than total energy expenditure (measured REE x 1.3) ($p<0.05$). Disease severity did not correlate with resting energy expenditure. Implications & Conclusions: Malnutrition is the direst consequence of Crohn's disease and especially crucial in children, whose growth and development depend on sufficient energy intake. In our pediatric subjects with Crohn's disease, sufficient TPN calories were delivered to satisfy the patients' energy requirements and these energy requirements can be estimated by the FAO/WHO/UNU equation. Although further investigation is warranted it would appear that pediatric patients with active Crohn's disease fail to down regulate their energy expenditure in response to weight loss.

Lignes directrices établies pour les allergies aux arachides et aux noix dans un milieu hospitalier.

Auteurs : N. Bass et L. Boucher-Matthews, Internat en diététique, Régie régionale de la santé Beauséjour, Moncton, Nouveau-Brunswick.

Objectifs : Vérifier les mesures de prévention prises dans les milieux hospitaliers à travers le Canada lors d'allergies aux arachides et aux noix. Développer des lignes directrices permettant aux diététistes de bien informer leurs patients en vue d'éviter des réactions allergiques. Méthode : Des questionnaires (n = 34) sont envoyés à des diététistes afin de recevoir de l'information sur les aliments à éviter, les méthodes de prévention de réactions olfactives et l'enseignement offert au patient. Résultats : Parmi les questionnaires reçus (n=17), 70.6% des diététistes indiquent que leur institution ne suit pas de protocole pour les allergies aux arachides et aux noix. En général, les différents hôpitaux traitent les allergies aux arachides et les allergies aux noix de la même façon. Peu de mesures semblent être prises en vue d'éviter les réactions olfactives lors de la préparation et du service des repas. L'étude démontre que 29.4% des hôpitaux interdisent des aliments contenant des arachides ou des noix sur l'unité de soins et 11% l'interdisent dans une chambre semi-privée. La lecture des étiquettes alimentaires semble être la suggestion la plus commune donnée aux patients afin d'éviter la consommation d'arachides et de noix. Le patient doit toutefois être informé que certains produits commerciaux peuvent contenir des ingrédients allergènes non déclarés, souvent dû à la contamination croisée. Il est donc primordial de contacter les fabricants afin d'assurer que l'aliment en question ne contienne pas d'allergène non identifié. Conclusion : Cette recherche a permis de conclure que les lignes directrices sur les allergies aux arachides et aux noix suivies à l'Hôpital régional Dr Georges-L. Dumont sont en général assez conformes aux autres hôpitaux canadiens.

Développement d'un protocole de référence sur les allergies au poisson et aux fruits de mer.

Auteure : M. Cormier, Internat en diététique, Régie régionale de la santé Beauséjour, Moncton, Nouveau-Brunswick.

Objectifs: Comparer les mesures suivies par l'Hôpital régional Dr Georges-L. Dumont avec les autres hôpitaux canadiens lors d'allergie au poisson et aux fruits de mer. Développer un protocole de référence portant sur ce type d'allergies. Méthode : Des questionnaires (n=30) ont été envoyés à des diététistes travaillant dans différents hôpitaux du Canada afin de recueillir de l'information sur les lignes directrices suivies lors de l'hospitalisation de patients allergiques au poisson et/ou aux fruits de mer. Résultats : Parmi les questionnaires reçus (n=16), seulement une institution, indique avoir un protocole traitant de ces allergies. Une faible proportion des hôpitaux suivent des directives particulières afin d'éviter des réactions allergiques chez les patients. En effet, 19% des institutions apportent une attention particulière lors de la préparation des repas (ex : préparation des aliments à l'écart des autres), 13% pendant le service (ex : préparation des plateaux avant le commencement de la courroie) et 13% lors du transport des aliments (ex : les plateaux des patients allergiques ne sont pas placés dans les chariots). Peu de mesures sont suivies pour prévenir les réactions allergiques olfactives. Seulement 6% des institutions interdisent l'aliment allergène sur l'unité de soins. Aucune institution ne détient une liste d'aliments considérés à risque pour les allergies au poisson et aux fruits de mer. Il est à noter que les logiciels de gestion des menus utilisés dans plusieurs institutions permettent un meilleur contrôle des allergies alimentaires en milieu hospitaliers. Conclusion : L'Hôpital régional Dr Georges-L semble prendre les mesures adéquates afin de prévenir les réactions allergiques chez les patients hospitalisés.

Title: Classification of adult patients receiving long term tube feeding in Capital Health between April 2001 and March 2002 according to clinical and ethical guidelines.

Authors: S Sarkisian, C Basualdo-Hammond, Capital Health Regional Dietetic Internship Program, Edmonton, Alberta

Objectives: To determine the percentage of patients who receive Percutaneous Entero Gastrostomies (PEG) in each classification according to the Capital Health 'Decision Making Algorithm for Long Term Tube Feeding'. Methods: This descriptive study involved a chart review of a randomized sample (n=94) of a total of 320 adult patients (18+) in the Capital Health region who received PEG tubes between 2001/04/01 and 2002/03/31. Pertinent data on the patient's disease, reason for tube feed, care plan and ethical considerations was collected from the charts. Results: The majority (48.94%) of patients who underwent PEG insertions exhibited dysphagia associated with significant co-morbidities and poor quality of life due to progressive underlying disease or severe dementia (class C). 28.72% of patients exhibited dysphagia associated with non-progressive deficits and good quality of life (class B). In both of these groups, tube feeds were often sited as needed to reduce risk of aspiration. 10.64% of patients were in a vegetative state or prolonged coma for a time period of less than 12 months. The remaining patients either had compromised nutritional status without dysphagia (8.5%) or had a terminal illness (3.19%). Conclusion: For class C patients, in deciding to place a PEG there is a need to consider ethical guidelines, patient's values/preferences, potential benefits/risks from long term tube feeding, and the patient's quality of life. The relatively high percentage of patients in this category indicates a need for the implementation of clinical and ethical guidelines for long term tube feeding in Capital Health.

Title: Evaluation of a home care diabetic diet survival teaching kit: perceptions of healthcare professionals

Author: BL Haverluck, Capital Health Regional Dietetic Internship Program, Edmonton, Alberta; Facilitator: M Atkins, Capital Health, Edmonton, Alberta

Objective: The Diabetic Diet Survival Teaching Kit assists nurses in teaching basic diabetic diet guidelines to home care clients recently diagnosed with diabetes in Edmonton, Alberta. The intent is to ensure that clients receive the basic information required to manage their diabetes until they are able to attend a Diabetic Education Centre. The teaching kit was developed as part of a Home Care Education Pathway for Adults with Diabetes (EPAD). Methods: A chart audit was completed on all clients taught using the EPAD between November 2002 and April 2003 (n= 22). Diet education outcomes were collected from patient charts and analyzed for trends. Registered dietitians and nurses familiar with the kit (n=19) completed a questionnaire to identify if the kit was effective in teaching clients, easy to use and contained appropriate information. In semi-structured interviews, front-line nurses (n=24) were asked similar questions. Implications: The results will be used to revise the kit and develop a teaching tool that better meets the needs of the client and the healthcare professional. The goal is to develop a practical teaching tool targeted at a variety of cultures that emphasizes healthful eating for diabetes.

