EUROPEAN
FEDERATION OF
THE ASSOCIATIONS
OF DIETITIANS

EFAD e-journal

Journal for dietitians and dietetic students in Europe to stay connected and promote evidence based practice

Volume 2, Issue 2
December 2015

EFAD e-journal

CONTENTS

Editorial

The present issue is the 2nd issue of the 2nd Volume of the "**EFAD e-journal"**. This means that we have already 2 years of successful publications! The European Federation of the Associations of Dietitians (EFAD) strongly supported this e-journal for students in the field of dietetics, mainly in order to answer the question that many students around Europe have asked, "*How can we know what other students are researching in Europe*". We hope that in the past issues, as well as in the current, may, at least in part, answer this question. In this issue we have contributions from United Kingdom, Sweden, The Netherlands and Greece. The presented topics cover a broad range of nutrition and dietetics science. As it has been done in the previous issues, each submitted work has been reviewed by members of the Editorial Board and external reviewers, in order to improve the clarity of the findings. Thus, we are grateful to the reviewers, as well as to our Editorial Board members for their commitment. In our plans it was to expand the call for submissions to all European Dietitians and to encourage communication and dissemination of research and evidence based practice between dietitians and students. In this issue such works are now published, and we hope that in the near future we may have the opportunity to present even more.

At this point I would like to point out the importance of research methodology courses, even from the undergraduate level. Research courses include cutting-edge methodologies that assist students in better, and more critically, understanding the literature, but also assist in planning and conducting their own research programs. Moreover, they will be able to apply the basic principles of evidence-based nutrition science in everyday clinical practice. Research courses advance health scientists academic and professional career.

We hope that you will enjoy this edition, as you did the others.

The Editor

Demosthenes B Panagiotakos
Professor in Biostatistics-
Epidemiology of Nutrition
Harokopio University,
Greece

AN EVALUATION OF THE LONDON DIETETICS NEW STYLE PLACEMENT

Author(s) name: Elaine Mealey

Institution/ Affiliation: London Metropolitan University

Corresponding Author(s)contact details: e.mealey@londonmet.ac.uk

Introduction

For over a decade pre-registration dietetic practical experience consisted of three practical placements called 'ABC' within a healthcare environment, interspersed throughout periods of academic education at the university. Following the launch and subsequent incorporation of the Nutrition and Dietetic Care Process (NDCP) (BDA 2009) into the academic curriculum, King's College London University (KCL) and London Metropolitan University (LMU) updated the pre-registration dietetic practical experience. Practice educators had highlighted time constraints to supervise students and complete the necessary yABC paperwork as evidence the student had met learning outcomes. Thus there was a need to design a placement programme with a balance struck between sufficient opportunities for teaching and supervision of skill development with sufficient but not excess paperwork for students and practice educators to complete. The new style placement with learning outcomes and structured learning activities, based on the NDCP, was renamed '123'.

Aim: To evaluate the student experience of the new style placement 2 (P2) in comparison to students who had completed the old style placement B (PB.)

Methods

Students at KCL and LMU were recruited September 2012-2014at the university after completion of their second placement. All students were requested to complete a paper questionnaire on their placement experience.

Bioethics

Ethics approval was obtained from LMU University Human Research Ethics Committee.

Results

Twenty-two students completed a P2 (42%) and 31 a PB (58%). Results showed improvements in that a higher percentage of P2 students compared to PB students reporting being 'very confident' in carrying out all steps of the nutrition and dietetic care process in clinical practice. Sixty-eight percent of P2 students felt the amount of paperwork they were required to complete to demonstrate they had met the learning outcomes was excessive compared to 84% of PB students. P2 students reported they spent fewer hours outside the working day on portfolio forms compared to PB students. Eight-five percent of all students agreed/strongly agreed that the amount of daily feedback from supervisors was sufficient to enable them to identify their strengths and weaknesses and80% of all students agreed/strongly agreed that the placement was a really enjoyable learning experience.

Discussion& Conclusion

Study results show that practice educators continue to provide sufficient daily feedback which is essential to highlight good practice, to correct poor performance, and to help students identify a plan for skill development. This evaluation provides

evidence that the new style placement programme, 123 provides an enjoyable learning experience for student dietitians and increases their confidence with all aspects of the NDCP in comparison to the old style of placement delivery. The amount of paperwork required to demonstrate achievement of learning outcomes was also perceived as 'less excessive' in the '123' programme, potentially maximising opportunities for clinical practice.

