9th International Conference of the Cyprus Dietetic & Nutrition Association
1-4 December, 2016 at Hilton Cyprus Hotel, Nicosia
Theme: “Novelties in Nutrition and Dietetics”

9th Cyprus Dietetic and Nutrition Association
International Conference with CySPEN Participation
Theme: “Novelties in Nutrition and Dietetics”

1-4 December 2016
(December 1st, Thursday, Open for the Public)
Hilton Cyprus Hotel
Nicosia, Cyprus

Organized by:

With the Participation of:

Under the auspices of:

CyDNA Food and Nutrition Conference & Exhibition
The Scientific Programme Offers 31 CPE

First Published 2016
ISBN 978-9963-9876-4-1
Dear dietitian, nutritionist and other health professional, colleagues,

The 9th Cyprus Dietetic and Nutrition Association (CyDNA) Conference with the title “Novelties in Nutrition and Dietetics – Καινοτομίες στην Διατροφή & Διατροφολογία” is taking place in Nicosia from the 1-4/12/2016. The participation of dietitians and nutritionists, other health professionals and students from the field of dietetics is a reality. It is indeed a great educational, scientific and varied meeting with a boundless possibility of interchange professional experiences and networking among dietitians from Cyprus and abroad.

Many great scientists had talked about nutrition and its development is continuous as part of our life as part of our health. Let me quote two of the pioneers of nutrition Hippocrates and Antoine Lavoisier.

Hippocrates (Greece, ca460BC - ca370BC), one nutrient theory - according to Hippocrates everybody is the same, no matter what they have been eating, or where they have lived. He concluded that every food must contain one nutrient which makes us the way we are. This one-nutrient myth continued for thousands of years. Hippocrates is also famous for having said “Let thy food be thy medicine and thy medicine be thy food.”

Antoine Lavoisier (France, 1743-1794) - became known as the father of chemistry and also the father of nutrition. He became famous for the statement “Life is a chemical process”. He also designed the “calorimeter”, a device which measured heat produced by the body from work and consumption from different amounts and types of foods.

The history of nutrition and dietetics did not stop there, the followers of these sciences need to continue to educate and inform ourselves about the novelties of nutrition and dietetics and this is the main goal of this conference.

The conference committee has worked hard and it is our pleasure to provide a program and resources that enable you as a professional and assist the leaders of these professionals to better patient/client outcomes. Being involved in nutrition sciences and dietetics, this is a distinctive opportunity to join your colleagues including the most prestigious speakers. It should be an excellent forum for exchanging ideas and experiences with your colleagues from Cyprus and worldwide. Our mission is to develop and extend knowledge of Nutrition and Dietetics of health professionals through fundamental, multidisciplinary, and clinical research; facilitate contact among investigators in nutrition, dietetics, and related fields of interest; support the dissemination and application of nutrition science to improve public health and clinical practice worldwide; promote graduate education and training in dietetics and nutrition; provide reliable nutrition information to those who need it, and advocate for nutrition research and its application to development and implementation of policies and practices related to nutrition.

The CyDNA supports its members and fulfills its goal by fostering and reinforcing research in human nutrition; providing opportunities for sharing, disseminating, and archiving peer-
reviewed nutrition research results; fostering quality education and training in nutrition; upholding standards for ethical behavior in practice and research, the protection of humans through sound nutrition practice, and the care and treatment of people needing nutrition intervention; providing opportunities for support among dietitians and nutritionists; and bringing scientific knowledge to bear on nutrition issues through communication and influence in the public and health domain.

The CyDNA as a great supporter of the continuing education managed for this to offer 31 CPE hours.

This 4 day conference including the open for the public event, the LLL’s from CySPEN and product exhibition covers subjects by an international and local faculty of experts.

On behalf of the organizing committee, I would like to express our gratitude to all of our sponsors and supporters for making this conference possible and the concurrent food & products exhibition.

We are looking forward to seeing you at the conference with a promise to find it educational, motivating, with a prodigious chance to network with other health professionals.