Title: The nutritional status, activity levels and body composition of patients pre-islet cell transplant and one-month post islet cell transplant

Author(s): CA Roth, G Hubert and EA Ryan, Capital Health Dietetic Internship Program, Edmonton, Alberta.

Objectives: To assess the nutritional status, activity levels and body composition of six Type 1 Diabetic patients pre-islet cell transplant and one-month post transplant. Method: A chart review was performed using three-day food records, three-day activity records and bioelectrical impedance analysis. The subjects consisted of two males and four females ranging in age from 29 to 52 years, who have previously undergone a minimum of one islet cell transplant. The food and activity data was evaluated using The Food Processor program. A t-test for paired comparison was calculated for the patients' pre and post transplant weights and activity data. Results: Patients lost on average 2 % of their body fat but due to fluid retention we were unable to determine if any losses were associated with the fat free mass. The decrease in energy expenditure during activity from pre-transplant compared to post transplant was found to be significant (p value = 0.0338) with a 5 % significance level. The three-day food records revealed the groups' intake of total fat consumption post transplant was high (mean 34.8 %). The groups' fibre intake was found to be low post transplant (mean 18.61 g per day). Mg intake was low in all subjects pre and post transplant compared to the DRIs, ranked according to age. Calcium, Vitamin B6, iron and zinc intakes were also found to be low in many subjects compared to the recommended values. Conclusion: Recommendations for increased food intake and supplements appropriate to the patients were made to aid in their nutritional status and help prevent further weight loss post transplant.

Title: Evaluation of nutrition services provided by dietitians to inpatients with diabetes within various hospitals of the Capital Health region.

Author: CA Stephenson, CG Basualdo-Hammond, Capital Health Regional Dietetic Internship Program, Edmonton, Alberta

Objectives: The purpose of this study is to determine what services or information dietitians are currently providing to inpatients with diabetes within various hospitals of the Capital Health region and to identify any gaps in the services or information currently being provided. Methods: Data will be obtained through a questionnaire administered to dietitians within the Capital Health region. As well, a chart review will be completed on a random selection of inpatients with diabetes at the University of Alberta Hospital and Royal Alexandra Hospital sites. The information obtained from patient's charts will help identify if nutritional intervention was necessary and if the patient, during their hospital stay, received nutrition care. Implications: Data acquired from this study will help identify any gaps in the services or information currently being provided by dietitians to inpatients with diabetes within Capital Health. These findings will help to develop recommendations that will ensure appropriate nutritional care is being provided to inpatients with diabetes within Capital Health. The timing of this study will compliment the implementation of the newly proposed Capital Health Diabetes Integrated Service Delivery Model aimed at improving delivery of diabetes care throughout Capital Health.

Title: Development of texture modified grain products to enhance variety and increase nutritional intake in dysphagic diets

Author: CLM Durocher, Aramark Dietetic Internship Program, Toronto, Ontario

Objectives: Alternatives were investigated to increase quality, quantity and variety of grain products for patients on a dysphagic diet. Labour in a primarily outsourced cold plating system was also considered. Methods: Development of texture modified (TM) milk soaked blueberry muffins, puree chocolate and puree apple cinnamon muffins were investigated. Preparation of TM milk soaked cake using skim milk and thickener was followed by the comparison of additional thickener and homogenized milk. Prepared puree pasta and puree rice were tested as entrees, for use as thickening agents in soups and compared to the thickening agent currently used. Taste, texture and appearance of all products were compared. Results: All muffins developed were not found to be suitable due to the labour-intensive nature of preparing the product or to resulting taste and texture. TM cake resulted in an acceptable product and approval was received from dietitians and speech language pathologists. Preparation using 1% milk would allow for a compromise between the skim and homogenized milks in both consistency and nutritional value. Puree pasta and rice were found to be suitable; however, presentation should be refined. Depending on the consistency desired, the use of puree rice or pasta to thicken soups yielded positive results. Comparison with the current thickener in use indicated that it should be replaced as it did not result in a suitable product. Conclusions: Due to the subjectivity of consistency in dysphagic diets, further discussion to develop a standard for consistency is suggested. Additional research in this area is recommended to increase the quality, quantity and variety of grain products for dysphagic diets.

Titre: Contrôle des interactions médicaments-nutriments chez les patients hospitalisés

Auteure: R Gallant, Internat en diététique, Régie régionale de la santé Beauséjour, Moncton, Nouveau-Brunswick

Objectif: Connaître les directives suivies à d'autres hôpitaux en vue de prévenir les interactions médicaments-nutriments chez les patients hospitalisés. Méthode: Un questionnaire, composé de six questions, porte sur les mesures prises afin de prévenir les interactions médicaments-nutriments dans les hôpitaux. Il est distribué à 24 centres hospitaliers choisis au hasard. Les données ont été compilées en données brutes pour ainsi être analysées sous forme de pourcentages et de figures visuelles. Résultats: Un total de 13 hôpitaux sur 24 ont répondu au questionnaire (54 %). Ainsi, le service de pharmacie et le service alimentaire et de nutrition clinique sont responsables de contrôler les interactions médicaments-nutriments dans 53.8 % des hôpitaux. Un total de 92.3 % des hôpitaux indique que le jus de pamplemousse est enlevé du menu et 76.9 % répondent qu'ils modifient les repas et les collations des patients selon les interactions médicaments-nutriments lorsque le service alimentaire en est avisé. De plus, 53.8 % des hôpitaux indiquent que c'est la responsabilité entière du service de pharmacie d'informer le patient au sujet des interactions possibles entre les médicaments et les nutriments. Également, 76.9 % affirment que le service de pharmacie informe le service alimentaire des interactions médicaments-nutriments possibles. Seulement 15.4 % des hôpitaux disent posséder des politiques et des procédures à ce sujet. Conclusion: Aucun centre hospitalier ne possède de protocole sur le contrôle des interactions médicaments-nutriments chez les patients hospitalisés. De plus, il est crucial, en tant que professionnels de la santé, de se familiariser avec les interactions médicaments-nutriments afin d'assurer l'efficacité des médicaments.

