



CANADIAN FOUNDATION FOR DIETETIC RESEARCH
LA FONDATION CANADIENNE DE LA RECHERCHE EN DIETETIQUE

Dietetic Research Event – June 7 and 8, 2018

Through the support of Dietitians of Canada (DC) and the Canadian Foundation for Dietetic Research (CFDR), the 2018 Research Showcase is an exciting and informative exchange of research and experience-sharing efforts that represents the diversity of Canadian dietetic research.

The 2018 Research Showcase highlights the Early Bird Abstracts in two formats; some as 10-minute oral sessions and others as ePosters with a short oral component. The Late Breaking Abstracts are presented as ePosters.

This research event would not be possible without the commitment and dedication of many people. On behalf of DC and CFDR, we extend a special thank you to members of our abstract review committees.

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Professor Emerita
Executive Director
Canadian Foundation for Dietetic Research

Topic Area: Clinical Research (Including Outcomes of Intervention)

Abstract Title

A description of liver functions tests amongst adult patients in the British Columbia Home Parenteral Nutrition (BC HPN) Program who have changed from a soybean oil emulsion to a mixed-lipid emulsion
J Broening¹, J Tsai¹, V Lewis², A Richardson², J Thornhill², JC Koh², T Kafka¹; ¹UBC Dietetics Program, Vancouver, BC, ²Providence Health Care, Vancouver, BC

Abstract

Introduction: Prolonged use of soybean-oil (SO) based lipid emulsions in parenteral nutrition (PN) may contribute to the development of PN-associated liver disease (PNALD). Current research suggests a role for mixed-lipid emulsions in preventing, treating, or managing PNALD in acute-care settings. The use of mixed-lipid emulsions and their effects on liver function tests (LFTs) in adults receiving home PN (HPN) has not been widely studied.

Objectives: To describe demographic and clinical characteristics of BC HPN patients who have transitioned from Intralipid®, a SO-lipid emulsion, to SMOFlipid®, a mixed-oil emulsion, and to describe any changes with regards to LFTs before and after transition to SMOFlipid®.

Methods: A retrospective chart review was completed for BC HPN patients who transitioned from Intralipid® to SMOFlipid® and were active between January 1/13 and October 31/17. Data collected included demographic and clinical information, HPN prescription details, and monthly measurements of LFTs before and after lipid transition. Data was analyzed using descriptive statistics.

Results: 19 patients constituted the study group; 6 could not be analyzed, and 3 were outliers, leaving 10 for analysis. The most frequent indication for HPN was short bowel syndrome (SBS) (90%, n=9). 50% of participants showed signs of liver injury on Intralipid®. After transition to SMOFlipid®, 50% of the study population had decreases in their mean value of all four LFTs, however the degree of change varied.

Conclusions: Overall, LFTs declined after transition to SMOFlipid®. These findings are consistent with studies observing effects of SMOFlipid® on LFTs; however, most compare SO-based and mixed-lipid intravenous lipid emulsions (ILEs) in acute or surgical settings.

Significance to the field of dietetics: No other studies have looked at a transition from Intralipid® to SMOFlipid® in the HPN population. Further understanding of the long-term impact of mixed ILEs will help to inform whether SMOFlipid® should be considered for primary prevention of PNALD for BC HPN patients.

Abstract Title

Determining the feasibility of following the Mediterranean/Predimed diet in a North American setting of patients attending a healthy heart program

Mornin, K¹, McQueen, K¹, Ratner, S¹; ¹Healthy Heart Program, St. Paul's Hospital, Vancouver, BC

Abstract

Introduction: Data are limited if Western populations can adhere to the Predimed Diet (PD), the Mediterranean Diet supplemented with olive oil or nuts.

Objectives: To determine if patients in a healthy heart program can adhere to the PD. To identify factors that improves or worsen dietary adherence to the PD in a Western population.

Methods: A 6 month qualitative study was conducted in self-selected adults (n=30) using a validated 14 point Mediterranean Diet Questionnaire (MDQ) score where ≥ 9 points indicated adherence to the PD as well as 3 day food record analyses. Factors affecting adherence were identified using a 10 question semi-structured interview.

Results: The MDQ average score was 5.6 ± 2.2 at baseline and 9.2 ± 2.4 (p

Conclusions: Sixty-three percent of our participants could adhere to the PD in this Western population. Overall most participants were satisfied with the diet, would continue to follow this diet and recommend it to friends and family.

Significance to dietetics: These results identified most of the components of the PD are easy to follow however, consuming supplemental olive oil, legumes, vegetables, fish and wine are difficult. Additional nutrition counseling may be required to improve adherence to these components of the PD.

Abstract Title

L'effet des amandes sur la réponse glycémique et insulinémique chez des hommes d'âge moyen avec le diabète de type 2

M. Zoght¹, A.M. Bodnaruc¹⁻³, D. Prud'homme²⁻³, I. Giroux¹⁻³; ¹École des sciences de la nutrition, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON, ²École des sciences de l'activité physique, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON, ³Institut du savoir Montfort - Recherche, Ottawa, ON

Abstract

Introduction: Dans la gestion du diabète de type 2 (DT2), l'alimentation est très importante. Certains nutriments, notamment les acides gras monoinsaturés, les fibres et les protéines des amandes, peuvent moduler la sécrétion d'hormones gastro-intestinales impliquées dans la sécrétion d'insuline et la régulation de la glycémie. Quelques études démontrent les effets bénéfiques aigus de l'inclusion d'amandes dans des repas. Toutefois, les repas testés n'étaient pas isocaloriques et/ou n'avaient pas des teneurs en lipides et protéines similaires.

Objectif: Mesurer l'impact de la composition en nutriments de déjeuners avec ou sans amandes, sur la réponse glycémique et insulinémique d'hommes avec DT2.

Méthode: Sept hommes ont participé à l'étude chassé-croisé incluant deux visites, séparées par une période sans intervention (≥ 1 semaine). Dans un ordre aléatoire, les participants ont consommé un repas contrôle et un repas test isocaloriques et avec une teneur identique en glucides disponibles, lipides et protéines. Des échantillons de sang ont été prélevés à jeun et 15, 30, 60, 90, 120 et 240 minutes postprandialement pour mesurer l'insulinémie et la glycémie. Les différences dans les effets des repas sur la glycémie et l'insulinémie ont été évaluées à l'aide d'ANOVA à deux facteurs et à mesures répétées avec SPSS.

Résultats: Pour la durée postprandiale (4 heures), la glycémie était inférieure après la consommation du repas test ($p=0.014$). Il y avait également un effet significatif ($p<0.001$) du temps sur la glycémie, mais pas d'interaction repas x temps ($p=0.752$). Il n'y avait pas d'effet du repas ($p=0.254$), du temps ($p=0.079$), ni d'effet d'interaction repas x temps ($p=0.103$) pour la réponse insulinémique.

Conclusion: Nos résultats suggèrent que les amandes ont un profil nutritionnel favorisant une meilleure réponse glycémique chez des hommes avec DT2, sans toutefois augmenter la sécrétion d'insuline.

Importance pour la pratique diététique: La réplication des résultats obtenus pourrait influencer la pratique clinique et contribuer à l'amélioration de la gestion du DT2.

Abstract Title

Le zinc : Un allié contre la dépression et le diabète de type 2 ?

Katrina El Asmar¹, Céline Aguer^{2,4}, Alexandra Bodnaruc^{1,3,4}, Hamdi Jaafar⁴, Isabelle Giroux^{1,3,4}; ¹École des sciences de la nutrition, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON, ²Département de Biochimie, Faculté de médecine, Université d'Ottawa, Ottawa, ON, ³École des sciences de l'activité physique, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON, ⁴Institut du Savoir Montfort – Recherche, Ottawa, ON.

Abstract

Introduction: En comparaison à des individus sains, les taux sériques de zinc pourraient être plus bas chez les individus avec une dépression et avec un diabète de type 2 (DT2). Le zinc participe à l'homéostasie du cerveau et peut ainsi avoir un impact sur le comportement et l'humeur. Le zinc augmente également l'affinité de l'insuline pour ses récepteurs et certaines études suggèrent qu'une supplémentation de zinc pourrait améliorer le contrôle glycémique.

Objectif: Déterminer si l'apport alimentaire en zinc d'individus sains diffère de celui d'individus atteints de DT2 et/ou de dépression.

Méthodes: Jusqu'à présent, seize participants (étendue d'âge : 42-61 ans; tous avec IMC \geq 30.0kg/m²) répartis en deux groupes (8 sains; 8 avec DT2 et/ou dépression), ont complété l'étude. Les participants avec dépression et/ou DT2 ont été regroupés en raison d'un faible nombre de participants avec dépression (n=1) et avec la comorbidité DT2 et dépression (n=2). Chaque participant a rempli l'Inventaire de dépression de Beck-II, un rappel alimentaire de 24h et un journal alimentaire (3 jours). Les données alimentaires ont été analysées avec ESHA Food Processor, et l'analyse statistique (t-test) a été effectuée avec SPSS™.

Résultats: L'apport alimentaire moyen en zinc du groupe sain et du groupe avec DT2 et/ou dépression étaient de 13,1 et 10,5mg/jour, respectivement (t=0.888, p=0.389). Dans les deux groupes, 3 des 8 participants n'atteignaient pas l'apport nutritionnel recommandé.