Dr Eleni P Andreou-Georgaki, RDN, DProf
Conference Chair
President of CyDNA
### Conference Committee

**Chair of Organizing Committee:**
Andreou Eleni

**Members of Organizing Committee:**
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- Kakouri Stella
- Kalli Procopis (Treasurer)
- Kountouri Stalo
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- Pangou Stefanie
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- Tsokkou Panayiota

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- Kountouri Stalo
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CyDNA is a member of EFAD and ICDA
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<th>A/A</th>
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<td>Agathangelou Petros, MD, Cardiologist, President of the Cyprus Medical Association</td>
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<td>2</td>
<td>Andreou Eleni, RDN, LD, DProf., FHEA, Clinical Dietitian, Assistant Professor - University of Nicosia, Nutrition/ Dietetics Coordinator University of Nicosia, President Cyprus Dietetic and Nutrition Association, President CySPEN, President MAZI, Vice President Cyprus Registration Board for Food Scientists, Food Technologists and Dietitians</td>
<td>Cyprus</td>
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<tr>
<td>3</td>
<td>Argyrides Lambros, Operations Manager, Laiko Manufacturing and Trading Ltd, Technological Education Institute of Thessaloniki, Department of Food Technology</td>
<td>Cyprus</td>
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<td>4</td>
<td>Avraam Thalia, PGDipl, BSc, RD, Chemistry, Clinical Dietitian at Nicosia General Hospital</td>
<td>Cyprus</td>
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<td>5</td>
<td>Benardot Dan, PhD, DHC, RD, LD, FACSM, Professor, Department of Nutrition, Professor, Department of Kinesiology and Health, Director, Laboratory for Elite Athlete Performance, Georgia State University, Nutritionist, The Atlanta Falcons football team, Atlanta, Georgia</td>
<td>USA</td>
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<tr>
<td>6</td>
<td>Chappa Georgia, BSc, RD, Postgraduate training in Child and Adolescent Eating Disorders, Certified Trainer on Insulin Pump Therapy, Clinical Paediatric Dietitian</td>
<td>Cyprus</td>
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<td>7</td>
<td>Christofidou Anastasiadou Violetta, MD, PhD, Head Clinical Genetics Department The Cyprus Institute of Neurology and Genetics and Archbishop Makarios III Hospital Nicosia</td>
<td>Cyprus</td>
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<td>8</td>
<td>De Looy Anne, BSc(Hons), PhD, PGDipl, RD, FBDA, FFAIN Professor of Dietetics School of Health Professions, Faculty of Health, Education and Society, University of Plymouth, Hon President European Federation of the Associations of Dietitians (EFAD)</td>
<td>United Kingdom</td>
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<td>9</td>
<td>Deltas Constantinos, PharmR, PhD, Professor of Genetics, University of Cyprus</td>
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<td>10</td>
<td>Dimosthenopoulos Haris, BSc, MMEdSci Human nutrition, PGDiet Dietetics, PhD, Chief Dietitian, General Hospital &quot;Laiko&quot;</td>
<td>Greece</td>
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<td>11</td>
<td>Escott-Stump Sylvia, MA, RDN, LDN, FAND, Director, Dietetic Internship, East Carolina University</td>
<td>USA</td>
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<td>Georgiou George, BA(Hons), MA, Lecturer in Culinary Education, University of Nicosia / Intercollege</td>
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<td>13</td>
<td>Glenville Marilyn, PhD, Senior Nutritionist, Glenville Nutrition Clinic, Harley Street London, Former President of the Food and Health Forum, Royal Society of Medicine (sponsored by Kypropharm)</td>
<td>United Kingdom</td>
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<td>14</td>
<td>Hadjiluca Phroso, M.Sc, Ph.D, President of Cyprus Registration Board for Food Scientists, Technologists and Dietitians, Food Scientist, Lead Auditor ISO22000, Visiting Lecturer at University of Nicosia</td>
<td>Cyprus</td>
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<td>15</td>
<td>Hadjieluca Ellie, BSc, MSc, PGDip, Nutrition Scientist, Health &amp; Nutrition</td>