Titre : Évaluation de l'alimentation chez le bébé prématuré avec l'accent sur la transition de l'alimentation entérale par gavage à l'alimentation orale et un volet sur l'impact du stress environnemental

Auteure : S Levesque, Internat en diététique Régie régionale de la santé Beauséjour, Moncton, Nouveau-Brunswick

Objectif : Déterminer les pratiques d'alimentation offertes chez le bébé prématuré par le personnel de l'Unité des naissances de l'Hôpital régional Dr-Georges L.-Dumont. Méthode : Les quatorze membres du personnel infirmier de l'Unité des naissances ont rempli un sondage visant à connaître les procédures et les lignes directrices suivies lors de la transition de l'alimentation entérale par gavage à l'alimentation orale chez le bébé prématuré. Résultats : Selon 86 % des répondantes, le mode d'alimentation du bébé prématuré devrait être déterminé par une équipe multidisciplinaire. Présentement, 93% des répondantes indiquent que cette décision relève du médecin. La totalité des répondantes identifie le taux de résidus gastriques comme un signe d'intolérance à l'alimentation entérale et 93% des répondantes se basent sur le gain de poids afin de déterminer si l'alimentation orale va bien. La manipulation fréquente est un facteur de stress négatif affectant l'alimentation. Les répondantes estiment manipuler le bébé moins de 100 fois par jour comparativement à 150 fois tel qu'indiqué dans la littérature. Conclusion : L'initiation adéquate à l'alimentation permet de diminuer le risque de complications médicales secondaires et a un effet positif sur le développement physiologique et mental du bébé prématuré. Par ailleurs, cette étude a permis d'identifier les facteurs importants à prendre en considération pour réussir la transition de l'alimentation entérale à l'alimentation orale.

Title: Is there a relationship between consumption of foods low in glycemic index and risk of metabolic syndrome in participants of a cardiac rehabilitation program?

Author: W Koo, St. Paul's Hospital Dietetic Internship Program, Vancouver, British Columbia

Objectives: This study investigated the relationship between consumption of low glycemic index (GI) foods and risk of metabolic syndrome in participants of the Healthy Heart Program, St. Paul's Hospital. Methods: Patient charts were randomly selected for review. The average daily intake of low-GI foods was calculated from three-day food records. Fasting blood sugar (FBS), body mass index (BMI), waist circumference, and triglycerides (TG) were studied as indicators of metabolic syndrome. Correlational analyses and multiple linear regressions were performed. Results: The average age of the subjects ($n = 75$) was 47.65 ± 11.49 years, FBS 5.78 ± 1.43 mmol/L, BMI 28.18 ± 3.80 , waist circumference 106.93 ± 12.00 cm, and TG 4.42 ± 5.01 mmol/L. Sixty-three percent of the subjects were male. There was no significant association between consumption of low-GI foods and metabolic syndrome. However, BMI correlated negatively with consumption of carbohydrates ($r = -0.300, p = 0.009$), and positively with consumption of total fat ($r = 0.410, p < 0.001$), saturated fat ($r = 0.369, p = 0.001$), and polyunsaturated fat ($r = 0.243, p = 0.036$). Waist circumference was positively related to consumption of total fat ($r = 0.544, p = 0.044$) and saturated fat ($r = 0.695, p = 0.006$). The best predictor of BMI was total fat in diet, while amount of saturated fat best predicted waist circumference. Conclusion: Dietary intake of low-GI foods was independent of risk of metabolic syndrome. Current dietary recommendations to reduce consumption of total and saturated fat appear to be appropriate in lowering metabolic syndrome risk.

Title: A Nutrition Screening Tool at a Family Medicine Centre: A Patient-Centered Approach to Addressing Nutrition Concerns

Author(s): C. Campbell^{1*}, J. Surette^{1*}, M. Graham¹, and A. Mayhew². ¹Nutrition and Food Service; ²Nursing Professional Practice, The Ottawa Hospital, Ottawa, ON.

OBJECTIVE: To determine whether placing a Nutrition Screening Tool (NST) in the waiting room at The Ottawa Hospital Family Medicine Centre (FMC) could be an effective and acceptable method for patients to address their nutritional concerns with a health professional. **METHODS:** A display with the self-administered NST questionnaires was set up in the waiting area of the FMC. As patients entered the FMC, they voluntarily made the decision to complete the questionnaire, and then made the decision as to whether or not they would discuss their results with their doctor/nurse. The NST score classifies individuals into low, moderate, and high nutritional risk. A score greater than 12 indicates that the subject is at nutritional risk. The number of NST removed from the display, and the number of completed NST that were brought to the doctor /nurse were monitored and recorded. The number of referrals to the FMC's Outpatient Dietitian was also recorded for a period of 4 weeks before and after the NST had been implemented. Quantitative data was statistically analyzed using a computer program called *Statistical Package for Social Sciences* (SPSS). Upon data collection, opinions and feedback regarding the implementation of the NST was sought through feedback evaluation forms from FMC staff. **RESULTS:** 86 NST were picked up and 6 were completed and returned to the nurse/doctor. Average score was 5.7. 94% of nurses/doctors spent 0 min. with patients regarding the NST, and 94% thought using the NST on a regular basis at the FMC would be useful. **CONCLUSIONS:** This study has shown that the NST was not an effective method for patients at the FMC to address their own nutritional concerns. As for the appropriateness of the screening tool, feedback from the health professionals at the FMC indicated that the NST was an acceptable method for individuals to identify their nutrition concerns. Further investigation is needed.

Title: Carob bean gum thickens human breast milk, for the management of infants with increased risk of aspiration due to gastro-esophageal reflux (GER) and swallowing anomalies.

Authors: J Dawson, D O'Connor, D Stone, The Hospital for Sick Children (HSC) internship program, Toronto, Ontario.

Objectives: Due to breast milk's (BM) enzymatic activity, rice cereal (a common thickener used to thicken formula) is broken down, preventing BM from being thickened. Human BM will be thickened to two degrees of viscosity with the addition of carob bean gum (CBG). Methods: Experiment 1: The viscosity of two consistencies of rice thickened formula (thick liquid and thin puree) that are routinely used at HSC were tested. The results were used as the standard in order to determine the amount of CBG to add to BM so that the same levels of viscosity were achieved. Samples were warmed in a hot water bath to 37 C, then CBG was added and mixed throughout. The viscosity was tested using a viscometer. Experiment 2: The amount of CBG determined in experiment 1 will be used to thicken the BM samples. Three groups (regular BM -control, rice thickened BM, and CBG thickened BM), with 21 samples per group will be studied. Similar methods will be employed as in experiment 1, and the results will be analyzed by ANOVA. Results: Experiment 1 determined that 0.076 g and 0.1407g of CBG per 10 ml of BM is the amount that achieves the same viscosity as the thick liquid and thin puree rice cereal-formula standards, respectively. It was found that CBG-thickened BM increased in viscosity with time. Conclusion: Results from experiment 2 are still pending, however results thus far show that human BM can be thickened with CBG, signifying its potential use for the management of infants with GER and aspiration.