Students' experience of the 123 placements will continue to be evaluated following each cohort's completion of a placement. Working with practice educators this feedback will be used to make appropriate changes to placement programmes in London.

Conflicts of interest & Acknowledgements
The author declares that they have no conflicts of interest.

Key References:

- British Dietetic Association (BDA)(2009) '*Nutrition and Dietetic Care Process'*Birmingham: BDA [online] Available from http://members.bda.uk.com/Downloads/NutritionDieteticCareProcessOctober2009. Pdf (8.6.2015)

- British Dietetic Association (BDA) (2012) '*Model and Process for Nutrition and Dietetic Practice*. Birmingham: BDA[online] Available from http://members.bda.uk.com/profdev/profpractice/modeldieteticpractice/index.html (8.6.2015)

- British Dietetic Association (BDA) (2013) *Curriculum Framework for the Pre-Registration Training and education of Dietitians.*[online] Available from https://www.bda.uk.com/careers/education/preregcurriculum (8.6.2015)

Key Words (3-5): placement, assessment, learning

Contributors: Diane Reidlingher, former placement tutor at Kings College London University contributed to survey design, data collection and entry. Clare Cremin placement tutor at Kings College London University contributed to data collection and entry. The contribution of the 68 dietetics students in data collection is acknowledged.

USE OF NUTRITION DIAGNOSES AS PART OF THE NUTRITION CARE PROCESS: AN ANALYSIS OF PES-STATEMENTS FOR PATIENTS WITH CHRONIC KIDNEY DISEASE

Author(s) name: Camilla Grönstedt and Linda Gustafson

Institution: Uppsala University. Department of Food, Nutrition and Dietetics

Author(s) contact details: camilla.gronstedt@gmail.com, lindagustafson@hotmail.com

Introduction

The Nutrition Care Process (NCP) and its terminology (NCPT) is a treatment approach newly adopted in Sweden to promote dietetics. Part of the NCP is to identify the patient's nutritional problem - the 'nutritional diagnosis' - and to formulate it as a PES-statement, problem-etiology-symptoms format. Little is known about the use and effect of NCPT and PES- statements in Swedish clinical practice. Therefore, our aim was to study which nutritional diagnoses were most commonly reported in patients with chronic kidney disease.

Methods

A retrospective review of 99 patient medical records from renal divisions at a hospital in central Sweden was conducted. A quantitative analysis was performed on patients' medical status and PES-statements. The records were categorized based on whether the etiologies or symptoms described were in accordance with NCPT or not.

Bioethics

The study has taken into consideration the scientific boards ethical standard for conducting research.

Results

Seven of the NCPT nutritional diagnoses were most commonly used in the health records: *excessive protein intake* (22%), *inadequate protein intake* (19%), *no nutrition diagnosis at this time* (15%), *inadequate energy intake* (11%), *food- and nutrition-related knowledge deficit* (7%) and *unintended weight loss* (4%). It was found that dietary intake-related etiologies (big/small protein servings, reduced number of meals, reduced servings) were the most common etiologies mentioned in patient notes; however, they are not represented in the NCPT reference sheet. Only 43% of the etiologies found were consistent with the NCPT reference sheet of pre-formulated etiologies. This indicates a difference between clinical practice and NCPT guidelines. On multiple occasions dietitians used a nutritional diagnosis without adhering to the symptom requirements for that diagnosis according to the NCPT guidelines. The symptom of *unintended weight loss* was used at a lower weight loss than the criteria demand. For the diagnosis *inadequate protein intake* several medical notes recorded 'protein nitrogen appearance', PNA, as a symptom, yet NCPT disregards for biochemical data for this diagnosis. Therefore these records were classified as not being in accordance with NCPT.

Discussion

This study is the first to investigate the use of nutritional diagnoses in Sweden. The majority of renal dietitians in the study used only a handful of the near 80 NCPT nutrition diagnoses. Swedish dietitians clearly took liberties with the NCPT and did not follow the reference sheets for nutritional diagnoses literally. In the NCPT diagnosis of

excessive protein intake does not include etiology related to protein-rich food. It is possible that dietitians chose to set their own etiology 'big protein servings' because that is solvable. The fact that the diagnoses *inadequate protein intake* and *unintended weight loss* do not consider the symptoms the dietitians in this study used indicates a difference between NCPT in theory and its practical application. This raises the question whether dietitians should be influenced by NCP or if the treatment method should mirror the dietitian's clinical work.