Conclusions: Aucune différence dans l'apport en zinc des deux groupes n'a été trouvée. L'échantillon actuel était toutefois petit et la mesure de l'apport ne représente pas nécessairement le statut en zinc. L'utilisation d'une approche combinant l'évaluation de l'apport alimentaire et la mesure du taux de zinc sérique serait pertinente.

Importance pour le domaine de la diététique: L'identification du rôle du zinc dans le développement et la gestion du DT2 et/ou de la dépression pourrait influencer leur prise en charge nutritionnelle.

Abstract Title

Protein and calorie intakes, physical activity levels, and weight loss rates of post-surgical bariatric patients
J Connelly¹, J Moore¹, T Charbonneau², K Loney². ¹Northern Ontario Dietetic Internship Program, ²Health Sciences North, Sudbury, ON

Abstract

Introduction: Bariatric surgery is a weight-loss procedure to treat obesity and its associated health complications, resulting in reduced size and absorptive capacity of the gastrointestinal tract. At present, there are limited protein and calorie guidelines for post-surgical patients to achieve and maintain ideal body weight.

Objective: To determine the average caloric and protein intakes, activity levels, and weight loss rates of a sample of post bariatric patients with the Health Sciences North (HSN) Bariatric program.

Methods: A retrospective chart review was conducted on 50 randomly selected patients at three, six, and 12 months following Roux-en-Y Gastric Bypass (RYGB) and Sleeve Gastrectomy (SG) procedures between September 2016 to December 2017. Anthropometric data from patients charts and 24-hour diet recalls were recorded in Excel© and then analyzed using simple descriptive statistics to determine the average caloric and protein intakes, activity levels, and weight loss rates.

Results: The average initial weight of the RYGB sample (n=44) was 128.8 kg while the SG sample (n=6) was 139.3 kg. Average post-surgical weights for the RYGB and SG samples were 111.8 kg and 123.4 kg (one month), 102.3 kg and 103.4 kg (three months), 92.5 kg and 99.8 kg (six months), and 73.4 kg and 136.8 kg (12 months) respectively. Average caloric and protein intake were 759.0 kcal and 63.4 g (three months), 905.7 kcal and 71.4 g (six months), and 932.5 kcal and 62.1 g (12 months) respectively. Average minutes of physical activity per week were 290 (three months), 282 (six months), and 368 (12 months).

Conclusions: The small sample size and incomplete data, particularly 24-hour diet recalls and physical activity measures, limits further conclusions and generalizability.

Significance to the field of dietetics: These results may allow clinicians to better understand key nutrition and activity indicators and weight loss rates of their client population.

Topic Area: Community-based Nutritional Care

Abstract Title

A description of the use of the Interprofessional Assessment Tool and frequency of dietitian referral among New Westminster home health clients

B. Davidson¹, S. Kalil¹, A. Ramanzin¹, M. LeBlanc², C. Edmunds²; ¹ UBC Dietetics Program, Vancouver, ² Fraser Health

Abstract

Introduction: New Westminster home health (HH) uses an assessment tool called the Interprofessional Assessment (IPA). One intended purpose of the IPA is to identify clients with needs that could be met by the interprofessional HH team. Currently, relative to the total number of referrals to HH services, the frequency of HH RD referrals is noticeably low. This pilot study investigates current use of the IPA and the frequency of referral to the HH RD.

Objectives: This study investigated the frequency of IPA completion, and specifically documentation of nutrition-related indicators, for clients referred to HH nursing in New Westminster. Additionally, it investigated the frequency of HH RD referrals between clients who had a completed IPA and/or documentation of nutrition-related indicators compared to those who did not.

Methods: A retrospective chart review of 349 Primary Access Regional Information System (PARIS) charts was conducted. Variables collected included: reason for HH referral, age, sex, if the IPA was completed, assessment of nutrition-related indicators, if a referral was made to the HH RD and the reason indicated.

Results: 267 charts (76.5%) had an IPA completed. Six (1.7%) of the 349 charts had referrals to the HH RD; of these, four had completed IPAs and two did not. Every completed IPA had a nutrition-related indicator documented. Notable nutrition-related indicators marked as a concern were weight change (n=93, 57.4%), appetite (n=45, 18.9%), and diet (n=31, 13.0%).

Conclusions: Despite documented nutrition concerns in the IPAs, many clients were not referred to the HH RD. This study highlights a need to revisit the use of the IPA and for standardized guidelines for HH RD referral.

Significance to field of dietetics: Nutrition screening in the HH setting must be addressed to ensure that clients who are malnourished or at risk of malnutrition are identified and referred to the RD.

Abstract Title

Antenatal care attendance associated with anemia among children (<2y) in rural Lao Cai, Ha Giang and Lai Chau province, Vietnam: A cross sectional survey

M. Brown¹, T. Nguyen², P. Huynh², P. Pham², F. Yeudall¹, M. Mendonca¹, H. Nguyen², C. Rocha¹; ¹Ryerson University, Ontario, ²National Institute of Vietnam, Hanoi

Abstract

Introduction: In rural, Northern Vietnam, there are concurrent high levels of agricultural production, childhood anemia and malnutrition. The study, "Scaling up local production of fortified foods" attempts to promote food security among women farmers and decrease childhood malnutrition by producing local fortified complimentary foods. Funding was provided by the Canadian International Food Security Fund, the International Development Research Centre and Global Affairs Canada.

Objective: To observe the rate of anemia among children (<2y) and explore predictor variables among nine rural communes in Lao Cai, Lai Chau and Ha Giang, Vietnam.

Methods: A cross sectional survey (n=309) was carried out among children (<2y) in 9 communes. Capillary blood sampling and visible-spectrometry was performed to assess hemoglobin levels. A questionnaire probed associated factors such as; antenatal care visits, nutritional counselling, socio-economic factors, anthropometry, household dietary diversity and food security. Predictors of anemia were explored using logistics regression analysis.

Results: The prevalence of anemia among children (<2y) was 45.6% (141/309). Logistic regression models showed childhood anemia was lower among mothers who received antenatal care (4+visits) [OR 0.57, 95% CI 0.35- 0.93, P<0.05], among families doing financially better than the previous year [OR 1.33, 95% CI 1.00- 1.77, P<0.05], and a non-significant trend for lower anemia was found among girls [OR 0.64, 95% CI 0.40- 1.03, P=0.067].

Implications & Conclusion: These anemia rates are viewed as a severe public health issue of specific concern for children(. Lower rates of anemia were predicted by antenatal (4+ visits) care and among those whose economic situation had improved over the past year. Antenatal care may be an important intervention for anemia prevention in rural provinces in northern Vietnam.

Significance to the field of Dietetics: Nutritional counselling without access tangible interventions for decreasing anemia showed little association on anemia rates among children in Vietnam.

Topic Area: Dietary Assessment

Abstract Title

Energy and nutrient intake among university students enrolled in an Introductory nutrition course
Hibah Khawar^{1,2}, Usha Thyiam¹, Natalie Riediger³ and Mohammed H. Moghadasian^{1,2}; ¹Department of Food and Human Nutritional Sciences, the University of Manitoba, ² Canadian Centre for Agri-Food Research in Health and Medicine, St. Boniface Hospital Research Centre, and ³Department of Community Health, the University of Manitoba, Winnipeg, Canada

Abstract

Introduction: Health related behaviors acquired by students while in university have a strong impact on their future health. Thus, this study investigates the dietary intakes of university students enrolled at University of Manitoba.

Objectives: 1) To estimate the nutrient intake among university students and evaluate the nutrient adequacy using Probability approach and EAR cut- point method. 2) To determine the numbers of servings from four food groups and establish the levels of adherence to Eating Well with Canada's Food Guide recommendations. 3) To estimate the energy requirements and compare with energy intake.

Methodology: This cross-sectional study obtained data from the self-reported 3-day food log with a sample size of 108 individuals (67 females and 41 males). The data was entered into the Food Focus software to calculate the individual nutrient intakes. Subjects younger than 19 years of age, participants with incomplete 3-day food log and pregnant women were excluded. Identifying information was removed from dietary data by St. Boniface Hospital Ethic office before use. This study was performed in an anonymized manner.

Results: When compared to current Dietary Reference Intake (DRI) values, both males and females had inadequate intake of calcium, vitamin E and fiber. About 79% males and 38% females had sodium intake above the Tolerable Upper Level (UL). Moreover, usual intakes were more favorable for carbohydrate, vitamin B1, B2, B3, B6, B9, B12, vitamin C and zinc for all participants. In this study, females reported being more active than males; however, overall the significance of gender differences for physical activity were modest.

Conclusions: This study shows prevalence of inadequate nutrient intake by both male and female, of calcium and vitamin E. Furthermore, dietary fiber intakes were below the Adequate Intake (AI) and sodium intake was above the UL. Nutritional interventions program should be developed to promote healthy eating habits among young adults.

Topic Area: Dietetic Practice and Education

Abstract Title

Psychobiotics and their neural effects on antidepressant and anxiolytic activity via the gut-brain axis
A. Whittemore¹, S. Campbell Bligh²; ¹⁻²Acadia University, Wolfville, NS

Abstract

Introduction: The purpose of this research was to investigate how, if at all, psychobiotics (probiotics with mental health benefits) and their proposed neural effects can be linked to antidepressant and anxiolytic activity via the gut-brain axis.

Objectives: To investigate the suggested mechanisms involved in the relationship between psychobiotics and their proposed beneficial neural effects.