Title: Characteristics of wounds in patients undergoing hemodialysis at St. Michael's Hospital and the factors associated with wound development

Authors: M Brotherwood, L Timoshenko, K Burleigh, L Teague and PB Darling, St. Michael's Hospital Dietetic Internship Program, Toronto, Ontario

Background: Hemodialysis (HD) patients have a high prevalence of malnutrition that, combined with nutrient losses during HD may increase their risk for wound development.

Objectives: This observational study aims to describe the wounds in HD patients and to determine the relationship between wound development and poor nutritional status (serum albumin <30 g/L and unintentional weight loss), elevated calcium x phosphorus product, macronutrient and vitamin supplementation, diabetes, and activity level.

Methods: This is a pilot, case-control study involving in- and outpatients receiving hemodialysis at St. Michael's Hospital in March-May 2003. Patients who agree to participate in the study will be grouped either as cases (with wounds, n=15) or as controls (without wounds, n=30). The control group will be matched to the case group by age, gender and length of time on dialysis. Information regarding nutritional supplementation and activity level will be obtained during a face-to-face interview with study participants. Dry body weight changes and recent serum albumin, calcium and phosphorus concentrations will be obtained from their medical records. A physical examination to characterize the wounds will be conducted by the Wound Care Team. To identify the factors associated with wound development, case and control groups will be compared to each other using odds ratio.

Implications: This study will describe the presence of wounds in hemodialysis patients and identify factors that might place them at risk for developing wounds. As some of these factors may be modifiable and preventable, results of this study may provide information upon which to design intervention trials for prevention or treatment of wounds in high-risk HD patients.

Title: Incidence of abnormal blood glucose in Trauma/Neurosurgery Intensive Care Unit (TNICU) patients and its relationship with mortality, morbidity, insulin therapy, and enteral nutrition.

Author(s): N. Fish, D. Kwan, M. Morningstar, R. Mustard, P.B. Darling, St. Michael's Hospital, Toronto, Ontario.

Background: Hyperglycemia and insulin resistance are common metabolic consequences of critical illness in patients irrespective of past history of diabetes mellitus. Recent findings suggest that a significant reduction in mortality and morbidity of critically ill patients can be achieved by controlling abnormal blood glucose (<4.4 mmol/L- or > 6.1 mmol/L) with intensive insulin therapy. Neither incidence nor outcomes of abnormal blood glucose in the TNICU setting has been formally documented.

Objectives: 1) To describe the incidence of abnormal blood glucose levels and the frequency of insulin therapy adverse events such as hypoglycemia in TNICU patients at St Michael's Hospital. 2) To describe the relationship between hyperglycemia and mortality, morbidity, corticosteroid dose, adequacy of enteral feeding, insulin therapy, and length of stay in the TNICU.

Methods: Medical records of patients with a minimum predicted length of stay in the TNICU of ≥ 5 days and receiving enteral nutrition, as a sole source of nutrition for ≥ 5 days will be prospectively reviewed over a 2-month study period. Study participants and/or caregivers will be provided with written information describing the study. Outcome variables will be analyzed using descriptive statistics and relationship among variables will be assessed by Spearman correlation using SPSS 9.0.

Implications: This study will describe the incidence of abnormal blood glucose concentrations and its relationship with mortality and morbidity outcomes in TNICU enterally fed patients. Information will also be gained as to the possible factors associated with the development of abnormal blood glucose and TNICU, which may lead to improvements in the delivery of care to these patients.

Title: Dietary compliance and perceived satisfaction with dietary instruction of patients with Celiac Disease

Author(s): C. Mickolwin, F. Press, P.B. Darling. St. Michael's Hospital, Toronto, Ontario

Background: Dietary counseling for patients with Celiac Disease is crucial for the necessary avoidance of gluten in order to prevent further intestinal mucosal damage and worsening of the condition. Few studies have approached this topic from the education, counseling, or patient satisfaction perspectives.

Objectives: To assess compliancy to a gluten free (GF) diet and evaluate patient satisfaction with education and resources provided. In addition, relationships among diet compliancy, satisfaction with education, and other factors that may affect ability to adhere to the GF diet will be explored.

Methods: A multi-faceted questionnaire was developed for this study to describe the following: diet compliance (very unlikely to have consumed gluten, possible consumption of traces of gluten, gluten-containing foods were consumed), satisfaction with dietary education (Likert-type scale), and relationship between dietary compliance and influencing factors. The questionnaire has been assessed by means of two stages of face validation. The first validation was completed by the three study investigators followed by a second validation by seven Registered Dietitians in areas of research, education, and clinical dietetics. A final revision followed this validation process. Participants will be recruited in a multi-step process beginning with an introductory letter endorsed by his or her physician, followed by a telephone call inviting participation. The questionnaire and study information form will then be mailed to those who are willing to participate.

Implications: This study will describe the current level of diet compliancy in this patient population. It will also identify shortfalls of current patient resources, and explore challenges that people face when attempting to adhere to a strict diet prescription. This will in turn lead to the opportunity to improve patient care.

Title: Do patients change their lifestyle following cardiovascular surgery?

Author(s): A. Diamantouros, N. Beattie, J. Song, P. Darling, R. Hanning and M. Keith, St. Michael's Hospital, Toronto, Ontario.

Background: The management of modifiable risk factors following coronary artery bypass grafting surgery (CABG) has been proven to positively affect future health outcomes in cardiac surgical patients. However, there is limited information on lifestyle changes made after CABG, the effectiveness of resources used to facilitate change, as well as the importance of social support (SS) in predicting change.

Objectives: 1) To describe the self-reported dietary, smoking and physical activity changes made by patients, 4-6 weeks following CABG, 2) To examine patient satisfaction with the discharge information and 3) To explore the relationships among self-reported lifestyle change, SS and satisfaction with the discharge information.

Methods: Fifty patients returning for post-operative follow-up will be approached for participation in this cross-sectional, prospective study. After obtaining verbal informed consent, participants will be asked to complete a pre-tested, self-administered questionnaire probing whether changes have been made to their diet, smoking habits and physical activity since their cardiac surgery. In addition, participants will record their level of satisfaction with the discharge information as well as any additional information/services that would be helpful in facilitating change. Participants will also be asked to rate SS received from family, friends and co-workers on a five-point Likert scale. Data will be analyzed using SPSS.

Implications: This study will determine the percentage of patients that make lifestyle changes immediately post-surgery and whether their level of SS influences their ability to make changes. Furthermore, this study will provide important information for clinicians regarding the types of information that patients use, as well as which patients may require additional support prior to discharge from hospital.