Conflicts of interest & Acknowledgements: The authors have no conflicts of interest to declare. Acknowledgements to the operations manager and dietitians at the hospital where the research took place.

Key References:

- Bueche, J., Charney, P., Pavlinac, J., Skipper, A., Thompson, E. & Myers, E. (2008a). Nutrition Care Process and Model Part I: The 2008 Update. Journal of the American Dietetic Association, 108(7),1113-1117. doi: 10.1016/j.jada.2008.04.027

- Bueche, J., Charney, P., Pavlinac, J., Skipper, A., Thompson, E. & Myers, E. (2008b).Nutrition care process part II: using the International Dietetics and Nutrition Terminology to document the nutrition care process. Journal of the American Dietetic Association, 108, 1287–1293. doi: 10.1016/j.jada.2008.06.368.

- Rossi, M., Campbell, K.L. & Ferguson, M. (2014). Implementation of the Nutrition Care Process and International Dietetics and Nutrition Terminology in a Single-Center Hemodialysis Unit: Comparing Paper vs Electronic Records. Journal of the Academy of Nutrition and Dietetics114, 124-130. doi: 10.1016/j.jand.2013.07.033

Key Words (3-5): NCP, Nutrition Care Process, NCPT, Nutrition Diagnoses, Chronic Kidney Disease, PES-Statements.

Contributors: Our supervisor Elin Lövestam participated in the planning and design of this study.

A COMPARISON BETWEEN ICF AND IDNT STANDARDIZED LANGUAGES FOR CREATING A DIETETIC DIAGNOSIS

Author(s) name: Joanne Boes, Andrea den Boeft, Ellen Lohuis

Institution/ Affiliation: HAN University of Applied Sciences

Corresponding Author(s) contact details: Joanne Boes – joanne.boes@hotmail.com; Ellen Lohuis – ellenlohuis@hotmail.nl; Andrea den Boeft – andreadenboeft@hotmail.com; Dr. Elke Naumann – e.naumann@han.nl

Introduction

The use of standardized languages is considered to be important for evidence-based dietetics, because standardized languages make it possible to evaluate the intervention of the dietitian. In this way the added value of dietitians can be proven and the quality can be improved. Differences between two standardized languages used by European dietitians were investigated: the International Classification of Functioning, Disability and Health (ICF) [1] and the International Dietetic and Nutrition Terminology (IDNT) [2]. Although European dietitians may have heard of both languages, they may not always know the differences, similarities, advantages and disadvantages between these two languages. Therefore, we have compared these two languages in this study.

Methods

To make a comparison, literature research has been done on the characteristics of the ICF and IDNT on the way the standardized languages are used by European dietitians and on the differences and similarities between both standardized languages. We mainly searched the internet for information. We searched for NCP, IDNT, and the ICF and found information on the websites of the World Health Organization (WHO), European Federation of the Associations of Dietitians (EFAD), International Confederation of Dietetic Associations (ICDA) etc. Two experts on the ICF and IDNT were interviewed. The standardized languages were also compared via a case study.

Bioethics

Not applicable.

Results

ICF can be seen as a bio-psychosocial model. ICF includes patient/client characteristics on areas like mental or physical health (e.g. unintended weight loss), activities of daily life (e.g. walking), possibilities to participate (e.g. in work), external problems (e.g. use of medication), personal characteristics (e.g. self-efficacy). These patient's characteristics are incorporated into the dietetic diagnosis. ICF originates from the WHO.

IDNT is used in relation to the NCP and describes problems in the area of diet and nutrition. Dietetic diagnosis is established with the PES statement (Problem, Etiology, Symptoms/Signs) and includes the main nutritional problem.