Methods: A literature review was conducted utilizing online databases including the Acadia Library, Science Direct, and Medscape. Personal communication with a dietitian specializing in this area was used to guide and supplement the literature review, as it became apparent early in the process that research from a nutrition perspective was limited. Animal and human studies were included, yielding a total of twenty-one articles reviewed.

Results: Articles reviewed were predominantly neurological/psychological in nature or came from the field of biology. Two studies reviewed stemmed from nutrition. Four studies involved human subjects; seven used animal models. Results suggested that the relationship between psychobiotics and mental health is mediated along the gut-brain axis, utilizing the interoceptive awareness of the vagus nerve (VN). Secondary to psychobiotic administration, this connection appears to induce anxiolytic and antidepressant effects by influencing levels of serotonin, gamma-aminobutyric acid (GABA), and dopamine, neurotransmitters involved in mental stability.

Conclusions: While the link between psychobiotics and antidepressant/anxiolytic effects seems supported in animal studies, more research in human populations is needed before additional conclusions can be drawn. It is also essential to consider how to increase research from a nutrition/dietetic-specific lens.

Significance to the Field of Dietetics: Dietitians work with clients whose nutrition status may be impacted by mental health in a variety of ways. As the understanding of psychobiotics and their possible benefits increases, this could innovate how we approach nutrition therapy for this patient base. This also supports the potential for interdisciplinary research between dietetics, psychiatry, and neuroscience.

Abstract Title

Creation of a priority tool to triage hospital patients and dispatch dietitian services.

A. Martel^{1,2}, L. da Silva^{2,3}, L. Wone¹; ¹Fraser Health, New Westminster, BC, ²Clinical Instructor, Dietetics Program, University of British Columbia, Vancouver, BC, ³Fraser Health, Surrey, BC

Abstract

Purpose: Given limited healthcare resources, there is value in dietitians seeing inpatients in priority order based on their need for medical nutrition therapy (MNT). With the absence of a published tool to inform this process, one was developed.

Process or summary of content: Fraser Health (FH) dietitians created an inpatient Priority Intervention Criteria Tool (PIC) that specifies four levels for dispatching dietitian services to patients based on their urgency for MNT. The PIC is informed by referral reason and Nutrition Acuity Score (a validated FH tool that incorporates patient nutrition diagnoses). It also acknowledges dietitian clinical judgment in determining monitoring plans.

Systematic approach used, including supporting information: The PIC was developed by a group of experienced dietitians then taken to front-line dietitians at 12 hospitals for review. PIC refinement was an iterative process focusing on the constructs of harm avoidance and risk reduction related to the urgency for MNT. As dietitians at each hospital reviewed the tool they accepted or rejected the changes from the previous hospital. Consensus was achieved after three rounds. The PIC has been in use at 12 hospitals by over 100 dietitians for 3 years. Evaluation by dietitians representing each hospital revealed revisions that will follow the same iterative process to achieve consensus.

Conclusions: The PIC provides a standardized method of triaging inpatients and dispatching dietitian services to those with the greatest need for MNT. This approach helps ensure patients with the highest nutrition acuity receive dietitian service first. It also provides a common language to communicate MNT urgency for workload distribution.

Recommendations: The PIC would benefit from additional validation in the form of reliability testing in the inpatient environment.

Significance to the field of dietetics: This tool supports communication amongst the healthcare team and senior leadership related to the need for MNT. It also informs dietitian caseloads, resource planning and helps justify labour resource requirements.

Abstract Title

Description of Sodium Intake among Patients in a Kidney Care Outpatient Clinic

P. Courtice¹, A. Seah¹, A. Sihoe¹, L. Renouf², Y. McIntosh², T. Kafka¹, J. Koh²; ¹UBC Dietetics Program, British Columbia, ²Providence Health Care, British Columbia

Abstract

Introduction: Reducing sodium intake is a key management strategy in delaying progression of chronic kidney disease (CKD). The St. Paul's Hospital Kidney Care Clinic (KCC) in Vancouver uses the validated Scored Sodium Questionnaire-Screening Form (SSQ-SF) to identify high and low sodium consumers. The KCC population's sodium intake has not been previously investigated.

Objectives: To describe the sample's sodium intake using SSQ-SF scores, the consumption frequency of SSQ-SF food categories, and how consumption patterns may vary with age and sex.

Methods: A retrospective chart review was performed for all SSQ-SFs completed between July-November 2017. Descriptive statistics for the sample and sodium intake were generated.

Results: Seventy-six SSQ-SFs were reviewed with a mean score of 52.5 ± 17 and median score 50.5 (a score of ≥ 50 corresponds to a sodium intake ≥ 2300 mg/day). Fifty-three percent of the sample was classified as high sodium consumers. Males had a higher mean score (55.3 ± 17.3) compared to females (48.4 ± 15.9). Age groups 61-70 years and 71-83 years had higher mean scores (56.0 ± 15 and 56.1 ± 17.6), than those of age groups 29-40 years (47.3 ± 16.6), 41-50 years (46.1 ± 20.3), and 51-60 years (46.3 ± 14.9). Bread (26%), salt added during cooking (23%) and processed meat (19%) were the greatest contributors to SSQ-SF scores among high sodium consumers.

Conclusion: High sodium intake is prevalent in this population, and varies with age and sex. Males and older patients showed the highest average sodium consumption. Description of this sample will help KCC dietitians improve and expand strategies for low sodium education.

Significance to the field of dietetics: To our knowledge, this is one of the first studies to describe sodium consumption of a Canadian CKD patient population. The SSQ-SF is a quick and useful tool that KCCs may use to describe the sodium intake patterns of their patients.

Abstract Title

Donor breast milk acceptability in Muslim populations in Canada

N. Clouthier¹, C. Ulrich², B. Hartman³; ¹Brescia University College, London, ON, ²London Health Sciences Center, London, ON, ³Brescia University College, London, ON

Abstract

PURPOSE: Human breast milk is identified as the best option for infants, and all efforts should be made to promote human milk feeding, even when a mother is unable to breastfeed her child. Donor breast milk (DBM) has been associated with improved outcomes over the use of preterm formula. Muslims living in Western countries may object to DBM use for their infant in the neonatal intensive care unit due to milk kinship, created when a non-biological mother nurses an infant. This review aims to educate clinicians on how these beliefs may impact their practice and how to communicate the benefits of DBM to Muslim patients.

SUMMARY OF CONTENT: After delivering prematurely, a woman may have difficulty breastfeeding. Milk banks in North America pool the milk of up to 5 women, which does not pose a problem for most in the Western world.

SYSTEMATIC APPROACH USED: Three databases; PubMed, Scopus and Web of Science were reviewed for relevant articles. Reference lists were verified for additional sources. A total of twelve articles were found and reviewed.

CONCLUSIONS: Muslim religious officials have released a Fatwa (a ruling on a subject in Islamic law) supporting the use of DBM among Muslims. Clinicians can inform their Muslim patients that DBM use does not establish milk kinship and can be used as nutritional therapy for their preterm infants.

RECOMMENDATIONS: Dietitians can educate Muslim patients on the acceptability of DBM. It is likely these families have not been made aware of the acceptability of DBM prior to having a premature infant.

SIGNIFICANCE TO THE FIELD OF DIETETICS: In the past several decades, the number of Muslim immigrants in Canada has increased, thus Canadian dietitians working in NICU settings are more likely to encounter the concept of milk kinship. Dietitians must be aware of these religious concerns.

Abstract Title

EatRight Ontario (ERO): A Dietitian Contact Centre and its impact on nutrition services

C. Mehling¹, H. Haresign¹, H. Bloomberg¹, E. Wu¹; ¹EatRight Ontario, Dietitians of Canada, Toronto, ON

Abstract

Introduction: ERO is a multi-modal government funded dietitian contact centre that offered free healthy eating advice based on PEN: Practice-based Evidence in Nutrition® and behavior change support to Ontarians.

Objectives: To determine ERO's impact on consumer outcomes, health intermediaries (HI) supports, and nutrition service delivery in Ontario.

Methods: An e-survey link was sent to consumers in the fall of 2017, two weeks after contacting ERO to assess perceived benefits and self-reported outcomes. Health intermediaries were e-surveyed to assess the impacts of ERO on their professional practice, organization and nutrition service delivery.

Results: 867 consumers and 337 HI completed the survey. Of consumers 90–97% indicated that they understood the information provided, felt better informed, got the advice they needed and were able to use the advice provided. 93% of consumer respondents made 2-4 desirable behaviour changes following their contact with the service or had their current behaviours confirmed. 95% of HI indicated that ERO had a positive impact on their service. ERO provided access to evidence-based resources and advice (80%), increased access to dietitians (79%), supported government policies (55-72%) decreased their need to develop additional resources, and answer client inquiries.

Conclusions: Consumers indicate ERO is a valued service impacting health knowledge and behavior change. HI, strongly valuing ERO's role in supporting their professional practice, have shifted functions and consumer supports to ERO, like resource development and client inquiries, so that they can focus on other priorities.

Significance to Dietetics: ERO provided a new model to access dietitians, which can serve as a prototype for others. Quantitative and qualitative data show that ERO plays a trusted role in providing nutrition knowledge and behavior change to consumers. HI, relying on this service, would find its absence creates strategic and operational gaps in Ontario's nutrition service delivery.