Title: Post necrotizing enterocolitis (NEC) feeding tolerance in pre-term infants with non-surgical intervention.

Authors: A Bar-Dayana, J Brennan, J Hellmann, The Hospital for Sick Children Dietetic Internship, Toronto, Ontario.

Objectives: Preterm infants with NEC, without surgical intervention have difficulty reaching previously tolerated feeding volumes likely secondary to bowel dysmotility and/or dysfunction from ischemic hypoxic injury to the gastrointestinal tract damaged during the NEC episode. The objective of our current study is to assess the duration of time it takes for infants who have had NEC with or without surgical intervention to reach the amount of feeding they were tolerating prior to NEC episode in the NICU at The Hospital for Sick Children. Methods: The study consists of a retrospective chart review of preterm infants with NEC with bowel resection (N=12) and without bowel resection (N=13) at HSC from January 1999-October 2002. Weight, gestational age, amount of bowel resected and number of days to reach feeding volume tolerated prior to NEC episode are obtained from the chart. In addition, rate at which feedings increased post NEC episode are collected. Determination of feeding intolerance is monitored according to the number and volume of gastric aspirates and abdominal girth measurements. Results: The mean gestational age for infants with NEC with and without bowel resection is 31 weeks. Mean birth weight for the surgical and non-surgical group is 1522 grams and 1510 grams respectively. The mean length of time to previously tolerated feeding prior to NEC for infants without bowel resection is 7.5 days and 10.3 for those with bowel resection. Conclusion: This study will assist health care professionals understand the expected length of time for infants to tolerate feedings after NEC. In addition, health professionals will be aware that although not all infants with NEC undergo bowel resection, resuming feedings and reaching pre NEC tolerance may take several weeks.

Title: The implementation of a room service menu style in order to improve patient meal satisfaction in pediatric oncology and hemodialysis patients

Author(s): K Wadden, B Wolf. The Children's Hospital of Eastern Ontario (CHEO), Ottawa, Ontario

Objectives: To increase patient meal satisfaction, thereby improving meal consumption of the pediatric oncology and hemodialysis patients at CHEO by changing the traditional style of menu to the room service menu style.

Methods: A pre-intervention survey was conducted on twenty subjects aged one to 17 years at CHEO using a standard meal satisfaction survey tool in an interview-style approach. Subjects were pediatric oncology and hemodialysis inpatients and outpatients at the hospital and were chosen by a convenience sample. A focus group was created in order to assist in the implementation of the Room Service Program and in designing the new menu.

Results: A need for an improvement in patient meal satisfaction was identified from the pre-intervention survey as only 10 percent of patients surveyed noted that their expectations were exceeded when rating overall satisfaction of meals at the hospital. In order to improve patient meal satisfaction, a Room Service Program will be implemented on May 20, 2003 and will be in place for a period of three months. The room service menu style is similar to room service in a hotel setting and patients will be able to make their menu choices shortly in advance of the meal. A post-intervention survey will be conducted after the program has been implemented in order to determine whether an improvement in meal satisfaction is noted after the change in the menu style.

Conclusions: The goal of this program is to improve patient meal satisfaction at CHEO, thereby improving meal consumption and possibly nutritional status of the pediatric oncology and hemodialysis patients.

Title: Nutritional Intake Of Elite Competitive Swimmers

Author: DA Harding, University of Alberta Internship Program, Edmonton, Alberta.

Objectives: To assess the nutrient intake of a group of elite competitive swimmers during an intense training program.

Methods: Fourteen swimmers (6 male, 8 female), 16 to 23 years of age were asked to keep two three-day food records during their fall training. Using Food Processor®, food records were analyzed to estimate intakes of carbohydrates, protein, fat, fibre, omega 3 and 6 fatty acids as well as several vitamins and minerals.

Results: When compared to the ADA athletic recommendation for energy of 3000 to 6000 kcal per day, six (43%) of the swimmers in this study failed to consume the minimum amount. Carbohydrate intakes of ten (72%) of the swimmers were not meeting the absolute amount of 500g recommended while twelve (86%) failed to reach the suggested minimum relative amount of 8g/kg. Protein intakes were adequate except in a quarter (25%) of the females consuming below 1.2g/kg. Half of the swimmers met the ≤30% kcal from fat recommendation while the other half consumed diets between 32 and 42% kcal from fat. Of the fourteen swimmers, only two (14%) achieved the RDA for fibre, omega 3 and 6. All the swimmers met the RDA for thiamin, riboflavin, niacin and vitamin C. The micronutrients most frequently below the RDA were vitamin D, folate, calcium, magnesium and phosphorus. Vitamins B₆, B₁₂ and iron were below the RDA in a small percentage (13%) of the female swimmers.

Conclusion: The results of this study suggest that elite swimmers undergoing an intense training program might benefit from dietary advice on carbohydrate, fibre, omega 3 and 6 fatty acids, vitamin D, folate, calcium, magnesium and phosphorus. Additional counselling on protein, vitamin B₆, B₁₂ and iron seems warranted for female swimmers.

Title: A comparison of distance education models, based on the needs of aboriginal health workers.

Author: SL Waite, Northern Dietetic Internship Program with a First Nations Focus, Thunder Bay, ON

Objective: The nutrition office of the First Nations & Inuit Health Branch of Health Canada is planning to develop a distance education training program for Community Health Representatives (CHRs). The purpose of the research project, is to compare web-based and teleconference-based distance education courses and recommend a mode which is best for lay health educators, working in Aboriginal communities.

Methods: The research is qualitative and designed to review existing literature, interview key informants and compile information on CHRs and the education they receive. More specifically, this project focuses on distance education methods, as this is typically a more cost effective and practical way to educate CHRs. A literature review was conducted to provide a profile of a CHR and to identify education principles for First Nations people. Phase one of the research, consisted of a review of existing programs which offer distance education (one web-based course, one teleconference-based course). This identified pros/cons of each for our target audience(s). Phase two involved developing questions for a sample of students (n = not available), and instructors of the courses (n = not available). Key informants will be asked similar questions in a semi-structured phone interview. The questions will focus on areas not answered during phase one. Questions have been developed to identify opinions and preferences related to the distance education courses.

Results: Pending

Implications & Conclusions: The recommendations resulting from this research would be useful when developing distance education courses for lay health workers practicing in isolated communities. The research could also be used as a reference for anyone developing distance education courses. Conclusions are pending.

Title: Foodservice Practices in the Care of the Elderly in Saskatoon District Health Special Care Homes: Foodservice Survey – Summer 2002

Author(s): FM Woods, GA Zello, SJ Whiting, and N Leydon. Food and Nutrition Services, Saskatoon Health Region, Saskatoon, Saskatchewan.