Both languages aim to make the work of dietitians comparable by providing a standardized language. Benefits of the IDNT are the integration of the defined terms in Systematized Nomenclature of Medicine (SNOMED), an international medical terminology system, and endorsement by the ICDA[3]. A disadvantage is that the IDNT focuses on nutrition only. ICF takes into account non-nutritional problems that affect dietetic diagnoses and treatment. Therefore, ICF is used by several health professionals and stimulates collaboration between them. A disadvantage of ICF is that it is not used as much by dietitians as IDNT, maybe because less literature is available on ICF compared with IDNT. Elaboration of a case takes more time with the ICF than with the

IDNT.

Discussion & Conclusion

Taking into account the more holistic view of the ICF and the specific use of IDNT for nutrition-related information, we might suggest that combining both languages could have the best result. It is recommended to further analyze the differences and similarities concerning the treatment and evaluation. In addition, more professionals could be interviewed in order to increase the reliability.

Conflicts of interest & Acknowledgements:

There is no conflict of interest.

Key References:

- RIVM. (2011). *Internationaleclassificaties in Nederland.* Accessed on 3rd March 2015, via http://www.rivm.nl/who-fic/in/270553004.pdf

- European Federation of Associations of Dietitians. (2012). *Report on Knowledge and Use of a Nutrition Care Process &Standardised Language by Dietitians in Europe.* Accessed on 4th March 2015, via http://www.drf.nu/wp-content/uploads/2014/08/NCP-SL-Report.pdf

- ICDA (z.d.) *Nutrition Care Process Terminology*. Accessed on 23th December 2014, via http://www.internationaldietetics.org/IDNT-Pub.aspx

Key Words (3-5)**:** IDNT, ICF, Standardized languages, Evidence-based dietetics.

SELF-MANAGEMENT TOOLS TO CONTROL FLUID INTAKE FOR HEMODIALYSIS PATIENTS, A QUALITATIVE ANALYSIS

Author(s) name: Ramona Tuss, Jessy van Boxtel, Gerda van den Berg, RD, MSc

Institution: Department of Nutrition and Dietetics, HAN University of Applied Sciences, The Netherlands

Author(s) contact details: jessyvanboxtel@gmail.com, ramona_tuss@live.nl

Introduction
For hemodialysis patients (HD-patients) it is hard to maintain the prescribed fluid restriction in order to lower their interdialytic weight gain (IDWG) and risk of heart failure. Despite low compliance, self-management seems to be a promising strategy in the reduction of IDWG. The goal of this study was to determine behavioral determinants, wishes and demands of HD-patients for a health application as a self-management tool to monitor the fluid balance.

Methods
Experiences and expectations with the fluid restriction and wishes and demands to manage it were determined by a survey in 99 hemodialysis patients (31 patients in Rijnstate Hospital and 68 patients in Gelderse Vallei Hospital in the Netherlands). A semi-structured interview with 12 hemodialysis patients (6 in Rijnstate Hospital and 6 in Gelderse Vallei Hospital) was conducted to clarify these determinants. The participants were interviewed until data saturation was reached.

Results
Nearly every interviewed HD-patient was experiencing difficulties regarding the fluid restriction. A fluid restriction was hard to maintain due to patient's need to adapt their lifestyle and the loss of their independency. The majority of the patients experienced a lot of complaints regarding the excess of fluids in their body and fluid withdrawal during dialysis, e.g. hypotension, convulsions, edema and dyspnea. However, less HD-patients struggled with their fluid restriction than assumed by hospital staff. Most of the patients seem to have accepted their disease and got used to the fluid restriction. Sixty two % of the HD-patients believed that a health application to monitor the fluid restriction would not contribute to increased compliance. Thirteen % of the patients were positive about an application as a self-management tool and would like the application to be developed, while 65% were negative because they do not feel the need to use it.

Conclusion
Behavioral determinants like predisposition, motivation and consciousness play a role in compliance to the fluid restriction in HD-patients. There is not yet much need for a health application as a self-management tool to help patients to monitor the fluid balance and lower the IDWG.

Conflicts of interest & Acknowledgements
The authors declare no conflicts of interest.