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<td>16</td>
<td>Hartoutsios George, BSc, MSc, MBA, Medical and Public Health Officer, Ministry of Health Cyprus</td>
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<td>17</td>
<td>Ioannou Elina, MSc, RD, Clinical Dietitian, Public Health Nutritionist, Limassol &amp; Paphos General Hospitals, CySPEN Secretary</td>
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<td>18</td>
<td>Herodotou Herodotos, Cyprus Ministry of Health, Health Services</td>
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<td>19</td>
<td>Kakouri Eleni, Scientific Advisor of the Cyprus Consumers Association, Member of the Management Board of the Board of the Cyprus Accreditation Body and of the Pancyprian Union of Chemists</td>
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<td>20</td>
<td>Kyriakou Katie, Ms, RD, Clinical Dietitian, Managing Director, S&amp;K Nutrilicious, President of Pancyprian Association for Rare Genetic Disorders, Unique Smiles</td>
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<td>21</td>
<td>Lavranos Yiannos, MD, PHD, MA, Professor in Internal Medicine and Public Health, EUC</td>
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<td>22</td>
<td>Manios Ioannis, M.Med.Sc., M.Phil, Ph.D, Associate Professor, Department of Nutrition &amp; Diets, School of Health Science and Education, Harokopio University (Sponsored by European University of Cyprus)</td>
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<td>23</td>
<td>McCarthy Helen, BSc (Hons), PhD, PgCHEP, RD (UK), Senior Lecturer (Dietetics and Nutrition), College of Health and Biomedicine, Victoria University, Melbourne</td>
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<td>24</td>
<td>McClinchy Jane, BSc, MSc, RD, Principal Lecturer Dietetics, University of Hertfordshire</td>
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<td>25</td>
<td>Meier Remy, MD, GI, Hepatology and Nutrition Specialist, Gastroenterology Center Obach</td>
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<td>26</td>
<td>Nikolaidou-Kanari Popi, Director State General Laboratory, Ministry of Health</td>
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<td>Pamporides George, PhD, Minister of Health of the Republic of Cyprus</td>
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<td>28</td>
<td>Papandreou Dimitrios, PhD, EDM, MS, RDN, Assistant Dean for Research and Associate Professor in Nutrition &amp; Dietetics, Zayed University, Abu Dhabi</td>
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<td>29</td>
<td>Philippou Christiana, MSc, RD, DProf Clinical Dietitian and Sports Nutritionist, Ministry of Education, Lecturer of European University Cyprus, Vice President of CyDNA, Treasurer CySPEN</td>
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<tr>
<td>30</td>
<td>Philpot Ursula, MSc, RD, HEA Fellow, Course Leader Pg Cert Eating Disorders/Advanced Practice Dietitian Nutrition and Dietetics, School of Clinical and Applied Sciences, Faculty of Health and Social Sciences (sponsored by MAZI)</td>
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<td>31</td>
<td>Pipis Hristodoulos, Veterinary Services-Deputy Director</td>
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<td>32</td>
<td>Rossi Megan, Research Associate and Gut Health Consultant Dietitian, King’s College London</td>
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<td>33</td>
<td>Vartanian Carla, CNSC, MS, LD, Public Relation Chair- American Overseas Dietetic Association, Nutrition &amp; Health Spokesperson-OTV Lebanon, Consultant Clinical Nutrition, Dietetics and Metabolism</td>
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<td>34</td>
<td>Yamasaki – Patrikiou Edna, MD, PhD, Professor, Vice- Rector University of Nicosia, Vice President CySPEN</td>
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<td>35</td>
<td>Zampelas Antonis, Professor of Human Nutrition, President of Department of Food Science and Technology, Agricultural University of Athens (Sponsored by University of Nicosia, Cyprus)</td>
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9th International Conference of the Cyprus Dietetic & Nutrition Association
1-4 December, 2016 at Hilton Cyprus Hotel, Nicosia
Theme: “Novelties in Nutrition and Dietetics”.