Objectives: To identify the current standards, philosophies and policies governing the planning and delivery of food and nutrition services, as well as, food service practices and self-identified areas of concern within Saskatoon District Health and its affiliates providing care to residents 65 years and older. Methods: A food service representative from each of sixteen special care homes completed a 30-item self-administered questionnaire. Where applicable, current practices were compared with 1999 survey data. Results: There was evidence that special care homes were striving to be mission driven with the resident as their central focus. However, some food service representatives indicated that residents might not always have enough time to eat, find the meals enjoyable or appealing, or receive snacks and fluids when they like. Gaps, between the time that food was served and the time when residents ate, were noted. Understaffing was an issue. Most homes indicated that they actively sought resident and/or family input and responded by making appropriate changes. Fewer different therapeutic diets were prepared, yet use of current published guidelines was not consistent. There was no consensus in staffing qualifications, job titles, or the ratio of full-time equivalents to number of residents. Meals, snacks and beverages were provided at regular intervals at most special care homes; breakfast being the most flexible. Conclusion: The food services policies and practices were diverse. It would be beneficial to develop specific indicators for regular self-assessment. As well, legislated guidelines would serve as a risk management tool by providing protocols to ensure optimum food service without each special care home losing its unique personality.

Title: Malnutrition of residents in Saskatoon special care homes

Author(s): R Colwell, R Shavron, C Torgerson, R Shavron, C Arnold, W Dahl, Food and Nutrition Services, Saskatoon Health Region, Saskatoon, Saskatchewan

Objectives: Malnutrition has been documented in special care homes. The objective of this study was to determine the prevalence of malnutrition in special care homes in Saskatoon. Methods: Special care home residents (n=89) were randomly selected from the 11 consenting facilities to partake in the study. Each participant was assessed using Subjective Global Assessment, a review of the patient's history, interview and physical exam. Based on the assessment, each participant was rated as an A (well nourished), B (moderately malnourished) or C (severely malnourished). Once relevant data was collected, it was compiled and trend analysis was performed. Key informants included Saskatoon special care home administrators, special care home residents and their families and registered dietitians. Results: Malnutrition was identified in all participating special care homes. Of the 89 participants, 42 (47%) had a rating of B or C. Of the 42 malnourished participants, 88% had a primary neurological diagnosis, 97% had at least two illnesses, and 26% required assistance with feeding. Conclusion: Approximately half (47%) the residents in Saskatoon special care homes surveyed during this study presented with either mild or severe malnutrition. Further research is required to determine if appropriate nutritional interventions will reduce this level of malnutrition.

Title: Parenteral nutrition associated cholestasis in infants with intestinal failure

Author(s): TL Mardell and CJ Arnold, Food and Nutrition Services, Saskatoon Health Region, Saskatoon, Saskatchewan

Objectives: To determine the prevalence of parenteral nutrition associated cholestasis (PN-AC) in neonates with intestinal failure in Regina, Saskatchewan. Methods: Inpatient medical records from the years 1996 to date were reviewed from Regina General Hospital. The population studied included neonates less than 1 year of age, admitted to Neonatal Intensive Care Unit (NICU), received parenteral nutrition, and had intestinal failure. Intestinal failure was defined by diagnosis of gastroschisis, intestinal stenosis, intestinal atresia, necrotizing enterocolitis, and omphalocele. Excluded were those who had a congenital or acquired hepatobiliary disease, major cardiac anomaly, or other congenital or acquired disorders causing hepatobiliary disease. PNAC was defined as a direct bilirubin ≥ 34 $\mu\text{mol/L}$. Results: Forty-two neonates met entrance criteria of which nine developed PN-AC (21%). The PNAC group's average gestational age was 35.6 weeks versus 37.4 weeks for the nonPNAC group ($p=0.099$). The PNAC group's average birth weight was 2479 grams versus 2942 grams for the nonPNAC group ($p=0.85$). All nine PNAC infants underwent gastrointestinal surgery while twenty-five of the 32 nonPNAC infants (78%) underwent gastrointestinal surgery. The average length of stay of the cholestatic group was 152.78 days versus the noncholestatic groups of 27 days (0.022). The PNAC group received PN for an average of 87.7 days versus 17 days for the nonPNAC group ($p=0.004$). PNAC was diagnosed after receiving PN for an average of 30.43 days (range 3 to 53). Conclusion: Neonates with intestinal failure being born at 35 weeks gestation, weighing 2500 grams, undergo gastrointestinal surgery, and require PN for approximately one month appear to be at the greatest risk of developing PNAC. Further research into the interrelationships of these factors with respect to PNAC is warranted.

Title: Development of a Patient Satisfaction Tool for Clinical Nutrition Services

Author: TL Haanen and CJ Arnold. Food and Nutrition Services, Saskatoon Health Region, Saskatoon, Saskatchewan.

Introduction: Patient satisfaction with services received in hospital has become a vital element in health care quality.

Satisfied patients are more likely to actively participate in their treatment plan and to cooperate with health care

providers. Project Description: Clinical nutrition services are a crucial part of services provided in the Saskatoon Health

Region. No prior evaluation of these services has been completed. Determining patient satisfaction with clinical

nutrition services provided may help dietitians to enhance the quality of these services in such areas as educational

materials and dietitian-patient interactions. Methods: When developing a survey, it is important to have a good

understanding of the area being considered. Stakeholders in the development of this survey were privy to survey details

and questions throughout the process. Four drafts of the survey were completed before the trial was performed. The

Trial: Trial participants were interviewed using a set of questions relevant to the survey itself. Eleven participants, from

age sixteen to eighty-five, from different genders and ethnicities were involved in the trial. Results: The trial of the

survey was useful because it allowed the determination of the tool's effectiveness and validity. There were no major

changes to the survey from the results of the trial. Conclusion: Patient satisfaction is a vital aspect to health care

services. The use of tools to measure patient satisfaction is important for the improvement of services provided. By

determining patient satisfaction, services could be tailored to increase patient compliance with nutrition education.

Title: A retrospective analysis of the prevalence of malnutrition using the 1992 and 2002 Cystic Fibrosis Foundation Nutrition Consensus statements in the Saskatoon Health Region pediatric cystic fibrosis clinic.

Author(s): TM Dublanica, AD Healey, M Strader, N Haskey and C Arnold, Food and Nutrition Services, Saskatoon Health Region, Saskatoon, Saskatchewan.

Objectives: To determine if the 2002 Cystic Fibrosis Foundation Nutrition Consensus Statement (2002 CFFNCS) would identify more patients with nutritional failure than earlier guidelines; and determine how much earlier

nutritional failure would be detected. Methods: A longitudinal retrospective chart analysis was conducted (n=36).