Key references

- Denhaerynck, K. et al (2007). Prevalence and consequences of nonadherence to hemodialysis regimens. *American journal of critical care, 16,* 222-235

- Dewettinck, I. (2001). Leven met vochtbeperking: Een moeilijke opdracht. *Tijdschrift voor verpleegkundigen, 18, 675-680.*

- Griva, K, Ng, H.J., Loei, J., Mooppil, N., McBain, H., & Newman, S.P. (2012). *Managing treatment for end-stage renal disease – A qualitative study exploring cultural perspectives on facilitators and barriers to treatment adherence,* Psychology & Health Vol. 28, No. 1 January 2013, 13-29

- Koornstra, L. (2009). Vochtbeperking als dwangmiddel, Geraadpleegd op 2 oktober 2014, van: http://www.supervisionair.nl/wp-content/uploads/VOCHTBEPERKING-ALS-DWANGBEVEL.pdf

- Leggat, J.E. et al (1998). Noncompliance in hemodialysis: predictors and survival analysis. *American journal of kidney diseases: the official journal of national kidney foundation, 32 (1),* 139-145.

- Luderer, S. &Empel, A. van (2013). Interdialytic Weight Gain; Dietisten Nierziekten Nederland. Geraadpleegd op 25 september 2014, van http://www.dietistennierziekten.nl/images/protocollen/201303/IDWG.pdf

- Sinclair, P.M., & Parker, V. (2009). *Pictures and Perspectives: A unique reflection on Interdialytic Weight Gain,*AmericanNeprhology Nurses Association: Nephrology Nursing Journal, 36(6), 589-597

- Smith, K., Coston, M., Glock, K., Wallston, K.A., Elasy T.A., Alp-Ikizler, T.A., Cavanaugh, K.L (2009). Patient Perspectives on fluid management in chronic hemodialysis, National Kidney Foundation; RenNutr, 2010 September ; 20(5): 334-341

- Tovazzi, M.E. &Mazzoni, V. (2012). *Personal Paths of fluid restriction in patients on hemodialysis.* American Nephrology Nurses Association: Nephrology Nursing Journal, 39(3), 207-215

Key words: h(a)emodialysis; fluid restriction; volume overload; compliance; behavioral determinants; self-management

Contributions:

1. Hans Brandts, dietician Rijnstate hospital, Arnhem, The Netherlands
2. Inez Jans, dietitian Gelderse Valleihospital, Ede, The Netherlands
3. Gerda van den Berg, supervisor HAN University of Applies Sciences, Nijmegen, The Netherlands

SYSTEMATIC TYPE REVIEW OF PROSPECTIVE STUDIES ON DAIRY CONSUMPTION AND BREAST CANCER RISK IN WOMEN

Author(s) name: Chloe Bean

Institution: Department of Nutrition and Dietetics, London Metropolitan University, London, United Kingdom.

Author(s) contact details: chb0683@my.londonmet.ac.uk

Introduction
Breast cancer (BC) is the most commonly diagnosed cancer among women and there is a need to identify modifiable risk factors to reduce BC incidence. Epidemiological studies suggest that specific foods and nutrients, including dairy products, could influence BC risk. Milk and dairy products are a diverse food group and some varieties have a relatively high saturated fat content, which may increase BC risk. In contrast, some dairy constituents, such as calcium and conjugated linoleic acid (CLA), have been hypothesised to decrease BC risk. The aim of this study was to systematically review the literature and update evidence presented in the World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) Continuous Update Project (CUP) 2010 report, concerning the association between dairy product and constituent intakes and BC risk, focusing primarily on prospective studies.

Aim and objectives
Literature searches were conducted in four electronic databases, supplemented by hand searches, for articles published between June 2008 and November 2013. Studies that collected dietary information prospectively in women aged ≥19 years, with no previous diagnosis of cancer (other than non-melanoma skin cancer) were included. Data of included studies were extracted using a standardised evidence table and methodological qualities were critically appraised.

Methods
Systematic literature searches were conducted using four electronic databases (PubMed, Web of Knowledge, Science Direct and The Cochrane Library) to identify relevant research published between June 2008 and November 2013. Retrieved articles were checked for relevance using predetermined eligibility criteria. Only cohort, case-cohort and nested case-control studies in which data on dairy intake was collected prospectively, before BC occurrence were included to avoid recall bias. The references of studies that fulfilled eligibility criteria were hand searched to identify further relevant studies.

Bioethics
This dissertation was approved by the Research Ethics Review Panel of the Faculty of Life Sciences, London Metropolitan University, London, United Kingdom in December 2013.