Abstract Title

Implementing a Clinical Practice Change: Adopting the Nutrition Care Process

A Carpenter¹, J Mann¹, D Yanchis¹, A Campbell¹, L Bannister¹, L Vresk¹; ¹The Hospital for Sick Children, Department of Clinical Dietetics, Toronto, ON

Abstract

Introduction: Registered Dietitians (RDs) are fundamental players in the multidisciplinary healthcare team. They conduct nutrition assessments, develop nutrition care plans, and monitor and evaluate the effectiveness of those interventions. The Nutrition Care Process (NCP) provides a framework to promote uniform documentation between RDs across the profession, and creates a link between the nutrition intervention and the predicted or actual nutrition outcome. The benefits of standardized documentation have been well-recognized across other professions, and the NCP has been integrated in a number of institutions internationally.

Objective: A committee of non-management RDs at The Hospital for Sick Children (HSC) led the Department of Clinical Dietetics to adopt the NCP. The objective of the committee was to provide a transparent learning plan, evidence-based education sessions, and practical tools and resources to RDs to help them learn and easily adopt the NCP into their practice.

Methods: The committee developed and consecutively delivered a tailored education plan, including learning resources, to five groups of RDs. The committee administered pre- and post-education surveys to measure outcomes, including adequacy of training and confidence level in adopting NCP.

Results: Surveys were completed by all RDs in attendance (n=34 pre-education; n=26 post-education) to compare baseline with end of training results. The average attendance at the education sessions was 77%. Following education, RDs felt they had received sufficient training and felt confident about integrating the NCP into their practice (p<0.05). A decrease in charting time was also observed.

Conclusions: Adopting the NCP was well-received by the department and RDs continue to integrate it into their practice. Part of the success of the NCP adoption may be attributed to the transparency of the education plan, the individualized scheduling of education sessions, and the peer-to-peer instruction style.

Abstract Title

L'effet d'une série de simulations sur le niveau d'anxiété d'étudiants en diététique

M. Rosa¹, A. Leclerc², I. Giroux¹⁻³; ¹ Maîtrise ès arts en éducation aux professionnels de la santé, Faculté d'éducation, Université d'Ottawa, Ottawa, ON, ² École des sciences interdisciplinaires de la santé, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON, ³ École des sciences de la nutrition, Faculté des sciences de la santé, Université d'Ottawa, Ottawa, ON

Abstract

Introduction: En diététique, la simulation est peu étudiée. Dans d'autres domaines, plusieurs études ont démontré que cette méthode est efficace pour préparer les étudiants à garder leur sang-froid pour leurs stages cliniques. Par contre, ce n'est peut-être pas nécessairement le cas en nutrition, puisque le type, la quantité de simulations ainsi que le profil des étudiants sont différents.

Objectif: Déterminer si les simulations occasionnent une différence d'anxiété pour les étudiants en diététique.

Méthodologie: Ce projet présente les résultats quantitatifs préliminaires d'une étude mixte. Les étudiants de 3e année en diététique (n=28) ont participé à quatre simulations (scénarios graduels sur la dysphagie) durant le semestre. Sur base volontaire, 11 ont répondu à un questionnaire en ligne avant et après la série de simulations. Le questionnaire, State-Trait Anxiety Inventory, dont la validité et la fiabilité sont largement démontrés, comporte deux sections de 20 énoncés chacune et une échelle variant de Pas du tout (1) à Beaucoup (4). Les résultats ont été analysés par t-test à mesures répétées.

Résultats: La différence des moyennes des scores des participants avant et après la série de quatre simulations était de 7.2. Cette différence significative ($p < 0.05$) entre les résultats pré-post indique que la série de simulations a aidé à réduire le niveau d'anxiété des participants. L'échantillon représente la population visée (40% des étudiants ayant répondu).

Conclusions: Les résultats préliminaires nous portent à croire que la simulation a aidé à diminuer le niveau d'anxiété situationnelle des étudiants. Ainsi nous estimons que par la pratique répétitive des simulations, ces étudiants se sont sentis plus à l'aise face à la future pratique de la diététique.

Importance pour la pratique: Ces données supportent d'entreprendre de futurs projets pour mieux comprendre la variation de l'anxiété chez les étudiants en diététique avec l'apprentissage par simulations et son effet une fois en milieu de stage. (Financement: CFNS-Volet Université d'Ottawa)

Abstract Title

Practice-Based Evidence in Nutrition (PEN) Knowledge Pathway- Should the Dietary Approaches to Stop Hypertension (DASH) nutrition care plan be recommended for overweight, hypertensive children? – A review and update of the literature

H. Resvick¹, J. Madill², B. Hartman³; ¹4th-year student, Honors Specialization in Nutrition & Dietetics, School of Food and Nutritional Sciences, Brescia University College, ²Associate Professor, Research Chair, Nutrition and Transplantation, CNTRP Researcher; School of Food and Nutritional Sciences, Brescia University College; ³Assistant Professor, School of Food and Nutritional Sciences, Brescia University College

Abstract

Introduction: The effectiveness of the DASH diet for adults is well documented but not well-known in children. Paediatric primary hypertension [PPH] is estimated between 1-3% in Canada and compounded by increasing obesity rates, further emphasizing the need for research in this area.

Objectives: a) to update research in PPH and b) to provide RDs with evidence-based therapeutic guidelines.

Methods: PEN for Healthy Weight/Obesity-Pediatric/Paediatric, along with the DASH dietary recommendations for management of hypertension in adults were first consulted. Then, a literature review using PubMed, Scopus, and Summon searches were conducted using keywords: hypertension, high blood pressure, overweight, obese*, DASH diet, dietary approaches to stop hypertension, low sodium diet, low salt diet, child*, and adolescent*. Two hundred and eight original research articles were considered. Included were: English publications (2007-2018); specific reference to the DASH diet or elements of DASH; children and adolescents between 9-21 years of age; comorbidities including obesity, diabetes, and metabolic syndrome. Excluded were: animal studies; adult studies; and the use of DASH for medical conditions differing from above. Fifteen full-text articles were obtained and included for PEN grading.

Results: Eight studies (53%) demonstrated a reduction in blood pressure using the DASH diet or elements of DASH; one (6%) showed no association; three studies (20%) showed a positive benefit with sodium reduction, two (13%) did not show benefit; and one study (6%) reported that increased dairy intake was beneficial in decreasing hypertension.

Conclusion: Research supporting the use of the DASH diet as a therapeutic strategy for PPH remains limited. However, there is convincing evidence that weight reduction, sodium limitation and increased servings of fruit, vegetables, and low-fat dairy may be beneficial.

Significance to Dietetics: The DASH nutrition care plan may prove to be an effective tool for patients with PPH; however, DASH may not meet dietary requirements for calcium and vitamin D without RD supervision to ensure nutritional adequacy with this population.

Topic Area: Food Content, Selection and Safety

Abstract Title

Examining the relationship between price, nutrient content and the on-package marketing of ready-to-eat breakfast cereals

M. Benvenuto¹, A. Christoforou², D. Mercer³; ^{1,3}University of Guelph, Guelph, ON, ²University of Toronto, Toronto, ON

Abstract

Introduction: Canadians are large consumers of RTE breakfast cereals, raising concerns due to their high level of processing and conflicting evidence regarding their contribution to nutrient adequacy. Previous research has indicated that these products bear a high degree of marketing, which in addition to price has been shown to impact product purchasing and therefore diets.

Objectives: Examine the relationship between RTE breakfast cereal price, nutrient content (fibre, sodium and sugar), and the presence of on-package nutrition marketing.

Methods: Product information was collected from RTE breakfast cereals (n=791) available in three conventional and three discount banner super-markets in Toronto. On-package marketing was categorized as nutrition/health or "other" claims (e.g. no artificial colours, non-GMO). Price and nutrient content were considered per 100g of product.

Results: Linear regression analyses, controlling for package size and store of acquisition, revealed products that bore nutrition/health claims were not significantly higher priced than those without claims. RTE cereals that bore 'other' claims, however, were significantly more expensive than those without. Similar analyses revealed a significant positive relationship between price and sugar, sodium content. RTE cereals with nutrition/health claims were higher in fibre and lower in sugar and sodium. When these nutrients were assessed against the presence of "other" claims, no significant relationships were found.

Conclusions: The little price difference and better nutrient profile of products containing nutrition/health claims suggests such products may provide nutritional guidance. The higher price of products containing more sugar and sodium is in keeping with previous arguments that premium products may not be of better nutritional quality. These findings also expose a potential need to educate about "other" claims, which appear to highlight poorer nutritional quality products at a higher price, compared to those without such claims.

Dietetic Significance: Findings can be used to improve consumer's awareness and understanding of food labels and product selection, especially regarding price.

Topic Area: Food Security

Abstract Title

Food Insecurity and Food Retailers: Perceptions, Challenges and Opportunities

A .Todd¹, K. Watson², L. Newman³, K. Doty-Sweetnam⁴, C. Boisvert⁵, L. Funk⁶; ¹Fraser Health Authority, Hope, BC, ²University of the Fraser Valley, Abbotsford, BC, ³University of the Fraser Valley, Abbotsford, BC, ⁴Brandon University, Brandon, MB, ⁵Fraser Health Authority, Abbotsford, BC, ⁶University of the Fraser Valley, Abbotsford, BC

Abstract

INTRODUCTION: Food insecurity is a growing problem in Canada. Over 485,000 individuals in BC are food insecure, and 65% of food insecure households are in the workforce. Solutions to date have focused on charitable food donations, which few working families or individuals can access. Many local food policy coalitions have been established throughout British Columbia to address system redesign; however, food retailers have not participated in these discussions in the Eastern Fraser Valley region and may be an overlooked resource.