Height, weight, percentiles, ideal body weight (IBW), % IBW, body mass index (BMI) and BMI percentiles were recorded. Additional data collected included pancreatic sufficiency, genotype and colonization with *Pseudomonas*

aeruginosa. A statistical analysis was performed using Microsoft PH Stat. Results: The average age of diagnosis of nutritional failure of the sample according to the 1992 and 2002 CFFNCS, was 51.9 ± 77.0 months and 57.2 ± 62.9

months, respectively. Eight children were identified with nutritional failure according to the 1992 CFFNCS, and 25 using the 2002 CFFNCS. The average age of diagnosis of nutritional failure using subjects with nutritional failure

according to the 1992 and 2002 CFFNCS, were 47.1 ± 71.2 months and 40.4 ± 49.2 months, respectively. Eight children were identified as having nutritional failure according to both standards. In this sub-sample, the average

difference in age of diagnosis of nutritional failure between the 1992 and 2002 CFFNCS was 16.4 ± 27.8 months.

Conclusion: The 2002 CFFNCS detects nutritional failure on average 16.4 months earlier than the previous 1992

CFFNCS. The benefits of early detection of nutritional failure in CF patients include improved growth, clinical

outcomes and survival. Further studies are needed to determine the beneficial effects of detecting nutritional failure earlier on outcome and survival.

Title: Perceptions of food intolerances and food-related complications in individuals with ostomies: A critical literature review

Author: AL Nahnybida, University of Saskatchewan Dietetic Internship Program, Saskatoon, Saskatchewan

Objectives: Dietary guidelines for ostomy patients may not be based on scientific evidence, rather patient perception instead. A critical review of the literature will help to identify areas where clinical research is needed to establish evidence-based nutritional guidelines. Methods: A literature search was conducted using Medline and WebSpirs to obtain relevant journal articles. Seventeen articles were critically evaluated; 12 experimental studies and 5 non-experimental studies. Numerous other journal articles and documents were reviewed. The validity of each study was assessed according to a 24-point checklist and given a score. High scores indicated more reliable and valid results. Results: Scores for the experimental studies ranged from 58% to 83%. Scores for the non-experimental studies ranged from 38% to 71%. The experimental studies did not support the current nutritional guidelines for ostomy patients. Overall, foods high in resistant starch, fibre, and fat, did not produce adverse effects on fecal weight, consistency, output, pH, odor or ileal absorption and excretion. In comparison, results from the non-experimental studies, based entirely on patient perceptions, showed that ostomy patients exclude many of these foods because they have adverse effects on ostomy function and output. Based on these results, more clinical research is required to validate the efficacy of resistant starch, fibre and fat in the ostomy diet. Conclusion: Until the nutritional guidelines become evidence-based, a restrictive diet for ostomy patients is not necessary. These patients should consume a balanced diet, including a variety of foods. Tolerance to different foods is very individual therefore patients should be encouraged to trial foods before excluding them. More clinical research is required to determine valid nutritional guidelines for these patients.

Title: High fibre study in the long-term care setting

Authors: K. Klein, E. McNaughton, and J. Shea, Regina Qu'Appelle Health Region Dietetic Internship Program, Regina, Saskatchewan

Objective: To determine if the addition of fibre in the diet would increase the occurrence of bowel movements and reduce the frequency of medicinal bowel care products used in selected elderly residents at Wascana Rehabilitation Centre (WRC). Methods: Residents (n=16) at WRC were selected to be involved in a four-week study. Baseline data collection occurred during the first two weeks followed by a two-week intervention period during which four high fibre products were used to supplement the diet. Data was collected on daily bowel movements and medicinal bowel care product use during both periods. Also, a three-day food and fluid record was completed by nursing staff for each subject in both the retrospective and intervention periods. Ethics approval was obtained to conduct this study in the Regina Qu'Appelle Health Region. Results: Six of the sixteen selected subjects completed the study. The mean intake of fibre among subjects substantially increased from 14.2 g/day during the retrospective period to 20.1 g/day during the intervention period, a difference of 5.9 g/day. The average daily fluid intake among subjects decreased slightly from 979 mL/day during the retrospective period to 943 mL/day, a difference of 36 mL/day. The average number of bowel movements increased from six in the retrospective period to seven in the intervention period. The average number of medicinal bowel care products used increased from 32.8 in the retrospective period to 33.3 in the intervention period. Conclusion: The increased fibre intake among subjects did not result in changes of bowel movements or use of medicinal bowel care products. Future bowel care interventions should attempt to incorporate increased fluid intake, increased activity, and toileting routines in addition to fibre.

Title: Carbohydrate counting in the acute care setting in the Regina Qu'Appelle Health Region (RQHR)

Authors: R Hagerty, N Karamujic, RQHR Dietetic Internship Program, Regina, Saskatchewan

Objectives: Clinical dietitians in the RQHR were interested in evaluating the appropriateness of teaching carbohydrate counting in the acute care setting. A carbohydrate counting tool developed by the Metabolic and Diabetes Education Centre (MEDEC) in Regina was chosen to be evaluated. The purpose of the study was to evaluate MEDEC's tool for teaching carbohydrate counting in the acute care setting in the RQHR and measure if clients understand carbohydrate counting. Methods: A prospective study was conducted during February and March 2003 that involved clinical dietitians and clients with Type 1 and Type 2 diabetes at the Pasqua Hospital and Regina General Hospital. After clients were taught carbohydrate counting a post-test was administered to evaluate their understanding. Dietitians' perceptions were gathered through focus groups. Results: Eight clients and six dietitians participated in the study. Five of the subjects passed the post-test, which demonstrated that they understood the concept of carbohydrate counting. The most common misconceptions included identifying protein foods as containing carbohydrate and incorrect portion sizes. Seven of the subjects accurately understood how carbohydrate affects blood sugar levels. Dietitians identified that the portion sizes on the carbohydrate counting tool were different from the Good Health Eating Guide (GHEG), which dietitians found was confusing for clients who were used to the GHEG. Conclusion: The majority of clients in this study understood the carbohydrate counting concept using MEDEC's tool. Dietitians stated that carbohydrate counting is another tool that could be used in acute care.

Title: Folate, homocysteine and cardiovascular disease

Authors: TL Friedrich, TA Michel, MJ Richardson, Regina Qu'Appelle Health Region Internship Program, Regina, Saskatchewan

Objective: There is substantial evidence that has linked low dietary folate intake with elevated serum homocysteine concentrations. The purpose of this study was to determine the folate intake of outpatients who participated in a dietary intervention study and how it compared to the recommended daily folate requirement of 400 µg through dietary intake before mandatory folate fortification. Methods: A retrospective review of four-day food records was collected from a large-scale study to determine folate intake. Participants in this study were provided with 4 nutrition classes and follow-up every 12 weeks for a period of 40 weeks. Food records had been coded using the Canadian nutrient file before mandatory fortification of folate in 1998. Data was reviewed at baseline, 4 and 40 weeks of the study period. Results: The mean intake of folate for all individuals in the study was 282, 286, 277 µg at baseline, 4 and 40 weeks respectively which was below the DRI of 400 µg. There was no significant difference in dietary intake between the three time points. Implication & Conclusion: Dietary folate intake was below the DRI of 400 µg. However, these results are pre-fortification values therefore future studies should be conducted to determine folate intake post-fortification.