Results

Ten prospective studies from various countries across three continents met eligibility criteria and were included in the present review. One cohort study of the European Prospective Investigation into Cancer and Nutrition (EPIC) project observed that butter intake was associated with a statistically significant increased risk of BC in postmenopausal women when comparing intakes 12.6 with 0 g/day (RR=1.28, 95% CI=1.06-1.53). In addition, two separate cohort studies conducted in Sweden and Norway observed that total dairy products (TDP) and white cheese intakes respectively, were associated with statistically significant decreased risk of BC in both premenopausal (RR= 0.93, 95% CI= 0.86-0.99 with 290 g/day increments of TDP and RR= 0.50, 95% CI= 0.29-0.87 comparing ≥25.3 with <6.0 g/day of white cheese) and postmenopausal women (RR= 0.89, 95% CI= 0.80-0.98 with 290 g/day increments of TDP and RR= 0.81, 95% CI= 0.66-0.99 comparing ≥25.3 with <6.0 g/day of white cheese). No statistically significant associations were observed between intakes of milk, other cheeses, yogurt, butter, ice cream, calcium, CLA and fat (from milk) and risk of BC.

Discussion

Overall, these findings are limited and not consistent enough to support the hypothesis that consumption of dairy products during adulthood is associated with BC risk in women. This conclusion is in line with findings from the most recent WCRF/AICR CUP 2010 report. Additional large prospective studies are required to clarify the role of overall dairy intake and specific types of dairy products and constituents on BC risk.

Conflicts of interest & Acknowledgements

The author declares no conflicts of interest. The author acknowledges Elaine Mealey (RD), academic supervisor, for her guidance and support.

Key References:

- WHO. (2012). GLOBOCAN 2012: Breast Cancer Estimated Incidence, Mortality and Prevalence Worldwide in 2012. Available at: http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx
- WCRF/AICR. (2007). Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective. Washington DC: AICR, 2007.
- WCRF/AICR. (2010). WCRF/AICR Systematic Literature Review Continuous Update Report: The associations between food, nutrition, physical activity, and the risk of Breast Cancer. Available at: http://www.dietandcancerreport.org/cancer_resource_center/downloads/cu/Breast-Cancer-SLR-2008.pdf

Key Words (3-5)**:** Systematic literature review; Breast cancer; Risk; Dairy

DETECTION OF NUTRITIONAL RISK WITHIN SURGICAL WARDS OF PEDIATRIC HOSPITALS

Author(s) name: Toilou M, Cheirakaki O, Chatzoglou A, Vasileiadi E, Kontogianni M.

Institution/ Affiliation: Department of Nutrition and Dietetics, School of Health Science and Education, Harokopio University, Athens, Greece.

Author(s) contact details: mtoilou93@gmail.com

Introduction

Disease-related malnutrition is common in pediatric patients, making it a major problem that can affect the physical condition of hospitalised children in surgical wards, their clinical outcomes, and the health care system. Although nutritional risk screening has been proposed as a valuable process for all hospitalised patients, it is still not part of everyday practice. Therefore, the aim of the present study is to estimate the prevalence of the increased nutritional risk in a random sample of children, who were hospitalised in the surgical wards of two large Children's Hospitals based in Athens. This will be achieved through the application of two nutritional risk-screening tools.

Methods

The study sample was random and consisted of 567 children, aged 1-16 years old, who were hospitalised in the surgical wards of Athens Children's Hospitals "Aghia Sophia" and "Panagiotis and Aglaia Kyriakou " from February 5th 2014 to 30th May 2015. Three dietetic students performed the nutritional screening process within 24h of hospital admission. Two screening tools were used (i.e. PYMS & STAMP) and were completed in two different ways. By either using BMI calculated according to the Hellenic Growth Charts (HGC) (PYMS-HGC, STAMP-HGC) or according to the World Health Organization's standards for children's growth (PYMS-WHO, STAMP-WHO). Children's classification within nutritional risk categories according to the tool used were then compared with the dietitians' clinical judgment and positive (PPV) and negative (NPV) predictive values were assessed. SPSS 21.0 for Windows was used to analyse the results.

Bioethics

The procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation and with the Helsinki Declaration, as revised in 1983. The Research Committee of the Scientific Council within the two participating hospitals also approved them. The patients and their parents were informed and gave their consent for participating in the study.