Program at a Glance

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<td>Registrations</td>
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<tr>
<td>18:30 - 20:30</td>
<td>Panel Open for the Public (Session in Greek)</td>
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<td><strong>FRIDAY 2 December 2016</strong></td>
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<td>07:30 - 08:30</td>
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<td>09:30 - 10:30</td>
<td><strong>Panel 2: Paediatric Rare Disorders</strong> (in Coordination with the Association of Unique Smiles)</td>
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<td>10:30 - 11:30</td>
<td><strong>Opening Ceremony / Opening of the Exhibition</strong></td>
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<td>11:30 - 12:00</td>
<td><strong>Coffee Break</strong></td>
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<td>12:00 - 13:00</td>
<td><strong>Keynote Speech: Harnessing Technological Innovations for Personalizing Nutrition Interventions</strong></td>
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<td>13:00 - 14:00</td>
<td><strong>Break</strong></td>
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<td>14:00 - 16:00</td>
<td><strong>Panel 3: The Role of Dietitian in Different Settings and within Healthcare Team</strong></td>
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<td>16:00 - 17:00</td>
<td><strong>Panel 4: Innovative in Nutrition Diabetes Management</strong></td>
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<td>17:00 - 17:30</td>
<td><strong>Coffee Break</strong></td>
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<td>17:30 - 18:30</td>
<td>Fetal Origins of Adult Chronic Disease</td>
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<td>18:30 - 19:30</td>
<td><strong>Panel 5: Newer Data and Considerations In Gastrointestinal Diseases</strong></td>
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<td>20:30</td>
<td><strong>Cyprus Night: Is Igia - &quot;Eis Yria&quot; - To Your Health! / Cocktail</strong></td>
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<td><strong>SATURDAY 3 December 2016</strong></td>
<td>Registrations</td>
<td>Ballroom B&amp;C</td>
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<td>08:00</td>
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<tr>
<td>08:00 - 09:00</td>
<td><strong>Panel 6: Matters of Exercise and Body Weight</strong></td>
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<td>09:00 - 10:00</td>
<td><strong>Panel 7: Obesity: a Great Worry</strong></td>
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<td>10:00 - 10:30</td>
<td><strong>Panel 8: Aging, Long-Term Care, End of Life</strong></td>
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<td>10:30 - 11:00</td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>11:00 - 12:00</td>
<td><strong>Panel 9: The New Data in Pediatrics and Maternal Nutrition</strong></td>
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<td>12:00 - 13:00</td>
<td><strong>Panel 10: Before, During and After Pregnancy</strong></td>
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<td>13:00 - 13:45</td>
<td>Presentations by Companies</td>
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<td>13:45 - 14:30</td>
<td><strong>Break</strong></td>
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<td>14:30 - 15:30</td>
<td>Food Demonstration - Cooking Very Low Protein Recipes for Renal Patients</td>
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<td>15:30 - 16:30</td>
<td><strong>Panel 11: Renal Diseases</strong></td>
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### 9th International Conference of the Cyprus Dietetic & Nutrition Association

**1-4 December, 2016 at Hilton Cyprus Hotel, Nicosia**

Theme: “Novelties in Nutrition and Dietetics”.

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<td><strong>Coffee Break</strong></td>
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<td>17:00 - 18:30</td>
<td><strong>Workshop: Marsipan: Management of Really Sick Patients with Anorexia Nervosa</strong></td>
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<td><strong>Panel 12: Novel / Innovative of Food Science and Technology</strong></td>
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<td><strong>Poster Session / Announcements / Oral Presentations</strong></td>
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<td><strong>Gala Dinner</strong></td>
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**SUNDAY 4 December 2016**

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<td>08:00 - 08:30</td>
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<td>08:30 - 10:30</td>
<td><strong>Panel 13: Evidence Based Topics in Nutrition and Dietetics</strong></td>
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<td>**Coffee Break</td>
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<td>11:00 - 15:00</td>
<td><strong>LLL - Topic 12: Nutritional Support in the GI Disease</strong></td>
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<td>15:00 - 15:15</td>
<td><strong>Coffee Break and Sandwiches</strong></td>
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<td>15:15 - 19:15</td>
<td><strong>LLL - Topic 23: Nutrition in Obesity</strong></td>
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<td>19:15 - 19:30</td>
<td><strong>CLOSING SESSION</strong></td>
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ABSTRACTS
Dietitian as an Entrepreneur and in the Private Sector (Part of Panel: The Role of Dietitian in Different Settings and within Healthcare Team)

Objectives

1. Explain the meaning of Nutrition/Dietetic Entrepreneurship
2. Present and suggest ways of successful Nutripreneurship
3. Identify and reinforce the role of dietitian in private practice

Description (Focus Statement)

Nutripreneurship (NE) is the practice and process that results in creativity, innovation, development and growth of nutrition businesses. Nutripreneurs are nutritionists and dietitians innovators who use a process of changing the current situation of the existing products and services, to set up new products and new services. The qualities of an entrepreneur/ nutripreneur are: Opportunity-seeking, Persevering, Risk Taking, Demanding for efficiency and quality, Information-seeking, Goal setting, Planning, Persuasion and networking, Building self-confidence, Listening to others, Demonstrating leadership.