Title: Client perceptions of past weight loss experiences in the Regina Qu'Appelle Health Region (RQHR)

Authors: J. Sanden, J. Striha, and N. Ferrara, Regina Qu'appelle Health Region Dietetic Internship Program, Regina, Saskatchewan

Objectives: The purpose of this study was to determine clients' perceptions regarding their past weight loss attempts in order to provide recommendations to outpatient dietitians to improve their current strategies. Methods: A prospective study using survey methods was conducted. Information from selected clients (n=28) in the RQHR regarding perceptions of their past weight loss attempts was collected through the use of a questionnaire. The sample was composed of newly referred weight loss and follow-up weight loss clients at Pasqua Hospital and Regina Community Clinic as identified by the outpatient dietitians. If clarification of answers was needed (for example researchers could not read handwriting or researchers did not understand the answer) researchers made a follow-up phone call to selected clients who had given written consent. Ethics approval was obtained. Results: Experiences of past weight loss attempts were identified. Twenty-three (82%) of participants identified appearance as the main motivation for weight loss and twenty-one (75%) identified health. The four main avenues participants reported using for weight loss were weight loss programs, clinical methods, physical activity, fad diets/diet books, with Weight Watcher's being the most commonly used method for all (57.1%). The majority of individuals would like the dietitian to provide general nutrition information, menu plans, coaching, lists of foods to eat and foods to avoid, and advice on diets. Participants preferred individual counseling versus nutrition education in a group setting. Implication & Conclusion: Recommendations will be made to the outpatient dietitians in order to improve current strategies used for client weight loss.

Title: Efficacy of Pectin in Tube Fed Patients in the Regina Qu'Appelle Health Region (RHQR)

Author: S. Willoughby, RHQR Dietetic Internship Program, Regina, Saskatchewan

Objective: Diarrhea is an expected side effect of tube feeding, with a reported prevalence ranging from 2% to 68% in critically ill tube fed patients. Contributing factors of diarrhea in tube fed patients are: sepsis, formula infusion rate, hyperosmolality, contamination, antibiotic therapy and hypoalbuminemia. Pectin, a soluble fibre, has been shown to decrease the incidence of diarrhea in tube fed patients. The purpose of this study is two-fold: 1) to determine if diarrhea is a frequent concern in the RQHR for patients on tube feeds and 2) to determine if the addition of pectin to tube feeds decreases the severity of diarrhea in patients receiving tube feeds. Methods: A prospective study was conducted in exclusively tube fed patients in two acute care hospitals. Patients were monitored to determine if they experienced diarrhea while on tube feeds and if it occurred then formula was supplemented with pectin. Results: Eighty-seven subjects were exclusively tube fed during the data collection period. Five subjects experienced diarrhea, defined as liquid stools 2 or more times a day for 2 days. Subjects received 45 mL of Liquid Certo® (pectin) per 1 L of formula. Three subjects received supplemented formula for at least 7 days which was the minimum length of time required to determine if pectin was beneficial in alleviating diarrhea. Three subjects had improved bowel movement frequency and 1 subject had improved bowel movement consistency. Implication & Conclusion: It was concluded that the addition of pectin to tube feeds was beneficial in decreasing the severity of diarrhea in exclusively tube fed patients in the RQHR. Further research is warranted since the number of subjects in this study was small.

Title: Diabetes Case Management Across Canada

Authors: A. Ulmer, C. Bodnarus, Regina Qu'Appelle Health Region Dietetic Internship Program, Regina, Saskatchewan and Brandon, Manitoba

Objectives: The purpose of this study was to investigate management activities including case management that take place at Diabetes Education Centres (DEC's) in English Canada. The role of the health professionals at these DEC's was also investigated. Methods: A questionnaire was developed, piloted and mailed to 214 DEC's across English speaking Canada. The questionnaire determined whether DEC's use a case management system and the role of the case manager within this system. The criteria for the designation of a case management system are the inclusion of assessment, planning, implementation, monitoring, evaluation and coordination. One person must be managing these above activities, but not necessarily performing the assessment and implementation to be considered a case manager. Other areas examined by the questionnaire were follow-up, client satisfaction and potential changes to the delivery of diabetes care. Results: Of the 204 questionnaires that were successfully sent, 42 questionnaires were returned completed by dietitians, making the response rate 20.6%. Thirty-six percent (15/42) of the DEC's reported having one identified health care professional who managed assessment, planning, implementation, monitoring, evaluation and coordination. The most common health care professional to have this case manager role was the nurse at 47%, followed by the dietitian at 40% and the physician at 10%. Sixty-five percent of DEC's reported that they are planning to make changes to their current management system, with the most common areas being implementation, evaluation, monitoring and coordination. Conclusion: Recommendations for Prairie Health Matters in Brandon, Manitoba will be based on the questionnaire results that would lead to increased client centered care. The major recommendations will focus on case managers, evaluation and follow-up care.

Title: Introduction of a nutrition screening tool at Wascana Rehabilitation Centre (WRC) Children's Program

Author: TL Taylor, Regina Qu'Appelle Health Region Dietetic Internship Program, Regina, Saskatchewan

Objective: The purpose of this study was to determine the number of children with developmental delays attending

clinics at WRC Children's Program, who are at nutrition risk according to an objective screening tool. Methods:

The PEACH screening tool was modified and used for the purposes of the Children's Program and distributed to

caregivers of children attending specific clinics during a 5 week period. Children were identified to be at nutrition

risk if the total score from the screening tool was four points or higher which was considered to be an automatic

referral to the Dietitian. Anthropometric data was also collected and plotted on growth charts. If the body mass

index or weight/length was below the 10th percentile, the child received an automatic referral to the Dietitian.

Results: Thirty-five caregivers completed screening tools. Twenty-five out of thirty-five children (70%) were

identified to be at nutrition risk. Of these, only 32% (11/25) of the children identified to be at nutrition risk are

currently being seen by the RD, indicating that additional 17 children should be followed. The age of the subjects

ranged from six months to twelve years and eight months. Fifteen subjects were female and twenty were male.

Implications & Conclusions: The literature suggests that approximately 40% of children with developmental delays

require nutrition intervention. This screening tool identified a large number of children at nutrition risk over a 5

week period. A screening tool should be introduced as a quick and easy method for identifying children at nutrition

risk at the Children's Program.