OBJECTIVES: This study explores knowledge and awareness of food insecurity among food retailers in this region, current corporate policies and practices that support food insecure households, and future opportunities and policy directions for improving access to healthy affordable produce for vulnerable families or individuals.

METHODS: Four traditional and five non-traditional food retailers servicing the Fraser Valley participated in semi-structured interviews using qualitative methodologies. The interviews were recorded, transcribed and coded using NVivo® software, and thematic analysis conducted.

RESULTS: Food retailers perceived food insecurity as primarily related to supply chain management, and not in the broader context. Most had Corporate Social Responsibility policies but none that specifically addressed food insecurity. Most of the suggested “novel solutions” from the grey literature were considered impractical.

CONCLUSIONS: There needs to be a common understanding and shared definition of food insecurity that is meaningful to all stakeholders. Food insecurity is a good fit with Corporate Social Responsibility Policies, and any recommendations should focus on customer expectations and corporate values. Food retailers are a potential partner to address food insecurity at the community level.

SIGNIFICANCE: Food retailers have partnered with dietitians for healthy eating promotion. These partnerships could be leveraged to explore policy change that addresses food insecurity.

Topic Area: Nutrition and Health Education

Abstract Title

Enhancing glycemic index knowledge and application among adults with type-2 diabetes mellitus: A randomized controlled trial

H. Avedzi^{1,2}, A. Soprovich^{1,2}, S. Ramage³, K. Storey¹, J. Johnson^{1,2}, S. Johnson^{1,4}; ¹ School of Public Health, University of Alberta, Edmonton, AB, ² Alliance for Canadian Health Outcomes Research in Diabetes, Edmonton, AB, ³ Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, ⁴ Centre for Nursing and Health Studies, Faculty of Health Disciplines, Athabasca University, Athabasca, AB

Abstract

Introduction: Research examining how to increase uptake of evidence-based recommendations to include low glycemic index (GI) foods as an effective dietary self-care strategy for glycemic control among people with type 2 diabetes (T2D) remains sparse.

Objective: To present the design and baseline data from the Healthy Eating and Active Living for Diabetes-Glycemic Index (HEALD-GI) study, which is designed to evaluate the effectiveness of a 12-week GI-targeted nutrition education on GI-related knowledge and intakes among adults with T2D in Edmonton, Alberta.

Methods: Participants (N=67) were randomized to a control group that received standard printed copies of Canada's Food Guide and Diabetes Canada's GI resources OR to an intervention group that received those same materials, plus an online platform with six self-directed learning modules and print material. Each module included videos, links to reliable websites, chat rooms, and quizzes. The evidence-based information included GI values of foods and low GI shopping, recipes, and cooking tips by a Registered Dietitian. Support through email, text messaging, phone calls, or postal mail to reinforce their learning were also provided. The primary outcome is average dietary GI (collected by 3-day Diet Record). Secondary outcomes including GI-knowledge and self-efficacy, glycated hemoglobin A1c, lipids, blood pressure, body-mass-index (weight, height), and waist circumference were assessed at baseline and will be assessed at three months post-intervention.

Results: Participants, similar to the general adult T2D population in Canada, are 64% men; mean age 69.5 (9.3) years, with a mean diabetes duration of 19.7 (14.4) years, BMI 29.9 (5.8) kg/m² and HbA1c 7.1 (1.2)%. No significant difference was observed between men and women at baseline.

Conclusion: The HEALD-GI study aims to provide evidence about the best approach to translate the concept to adults with T2D.

Significance to the field of dietetics: This study may help dietitians improve efforts to disseminate low GI dietary recommendations.

Abstract Title

Examining Motivation in Pediatric Weight Management: The Readiness and Motivation Interview for Families (RMI-Family)

N. Browne¹, J. Geller², N. Spence³, K. O'Connor⁴, S. Srikameswaran², J. Zelichowska², J. Ho⁵, R. Gokiert¹, V. Carson¹, N. Gehring¹, H. Virtanen⁵, C. Hinkley⁵, L. Mâsse¹, K. Morrison⁶, J. Kuk⁷, N. Holt¹, G. Ball¹; ¹University of Alberta, Edmonton, AB, ²University of British Columbia, Vancouver, BC, ³Harvard University, Boston, MA, ⁴Glenrose Rehabilitation Hospital, Edmonton, AB, ⁵University of Calgary, Calgary, AB, ⁶McMaster University, Hamilton, ON, ⁷York University, Toronto, ON

Abstract

Introduction. Understanding family-level motivational factors in pediatric weight management is helpful clinically since both youth and parents play important roles in lifestyle change.

Objectives. To pilot test and conduct preliminary analyses to determine the convergent and predictive validity of the Readiness and Motivation Interview for Families (RMI-Family), a structured interview.

Methods. Our study included 13-17 year olds with overweight or obesity and their parents from pediatric weight management clinics in Edmonton and Calgary. Using the RMI-Family, motivation-related constructs were assessed (5-point Likert scale) in youth and parents separately for exercise, screen time, sleep, treat foods, overeating, and emotional eating. Participants completed the interview twice (3 months apart); interviewers were trained in motivational interviewing. Anthropometric and sociodemographic data were also collected.

Results. Data from 10 families were collected (youth: 6 girls, 4 boys; 15.7±2.1 years old; BMI z-score: 2.02±0.68; parents: 8 mothers, 2 fathers; 48.8±6.4 years old; BMI: 30.0±8.3 kg/m²). At time 1, youth and parents rated the highest motivation to change to increase sleep and decrease intake of treat foods, respectively. We found positive correlations between youth and parent motivation to change sleep (r=0.72; p=0.02) and overeating (r=0.74; p=0.014). Youth motivation to change emotional eating was positively associated with readiness to change that habit both at times 1 and 2 (r=0.72; p=0.019 and r=0.67; p=0.049). Parent motivation to change youth overeating decreased between times 1 and 2 (F=6.9; p=0.031), but no other differences were detected in youth and parent motivation scores between times 1 and 2 (all p>0.05).

Conclusions. In both youth and parents, the RMI-Family generated relatively reliable ratings of motivational constructs over time. Our research remains ongoing and will include additional psychometric analyses (e.g., concurrent validity).

Significance to the field of dietetics. The RMI-Family has the potential to help healthcare professionals assess and monitor motivational constructs in families enrolled in pediatric weight management.

Abstract Title

Exploring the influence of different media sources on food purchasing decisions: A qualitative study with parents of young children

P. Blanco¹, A. Farmer¹, N. Willows¹; ¹University of Alberta, Edmonton, AB

Abstract

Introduction: The home food environment is considered important in the development of children's eating behaviours. Parents shape their children's eating habits by role modelling and having certain foods in their household. Hence, it is important to understand how different media sources may be influencing parents' food purchase decisions.

Objective: The objective of this study was to explore which media sources may influence the food choices of parents of young children.

Methods: Parents of young children (aged 2-5 years) were invited through three childcare centres in Edmonton, Canada. Parents must have had at least one child attending childcare to be included, and be fluent in English. Three focus groups using a semi-structured interview guide were conducted from November 2017-January 2018 (4-6 participants in each group). NVivo 11 software was used to organize the data and transcripts were analyzed thematically.

Results: The mean age of participants was 35 years (n=15); 13.3% were men and 86.7% women. Households had 1 to 2 children. Three major themes related to sources of media and food purchasing decisions were identified: parents were interested in nutrition information from different media sources such as Netflix documentaries, podcasts, and radio. Parents based their food decisions on what they see, hear and read. Furthermore, parents faced challenges regarding nutrition information.

Conclusion: The vast amount and incongruent nutrition messaging in the media can create confusion among parents when choosing healthier food choices. Dietitians have an advocacy role in increasing the general public's awareness of what is considered trustworthy and credible nutrition information in the media.

Significance to the field of dietetics: This study helps to understand that parents need more guidance to navigate the myriad of nutrition information. Dietitians can take the lead in media by sharing evidence-based nutrition information in an engaging way to enable parents to make well-informed food decisions.

Abstract Title

Nutrition and Autism Spectrum Disorder: A needs assessment and environmental scan to inform nutrition curriculum and training for non-medical diagnostic and therapeutic service providers in Northern Ontario
S. Friedrich¹, K. Howell¹, G. Nearing², L. Rysdale³; ¹Northern Ontario Dietetic Internship Program, Sault Ste. Marie, ON, ²Group Health Centre, Sault Ste. Marie, ON ³Northern Ontario Dietetic Internship Program, Sudbury, ON

Abstract

Objectives: To determine the nutrition-related knowledge, attitudes, and perceptions of non-medical practitioners working with children diagnosed with Autism Spectrum Disorder (ASD); and, to identify relevant parent and professional resources to inform an evidence-based curriculum.

Methods: A comprehensive literature review using MEDLINE and PsychInfo was conducted in spring 2017 to develop and content validate (n=3 registered dietitians (RDs) with topic expertise) a 20-item online survey. The survey was administered (December 2017) to a convenience sample of 149 Northern Ontario staff (e.g., therapists, managers, and psychologists). Results were analyzed using Qualtrics© software and pivot tables. A grey literature search, including PEN® (Practice-Based Evidence in Nutrition) and pediatric hospital websites, was also conducted; inclusion criteria included evidence-based presentations or toolkits with a nutrition component and/or discussed the RD role in ASD.