Results

In total 567 children were screened (58% boys) and the median age of the sample was 8 (3.75,11.5) years old. The percentage of children classified at high nutritional risk was 16.2% for PYMS-HGC, 12.2% for PYMS-WHO, 10.2% for STAMP-HGC and 12% for STAMP-WHO. Based on the dietitians' clinical judgment the PPV of PYMS-HGC was

52%, PYMS-WHO was 58.7%, STAMP-HGC was 48.6% and STAMP-WHO 55%, whereas the corresponding NPV were 97.6%, 97.7%, 94% and 69.9% respectively.

Discussion & Conclusion

According to the results of this research, using a random sample of 567 pediatric patients in surgical wards, the prevalence of high nutritional risk was between10-16% depending on the tool used. Furthermore, PYMS tool based on the WHO growth charts had the best agreement with dietitians' clinical judgment. According to our results, 1 out of 10 pediatric patients in the surgical wards were at high nutritional risk and therefore should be referred to a dietitian for a complete nutritional assessment. This finding confirms the need for a nutritional screening process to be implemented as part of the routine procedure during hospital admission.

Conflicts of interest & Acknowledgements

Special acknowledgements to the dietitians Koulieri A., Zerva O. and Katsagoni C who performed the clinical assessments.

Key References:

- Joosten KF, Hulst JM. Malnutrition in pediatric hospital patients: current issues. Nutrition 2011;27:133-7.
- Gerasimidis K, Macleod I, Maclean A, et al. Performance of the novel Paediatric Yorkhill Malnutrition Score (PYMS) in hospital practice. Clin Nutr 2011;30:430-5.
- McCarthy H, Dixon M, Crabtree I, Eaton-Evans MJ, McNulty H. The development and evaluation of the Screening Tool for the Assessment of Malnutrition in Paediatrics (STAMP(c)) for use by healthcare staff. J Hum Nutr Diet 2012;25:311-8.

Key Words (3-5)**:** Hospital malnutrition, Nutrition Risk Screening, Pediatric nutritional screening tools, surgical wards

THE ECONOMIC BURDEN OF A GLUTEN-FREE DIET

Author(s) name: Stamatina Panagiotou, Meropi Kontogianni

Institution/ Affiliation: Department of Nutrition & Dietetics, Harokopio University, Athens, Greece

Author(s) contact details: tinapanagiotou21@gmail.com

Introduction

Coeliac disease is a common autoimmune disease for which the only treatment is a lifelong adherence to a gluten-free diet. Patients with coeliac disease encounter several difficulties in implementing dietary changes, including the cost of the diet. The purpose of the present study was to compare the cost of gluten-free products (GFP) from supermarkets and pharmacies to the cost of similar conventional food products.

Methods

The prices of all the products labeled as “gluten-free” available at four supermarket chains in Athens, as well as the prices of similar conventional food products were collected between November 2014 and April 2015. The specific supermarket chains were selected due to their large branch network therefore making it easier for patients to access them and due to the large variety of GFP that they merchandise. The sampled food items were savory pastries, cereals, flours and pasta, meat and meat products, sweets and other food items. The prices of all the GFP available in pharmacies were recorded as well- as referred in the official list of the National Health Service Organisation. For every product the price per 100g was extracted. All products were classified into 38 categories. For each category the median of the prices per 100g was calculated, both for conventional products and for GFP available at supermarkets, as well as for the pharmacy GFP. The three medians of each category were compared in pairs conducting Mann-Whitney U test in the statistical analysis package SPSS, version 18.0.

Results

All supermarket GFP, except for three (quinoa, sliced pork shoulder, pasta sauce), were 36-334% (all $p<0,05$) more expensive when compared to conventional food products. Regarding the pharmacy GFP, all were more expensive compared to conventional products by 36-476% (all $p<0,05$). When prices of the GFP available at supermarkets were compared to the prices of the similar products available at pharmacies, all products, excluding three types (crackers, tortillas, pizza base) were more expensive at the pharmacy by 3-92%. However this difference reached statistical significance only for three of the products (ranging 33-92%) (all $p= <0,05$).