Results: Sixty-one staff (41% response rate), all female, completed the survey. The majority (78%, 47/60) agreed an RD should be involved in the nutritional assessment of children with ASD, however many respondents were unsure if these children have more gastrointestinal (GI) complaints (51%, 29/57) and whether gluten-free casein-free diets (42%, 25/60), multivitamin supplements (52%, 31/60), or prebiotics and probiotics (80%, 48/60) were recommended nutrition interventions. Respondents did not feel confident in assessing food and nutrient intake (30%, 17/57) or feeding behaviours (26%, 15/57) in children with ASD. Of the nutrition resources screened (n=232), 25 met the inclusion criteria.

Conclusions: There was an overall lack of knowledge related to common GI complaints, feeding behaviours, assessment of food/nutrient intakes and appropriate nutrition therapies for children with ASD. Numerous resources exist that can be adapted to develop nutrition curriculum to support non-medical practitioners.

Significance to the Field of Dietetics: With one in 66 Canadian children diagnosed ASD, non-medical provider training, including nutrition screening and referrals to an RD, can improve the nutritional status of these children.

Abstract Title

The myth of disease and acid/alkaline food impact on blood acidity balance
A.Alsalem, School of Nutrition and Dietetics, Acadia University, Wolfville, NS

Abstract

Introduction: Living in a world of misleading information in nutrition and health brings an urge to educate the public using scientific evidence by shedding light on a controversy surrounding diseases and blood acidity. Healthy individuals have a blood pH between 7.35 to 7.45.

Objectives: To explore the scientific evidence about the relationship between acid/alkaline food and blood pH. This theory can be easily misunderstood by the public because the maintenance of blood pH involves complicated and continuous chemistry processes.

Methods: 14 articles were reviewed, half of which, were peer-reviewed journals, the remaining are gray literature, Dietitian of Canada, google scholar, PEN, PubMed and Krause's nutrition textbook. Using the keywords: Blood pH, Alkaline diet, and blood acid-base balance.

Results: The homeostatic balance has many complex mechanisms. Respiratory and renal mechanisms play a crucial role in maintaining blood pH stability using a strict hemostasis and buffer system. Any fluctuation in blood pH level leads to serious health complications or even death. All sources reviewed do not support the claim that food intake affects blood pH; however, some literature suggests that having the highest end or the lowest end of the blood normal pH as a result of food intake may have deleterious effects on health on the long run "years to decades". Generally, meat and eggs produce acids metabolite where fruits and vegetables produce base metabolite.

Conclusion: From reviewing data it appears that although acid/ alkaline food may increase the acid load and consequently the net acid excretion through the kidneys, there has not been a clear evidence connecting extreme normal levels of blood pH and long-term chronic disease in healthy individuals.

Significance to the field of dietetics: Dietitians need to convey the true science about blood pH and food intake in an understandable way for the public. They also should increase awareness for the public to question anyone, regardless of their scientific background who promotes this myth.

Topic Area: Nutritional Assessment and Therapy

Abstract Title

Content validity testing of a nutrition acuity scoring tool

L. da Silva^{1,4}, J. Chan^{2,4}, T. Elliott³, D. Saran¹, K. Vandop¹; ¹Fraser Health Authority, Surrey, BC, ²Fraser Health Authority, New Westminster, BC, ³Fraser Health Authority, Langley, BC, ⁴Clinical Instructor, Faculty of Land and Food Systems, Dietetics Program, University of British Columbia, Vancouver, BC

Abstract

INTRODUCTION: Dietetics lacks a validated tool that captures inpatient nutrition acuity beyond malnutrition. Through an iterative process, a nutrition acuity scoring tool (NAS) was created. It was based on nutrition diagnoses seen with inpatients and their need for medical nutrition therapy (MNT) in order to avoid the onset or deterioration of a diagnosis. The tool underwent face validity testing at 12 hospitals but required further validation.

OBJECTIVE: To measure the content validity of the NAS as a metric for inpatient nutrition acuity.

METHODS: A modified Delphi approach as an online survey was used to examine the NAS content validity. Canadian dietitians with experience using and teaching nutrition care process terminology (NCPT) ranked each NAS item on a Likert scale for clarity (very clear to very unclear) and appropriateness (very appropriate to very inappropriate). The a priori content validity index threshold at the item (iCVI) and scale level (sCVI) was 0.78 and 0.9, respectively. Items not meeting the iCVI threshold in round 1 were modified for round 2. **RESULTS:** Participants (N=13) were from 5 provinces, averaged 14.2 years of work experience (SD 8.2), had used NCPT terminology for 5 years (SD 1.6), worked full time (76.9%, n=10), were from a teaching hospital (84.6%, n=11) and had provided NCPT instruction (84.6%, n=11). Consensus was achieved on all items after two Delphi rounds. The sCVI for Delphi round 1 and 2 was 0.93 and 0.96, respectively.

CONCLUSIONS: The NAS was found to be content valid with a sample of Canadian dietitians. This tool would benefit from reliability testing.

SIGNIFICANCE TO THE FIELD OF DIETETICS: Inpatient acuity and complexity is rising. A metric that classifies nutrition acuity helps dietitians describe their patient population and is an essential step for triaging inpatients to receive dietitian services.

Abstract Title

Introduction of a web-based application to generate personalized nutrition recommendations based on metabolomic, proteomic and genetic data.

TH. Schroder¹, M. Anwar¹, T. Hariharan¹, NA. Calderon^{1,2}, GYS. Goh¹, A. Marcu^{1,3}, M. Edwards¹, D. Wishart^{1,3}, SCB. Johannessen¹, R. Fraser¹; ¹Molecular You Corp, Vancouver, BC, ²Simon Fraser University, Vancouver, BC, ³University of Alberta, Edmonton, AB

Abstract

Introduction: Analysis of molecular measures, i.e. genetics, metabolomics, and proteomics, have enabled a more preventive and personalized approach to healthcare. Personalized healthcare may mitigate disease risk through early diagnosis and the potential for personalized lifestyle, e.g. nutrition, interventions based on molecular data. Advanced tools combining and visualizing multiple molecular data and their association with dietary intake are required to generate personalized nutrition (PN) recommendations.

We aimed to develop a web-based application for generating PN recommendations based on genetic, metabolomic, and proteomic data.

We employed text mining tools (Ovid for Medline, PolySearch2 for PubMed) to search the scientific literature on associations between nutrient intake or dietary patterns and genetic variants (>100,000), or blood levels of metabolites (>150) or proteins (>200) in human studies alone. Nutrients were linked to specific foods using the Canadian Nutrient File. Machine learning algorithms were developed for ranking based on scientific evidence, nutrient content and across multiple molecular measures. We used interactive data visualization strategies to visualize PN recommendations for healthcare professionals and their clients.

We curated knowledge databases on the associations between abnormal levels of molecular measures and nutrient intakes or dietary patterns, e.g. omega-3 fatty acids or Mediterranean diet. Employing machine learning ranked food items across abnormal levels of multiple molecular measures and grouped them into food categories, to efficiently determine PN recommendations with the potentially highest benefit. Our custom web-based application displayed links between abnormal molecular measures and nutrient intakes or dietary patterns for easy communication of PN recommendations. The smart-phone tracking app allowed clients to easily see PN recommendations and record their actions to monitor and capture adherence longitudinally.

We developed a user-friendly, web-based tool to determine PN recommendations, based on metabolomic, proteomic and genetic data, which may be most beneficial to a client.

Our tool may aid dietitians in providing PN recommendations based on multiple molecular data.

Abstract Title

Reliability Testing of a Nutrition Acuity Score (NAS) Tool

J. Chan^{1,4}, L. da Silva^{2,4}, T. Elliott³, D. Saran², K. Vandop²; ¹Fraser Health Authority, New Westminster, BC, ²Fraser Health Authority, Surrey, BC, ³Fraser Health Authority, Langley, BC, ⁴Clinical Instructor, Faculty of Land and Food Systems, University of British Columbia

Abstract

INTRODUCTION: Dietetics lacks a nutrition acuity scoring (NAS) tool that categorizes inpatients based on nutrition diagnosis. We created an instrument that ranks nutrition diagnoses based on the need for medical nutrition therapy. The tool specifies a four-point scale and is organized according to nutrition diagnosis domains. The tool was content validated with a sample of Canadian dietitians but required inter-rater reliability testing.

OBJECTIVE: To measure the inter-rater reliability of the NAS when applied to inpatients.

METHODS: Dietitian raters were required to have a minimum of 1 year of experience in a variety of practice areas in acute care. Raters were trained concurrently using simulated cases until they indicated they understood the tool and study procedures. The cases reflected a variety of patient types and were previously tested with experienced staff. Patients were selected randomly. Raters prospectively assessed the same inpatients independent and within two hours of each other. Inpatient assignment order to raters was random. Raters were debriefed regarding NAS disagreement upon study completion.

RESULTS: Raters (N=2) were female with 1.0 year of work experience. Inpatients (N=41) were from either surgical or medical wards in a teaching hospital, 64.3% male (n=26), averaged 62.2 years (SD 14.9, 64-85 years) and 24 days from admission to NAS assignment (SD 34 days). Agreement between raters was 0.52 (linear weighted kappa). Raters felt agreement could have improved with changes to their training rather than the tool itself.

CONCLUSIONS: The NAS was found to be moderately reliable. Reliability may improve if raters were trained using actual patients rather than simulated cases. However, further research is required for confirmation.

SIGNIFICANCE TO THE FIELD OF DIETETICS: With rising patient acuity and complexity of care, dietitians need a validated metric to describe and monitor their patients' nutrition acuity.

Topic Area: Other

Abstract Title

A Description of Sources, Types, and Distribution of Repurposed Food on the North Shore
S Kilmartin¹, T Lau¹, C Obando¹, N Oh¹, M Broughton², T Kafka¹, S Rowe³, R Jamal³; ¹ UBC Dietetics Program, Vancouver, BC, ² Vancouver Coastal Health, North Shore Public Health, Vancouver BC, ³ Food Lens Consulting Ltd., Vancouver, BC

Abstract

Background: Food repurposing is a strategy to redistribute food that is no longer viable to the commercial sector and may go to waste. Food distribution organizations (FDOs) receive many types of repurposed foods from various sources and distribute it through community food programs.

Objectives: To identify sources of repurposed food and distribution methods of Vancouver's North Shore FDOs, and classify types of repurposed food received.

Methods: An online survey was developed and pilot tested. FDOs (N=27) were recruited through purposive sampling. Responses were analyzed using frequency distribution.

Results: Fifteen surveys were returned (55.6% response rate) and twelve analyzed (three respondents did not utilize repurposed food). The two most frequently identified sources of food were retail stores (58%) and fellow FDOs (50%). The most frequently received foods were grain products, foods high in sugar, fat, and/or sodium, and fruits and vegetables. However, among FDOs that received fruits and vegetables, this type of food accounted for less than 50% of total food. Foods high in sugar, fat, and/or sodium accounted for greater than 75% of food received by 17% of FDOs. Sixty-seven percent of FDOs received inedible food and 58% received food that became inedible before distribution. Ninety-two percent of FDOs distributed food via on-site meals/snacks.

Conclusions: The results suggest that many FDOs distribute repurposed food to clients through on-site meals/snacks, but may face challenges managing perishable food. Although FDOs receive fruits and vegetables, many also receive food that became inedible before distribution. Some receive large proportions of foods high in sugar, fat, and/or sodium, which are typically non-perishable. Further investigation to improve the conservation of nutritious, perishable repurposed food is warranted.

Significance to Dietetics: Understanding food repurposing practices helps guide policies to support the transfer of nutritious foods to clients through community food programs in order to improve public health outcomes.

Abstract Title

Are patients identified to be at risk for malnutrition being seen by a dietitian upon admission to hospitalist medicine units at Vancouver General Hospital?

N Teymouri Bayat¹, R Rattanpal¹, J Sookero¹, S Voong¹, E Cabrera², T Cividin²; ¹UBC Dietetics Program, Vancouver, BC, ²Vancouver Coastal Health, Vancouver, BC

Abstract

Introduction: Malnutrition is under recognized and often undiagnosed in the hospital setting. Malnutrition contributes to increased mortality, morbidity, hospital admissions, length of hospital stay, healthcare costs and reduced quality of life. Dietitian involvement is critical in addressing malnutrition and its associated risk factors. Patients admitted to Vancouver General Hospital (VGH) are screened for malnutrition risk using a validated nutrition screening tool (Canadian Nutrition Screening Tool) within the Nursing Admission Assessment (NAA).

Objectives: The objectives of this study are (1) to determine the proportion of patients who are screened by and determined to be at risk for malnutrition upon admission to 3 hospitalist medicine units at VGH and (2) to determine the proportion of those patients seen by a dietitian.

Methods: A retrospective chart review of all patients admitted to VGH hospitalist medicine units from March 1-31, 2017 was conducted. Data collected included demographics, completion of the nutrition screen within the NAA, dietitian referrals and assessments.

Results: Of the 161 patients admitted, 51% (n=82) were screened for malnutrition upon admission. Of these patients, 24% (n=20) were determined to be at malnutrition risk. Despite only 15% (n=3) of these patients being referred to a dietitian, 50% (n=10) of patients at malnutrition risk were seen by a dietitian. The main reasons for dietitian assessment were physician referrals and dietitian routine screening.

Conclusions: The NAA was not consistently completed and patients at risk were not always referred to the dietitian. Suggestions to address these issues include identifying barriers for completing the NAA and providing nursing education about the importance of malnutrition screening, use of the tool, and how to refer to the dietitian.

Significance to the field of dietetics: Consistent completion of the validated malnutrition screening tool and resulting dietitian referrals could help identify malnutrition early and decrease routine screening time for dietitians.

Abstract Title

Quels sont les facteurs psychologiques influençant l'apport alimentaire des soldats travaillant dans l'Arctique canadien?

C. Bouchaud¹, F. Lavergne^{2,4}, D. Prud'homme^{3,4}, I. Giroux^{1,4}; ¹ École des sciences de la nutrition, Université d'Ottawa, ON, ² École des sciences interdisciplinaires des sciences de la santé, Université d'Ottawa, ON, ³ École des sciences de l'activité physique, Université d'Ottawa, ON, ⁴ Institut du Savoir Montfort, Ottawa, ON

Abstract

Introduction: Il a été documenté que l'apport alimentaire des soldats des Forces armées canadiennes dans l'Arctique serait inadéquat. De nombreux facteurs psychologiques affectent cet apport.

Objectifs: Compiler les facteurs psychologiques influençant l'apport alimentaire des soldats travaillant dans l'Arctique basé sur une revue de la littérature grise et scientifique.

Méthode: Trois articles de littérature grise sur l'apport alimentaire des soldats travaillant dans l'Arctique ont été analysés pour identifier des facteurs psychologiques spécifiques pour identifier des mots clés pour la recherche des bases de données Medline et PsychINFO. Les thèmes étaient l'armée, l'apport alimentaire et les facteurs psychologiques. Les critères d'inclusion étaient des articles en anglais et publiés entre 1980 et février 2018. Parmi 203 articles identifiés, 7 ont été retenus après avoir exclu les articles non-pertinents.

Résultats : La fouille préliminaire de la littérature grise a identifié les thèmes suivants : la monotonie des repas, le stress, la perception négative des rations, la stigmatisation du surpoids et manger en groupe. Ces thèmes ont permis de trouver des facteurs psychologiques affectant l'apport alimentaire des soldats dans l'Arctique consommant des rations, notamment la monotonie des repas, l'acceptabilité des aliments liée à la température. L'acceptabilité est affectée par les préférences personnelles, la culture, les facteurs démographiques et la perception négative des rations. Certains soldats voient les entraînements sur le terrain comme une occasion de perdre du poids. L'influence des supérieurs et la socialisation pendant les repas affectent aussi l'apport alimentaire.

Conclusion: Ce projet a documenté les facteurs psychologiques influençant l'apport alimentaire des soldats travaillant dans l'Arctique et aidera à l'élaboration d'un projet de recherche future.

Signification: Cette question n'a jamais été traitée au Canada donc plus de recherche est nécessaire pour déterminer les facteurs qui empêchent les soldats d'atteindre leurs besoins nutritionnels dans l'Arctique afin de permettre aux diététistes travaillant avec cette clientèle de formuler des recommandations nutritionnelles adaptées.

Topic Area: Patient Services

Abstract Title

Nutrition in surgical wards: A retrospective study describing the diets and nutrition provided within Island Health

O Jacobson¹, M Pumple¹, S Rizzo¹, C Sable¹, G Tan¹, C Barber², V Espinosa², T Kafka¹, K Ruel², S Young²;

¹University of British Columbia, Vancouver, BC, ²Island Health Nutrition Services, Victoria, BC

Abstract

Introduction: Poor nutritional status of surgical patients is associated with delayed recovery, increased length of stay (LOS), and higher rates of post-surgical complications. Enhanced Recovery After Surgery (ERAS) protocols offer evidence-based guidelines for optimal perioperative nutrition with the goal of minimizing duration of fasting and inadequate diet orders. Diet ordering practices occurring within Island Health surgical wards are unclear.

Objective: To describe the duration patients are ordered nutritionally inadequate diets and the nutrition provided during admission within surgical wards at Island Health.

Methods: Food service reports from Island Health's CBORD® database were retrospectively reviewed for a simple random sample of 126 patients from Victoria General Hospital and Nanaimo Regional General Hospital. Diets ordered and calories (kcal) and protein (grams) provided for each day of admission were analyzed using REDCap™ and SPSS®. Diets of inadequacy were analyzed separately and identified in subjects with diet orders of clear fluid (CF), full fluids (FF), and/or Nil Per Os (NPO) for ≥ 3 days cumulatively.

Results: Subject median age was 69 years (range 19-99) with a median LOS of 4.8 days (range 3.0-20.6). Diets provided an average of 1448±422 kcal and 65.8±22.4 grams of protein daily. Diet orders of CF, FF, and NPO were ordered for a mean of 1.4, 1.8 and 0.9 days respectively. Diets of inadequacy were found for 19.8% (n=25) of subjects and provided a daily average of 1026±363 kcal and 42.4±18.4 grams of protein.

Conclusions: Some patients within Island Health surgical wards are not receiving adequate nutrition to support healing and recovery. The inability to distinguish surgical from non-surgical patients or to assess individual nutritional needs using CBORD data limited interpretation of results.

Significance to the field of dietetics: These findings highlight the importance of dietitians to advocate for consistent implementation of evidence-based feeding practices to ensure adequate nutrition for healing and recovery.

Topic Area: Undergraduate Education and Dietetic Internship

Abstract Title

Implications of using food as a reward: Public health professionals' perspectives for effective communication strategies

H. Landry¹, J. Quiambao¹, P. Ross²; ¹Northern Ontario Dietetic Internship Program, Sault Ste Marie and Sudbury, ON, ²Public Health Sudbury & Districts, Sudbury, ON

Abstract

Objective: To gain an understanding of what messages and means of delivery public health professionals (PHPs) believe are most effective to communicate implications of using food as a reward with children aged 0-6.