Discussion & Conclusion

The present study demonstrates the higher cost of the GFP available in the Greek market, compared to the conventional food products, which leads to increased nutritional costs for patients with coeliac disease. These findings are consistent with the results reported by Singh J et al. (2011) in a British study, showing that GFP cost 2-518% more than conventional food products and further supports the results of a

previous Canadian study (Stevens et al. 2008), which reported that this percentage may range up to 1000%. Furthermore, the present study demonstrates that the GFP available in pharmacies are generally more expensive than those available in supermarkets. This should be taken into account since National Health Service Organisation reimburses a given amount on a monthly basis only for GFP that are purchased from pharmacies.

Conflicts of interest & Acknowledgements:
The authors declare that they have no conflicts of interest. This research received no specific grant from any funding agency in the public, commercial or non-for-profit sectors.

Key References:

- Lee AR, Ng DL, Zivin J, Green PH: Economic burden of a gluten-free diet. J Hum Nutr Diet 2007, 20(5):423-430.

- Singh J, Whelan K: Limited availability and higher cost of gluten-free foods. J Hum Nutr Diet 2011, 24(5):479-486.

- Stevens L, Rashid M: Gluten-free and regular foods: a cost comparison. Can J Diet Pract Res 2008, 69(3):147-150.

Key Words (3-5)**:**
Gluten-free diet; cost; economic burden; gluten-free products; celiac disease

RESEARCH ON POLICY DEVELOPMENTS AND EFFECTIVE MEASURES DIRECTED TOWARDS REDUCTION OF NUTRITION RELATED NON-COMMUNICABLE DISEASES IN THE COMMONWEALTH OF INDEPENDENT STATES

Author(s) name: Veronika Polozkova, Geert van Etten, Liezel Wolmarans

Institution/ Affiliation: Royal Tropical Institute (KIT), Amsterdam the Netherlands

Author(s) contact details: v.polozkova@outlook.com

Introduction

Current high prevalence of non-communicable diseases (NCD) in the Commonwealth of Independent States (CIS) is rising further. This causes an associated socio-economic burden, from premature mortality as well as disability due to an increase in cumulative costs of health care and productivity loss. Deaths from NCDs are largely preventable by enabling health systems to respond more effectively in targeting risk factors and by formulating policy interventions that have shown to be effective in NCD risk reduction.

Methods

Our research aimed to outline a nutrition policy framework for the CIS that targets NCD reduction. We have searched for global, regional and national policy recommendations; measured prevalence of nutrition related risk factors in the CIS; studied literature for existing (cost) effective and evidence-based policy measures; researched availability of those measures in the CIS policies; and outlined a framework that should guide nutrition policy development by CIS governments.

Results

Global, regional and national governments have indicated the need for NCD reduction with dietary measures. Some progress has already been made in identifying effective policy interventions and provision of recommendations. The search for international recommendations on development of nutrition policies showed that progress is made in provision of policy guidelines and indication of nutritional risk factors: salt, sugar, fat, fruit and vegetable intake level, breastfeeding prevalence and marketing pressure. Country data research found that the CIS should improve surveillance on fat consumption and childhood obesity and continue to monitor other risk factors. The literature search indicated that salt, fat and sugar reduction, through health promotion and education interventions, seem to be the most (cost) effective for the low and middle income countries, as well as fiscal policy measures. The policy documents search showed availability of nutrition policy measures in the CIS. Progress is observed in development of integrated national policies that target NCD reduction with nutritional measures. However, assessed policies showed limited inclusion of the indicated risk factors. Based on these findings we have provided a framework that should guide the CIS governments in identification of prioritised measures and in nutrition policy formulation.

Discussion & Conclusion

Evidence shows progress in development of international policy recommendations that target nutritional risk factors and progress in researching cost-effective measures. The CIS committed to implement this knowledge, however limited evidence was found on availability of policies that encounter all relevant risk factors.

Key References:

- WHO 2009 Interventions on diet and physical activity: what works, evidence tables, World Health Organization.
- WHO 2013 Global Action Plan for the prevention and control of non-communicable diseases 2013-2020.
- WHO 2014 Prevention and control of non-communicable diseases in the European Region: a progress report. World Health Organization.
- WHO 2014 Global status report on non-communicable diseases, attaining the nine global non-communicable diseases targets; a shared responsibility. World Health organization

Key Words (3-5)**:** policy, nutrition, diet, Commonwealth of Independent States (CIS), non-communicable diseases (NCD's).