Methods: A purposive sample of PHPs at Public Health Sudbury & Districts (PHSD), with current or previous work experience with caregivers of children aged 0-6, were recruited through verbal and electronic communication to participate in one of two focus groups in February 2018. A registered dietitian (RD) facilitated the groups using a standardized guide, which included questions related to personal thoughts and feelings towards food rewards, and PHP feedback on potential key messages and communication strategies (e.g. handout, videos). Two dietetic interns recorded group responses both electronically and through written notes. Thematic data analysis was employed with key themes identified and then compared to themes found in the literature.

Results: A total of 21 PHPs working with caregivers of young children participated in the focus groups that were each 30-45 minutes in length. The majority of participants agreed positive role modeling and building healthy relationships, both with food and with others, were the most effective messages to address the implications of using food rewards. Both groups identified a personalized handout was the most effective means to deliver these messages.

Conclusions: The development of a culturally sensitive, personalized handout utilizing best practices in health literacy would effectively support PHPs to communicate the implications of using food as a reward with caregivers of young children. Emphasizing responsive feeding practices such as role modeling, and building healthy relationships with food and others were identified as key messages.

Significance to Dietetics: Discouraging the use of food rewards in young children through effective communication strategies from RDs and other PHPs can promote healthy feeding practices and positive health outcomes.

Topic Area: Vulnerable Groups and their Nutritional Needs

Abstract Title

Moderate nutritional risk among community-dwelling Canadian older men in the Manitoba Follow-up Study
C. Lengyel¹, C. Moodoo¹, R. Tate²; ¹Department of Food and Human Nutritional Sciences, Faculty of Agricultural & Food Sciences; ²Department of Community Health Sciences, Max Rady College of Medicine, University of Manitoba, Winnipeg, MB

Abstract

Introduction: Community screening programs are critical in identifying older adults (individuals 65 years of age and older) at nutritional risk such that clients can be provided with the necessary care for the prevention of malnutrition and/or the improvement of health outcomes. The protocol for referring older adults to dietitians for further assessment and follow-up with nutritional risk scores ranging from low to high varies based on priority screening with emphasis on those that are identified as high risk. The Manitoba Follow-up Study (MFUS) is a longitudinal study examining cardiovascular health as of July 1, 1948 (n=3,983 male participants), and since 2007 also examines nutritional risk.

Objectives: To determine characteristics and nutrition risk items that predicts trajectory group classifications for earlier identification; and to identify nutrition risk items that show the largest decline over a four-year period among those in the moderate trajectory groups as previous research has shown that they are at an increased risk for health decline.

Methods: The MFUS Nutrition Survey (included Seniors in the Community Risk Evaluation for Eating and Nutrition - SCREEN II) was utilized to obtain data from 117 older adult men in the Moderate (M) trajectory group and 49 older adult men in the Moderate-Increase (MI) group participating between 2007 – 2011. Data was assessed using t-test and chi square tests with a p-value < 0.05.

Results: Descriptive characteristics were not found to impact trajectory group. Never/rarely using meal replacements/ commercial products was statistically significant (p=0.02) between the M and MI groups. Fruit and vegetable consumption per day saw the largest decline over four-years with a 91% decline in original responses from five or more servings in 2007 to less than four servings by 2011.

Conclusions: Individuals who screen as moderate nutritional risk are at an increased risk for nutritional decline over a four-year period.

Topic Area: Wellness and Public Health

Abstract Title

Beyond healthy food habits: Lessons learned from a community kitchen and community garden developed by and for the Francophone and Francophile minority of St. John's, Newfoundland

Bernard, K.¹, Schiff, R.², and Beausoleil, N.¹; ¹Memorial University of Newfoundland, Newfoundland, ²Lakehead University, Ontario

Abstract

Introduction: Literature abounds on the role of community kitchens and community gardens as strategies to foster food security and healthy lifestyles. But what are their unique contributions among Francophone and Francophile minority communities in Canada?

Objectives: This case study aimed to explore the benefits of a community kitchen and garden developed by and for the Francophone and Francophile minority living in St. John's, Newfoundland. It also aimed to identify key facilitators to their success.

Methods: An ethnographic approach from September 2015 to July 2016 including document consultation, participant observation and 15 in-depth semi-structured interviews with coordinators and participants (men n=2, women n=13, Francophones n=12 and Francophiles n=3) was used. Thematic analysis was used to identify themes.

Results: The community kitchen and garden play a key role in the development and vitality of the Francophone and Francophile community of St. John's. In addition to acquiring cooking and gardening knowledge, skills, self-confidence, and pride, these activities enable participants to assert their cultural identity and improve their knowledge of French language and Francophone cultures. They contribute to cultural continuity and foster a sense of community belonging, and cultural and linguistic well-being. Leadership, conviviality, the collective approach, connection to identity, exchanges between Francophones and Francophiles, and the use of French were key facilitators enabling benefits gained.

Conclusion: Findings highlight the importance of considering both language and culture, as vital factors to participation and benefits gained. Results call for an expanded understanding of how community kitchens and gardens can contribute to individual and community well-being among other minority communities in Canada.

Significance to the Field of Dietetics: Few studies have addressed how these health promotion activities can be used to vitalize minority communities in Canada and foster their cultural and linguistic well-being. This study makes recommendations, which can be helpful to both researchers and practitioners working with Francophone and Francophile minorities.

Abstract Title

Iron deficiency in a sample of pediatric nutrition outpatients

K. Little¹, S. Watson¹, G. Yeh¹, L. Dasilva², S. de Roy², C. Kolba², N. Guirguis³, J. Wark⁴; ¹University of British Columbia Dietetics Program, Vancouver BC, ² Fraser Health Authority, Surrey Memorial Hospital, Surrey, BC, ³ Fraser Health Authority, Newton Health Unit, Surrey, BC, ⁴ Fraser Health Authority, Public Health, Surrey, BC

Abstract

Introduction: Anecdotal evidence from Fraser Health (FH) dietitians suggests a large number of children, seen as outpatients, are iron deficient. In view of the detrimental effects that iron deficiency (ID) has on early development, data was sought to quantify the problem.

Objectives: To determine the prevalence of iron deficiency in pediatric patients seen by outpatient dietitians at a large teaching hospital within FH and to identify nutrition related ID risk factors.

Methods: A cross-sectional, retrospective chart review of pediatric patients (0-5 years) seen by a FH outpatient dietitian, regardless of the reason for initial referral. Prevalence of ID was based on: ferritin, a combination of hemoglobin and mean corpuscular volume, or % transferrin saturation (based on age). Anthropometric data and nutrition related ID risk factors as documented in the nutrition assessment report were also collected.

Results: Of 847 pediatric patients, 290 met the inclusion criteria. The mean age was 23 months (SD 16 months, range 4 days to 4 years and 11 months). The proportion of pediatric patients with ID was 45.2 % (n=131). By age group, 36.5% were aged 0 to 2 years (n=66) and 59.6% (n=65) were between 2 and 5 years. Of the documented ID risk factors, 32.6% had poor iron intake (n=94), 17.2% excessive non-breastmilk intake (n=50), and 16.6% followed vegetarian a diet (n=48).

Conclusion: Our findings confirm clinicians observations of a high prevalence of ID among pediatric outpatients seen by dietitians. Our sample was limited to patients referred to the dietitian and therefore cannot be extended to the greater FH pediatric population. Further research is needed to explore the prevalence of ID and common risk factors among children in the FH region.

Significance to dietetics: These findings may inform public health initiatives designed to mitigate the modifiable risks related to developing ID in early life.

Abstract Title

What do teens want and not want in a health app?

J. Macdonald¹, J. Koot², K. Hemphill³, J. Bradbury¹, T. Warshawski¹, L. Mâsse²; ¹ Childhood Obesity Foundation, Vancouver, BC, ² BC Children's Hospital Research Institute, School of Population and Public Health, University of British Columbia, Vancouver BC, ³ Ayogo Health, Vancouver BC.

Abstract

Introduction: The Childhood Obesity Foundation identified a gap in the availability of youth lifestyle apps that blend best evidence and best practices.

Objective To help with the development of a gamified mobile app to support youth and their families to adopt healthy behaviours, this study sought to understand what teens want in an app.

Methods A total of 15 youth (13-17 years; 10 males and 5 females) participated in a 135 minute focus group and/or two-60 minute prototype and content testing interviews. In the focus group, teens were asked to provide insights and opinions about what they wanted in a health app, what they valued, and how to make an app appealing to them. In the interviews, they tested a prototype of the app for usability and relatability of the content.

Results The qualitative analyses revealed that two main issues affected teens' interests in using an app: 1) competing priorities and interests such as devoting time to school, homework/studying, spending time with friends/family, or using games; and 2) being pre-occupied with other issues such as their personal relationships and their future. About half of the focus group participants would be interested in using a health app. They were not asked if they were currently using a health app. Qualitative analyses from both the focus group and prototype testing interviews suggested that teens are looking for clear, friendly, positive and relatable health content presented in a unique 'non-school like' format. They were less interested in working on an app alongside their parents. They seemed to value the safety of a private social wall to share experiences with their peers.

Conclusions Teens do not seem to be interested in accessing content that is similar to what they access for school.

Significance to field of dietetics These results may be useful to practitioners recommending or developing e-health interventions targeted to youth.