Learning Outcomes Assessment

- Participants will be able to establish the various paths of Nutripreneurship and private practice and to utilize their principles for leadership, professional development and a successful dietetic practice.

Abstract

The word “Entrepreneurship” is derived from the French verb entreprendre which means “to undertake”. Entrepreneurship (Youth Entrepreneurship Manual, 2009, 2013) is the process of starting a business or other organization. The entrepreneur develops a business plan, acquires the human and other required resources, and is fully responsible for its success or failure. The capacity and willingness to develop organize and manage a business venture along with any of its risks in order to make a profit. Intrapreneurship is a relatively recent concept that focuses on employees of a business that have many of the attributes of entrepreneurs. An intrapreneur is someone within a business that takes risks in an effort to solve a given
problem. Nutripreneurship (NE) is the practice and process that results in creativity, innovation, development and growth of nutrition businesses. Nutripreneurs are nutritionists and dietitians innovators who use a process of changing the current situation of the existing products and services, to set up new products and new services. The qualities of an entrepreneur/ nutripreneur are: Opportunity-seeking, Persevering, Risk Taking, Demanding for efficiency and quality, Information-seeking, Goal setting, Planning, Persuasion and networking, Building self-confidence, Listening to others, Demonstrating leadership.

Successful dietetic program graduates must have an entrepreneurial mindset and skills to respond to environmental changes and consumer trends. Those with entrepreneurial intent and/or action identified creativity, dietetic education/internship, persistence, business skills, and family/friend support as helping factors. These results suggest that undergraduate, internship, and continuing education programs for dietitians should incorporate activities that develop entrepreneurial skills and contribute toward an entrepreneurial mindset (Mann L, 2007).

In recent times, rapid changes in various aspects of health care have substantiated profiting from sciences such as economic, management, psychology unavoidable. Based on this, the field of “entrepreneurship” and its common axis “Opportunity Recognition” embraces all of the aforementioned sciences as a common denominator and important focal point when applied to health care systems. In fact, entrepreneurship has a main role in meeting patients’ needs and improving quality in these systems. Based on the described situation, dietitians, as a part of health care system, also need the practical use of concepts of “Entrepreneurial Opportunity Recognition” in order to respond to the demand of their customers and also to access better paying jobs. The increasing prevalence of chronic diseases such as diabetes and also people’s tendency toward using diet therapy for these diseases, has led to increase entrepreneurial opportunities in the field of nutrition counseling services in the world, tremendously (King, 2009).


The majority of registered dietitian, nutritionists work in the treatment and prevention of disease — administering medical nutrition therapy as part of medical teams — often in hospitals, HMOs, private practice or other health care facilities. In addition, a large number dietitians and nutritionists work in community and public health settings and academia and research. However, a growing number of the professionals at issue work with food and nutrition industries and business, journalism, sports nutrition, corporate wellness programs, private practice, nursing homes and other non-traditional work settings.
Private Practice in Dietetics covers a broad spectrum “of being your own boss”. Working under contract with health care or food companies or in their own business, dietitians/ nutritionists may provide services to foodservice or restaurant managers, food vendors and distributors or athletes, nursing home residents or company employees.

For many entrepreneurs, the pros of owning their own business far outweigh the cons. They have more flexibility in setting their own hours. They can schedule patients around family commitments. And their potential earnings are great because private practitioners can make much more money than employees who work for others, although this requires plenty of hard work. The downside of self-employment can be the isolation with less professional interaction or networking. They can overcome this by joining the professional associations, network at professional meetings, and join online communities. Another drawback is that business owners wear many hats, shoulder all the responsibilities, and take the blame whenever something goes wrong. It’s also important to note that counseling patients will be only one aspect of the job and that some financial uncertainty is to be expected. Income can be erratic, particularly when you’re first starting out. Lack of benefits can be an issue, and even in case of illness or maternity leave or vacation, the professional is temporarily without an income (Mitchell F, 2012).

Concluding, starting any business can be risky. The entrepreneur should be able to take risks and realize that mistakes happen. If your gut is telling you to sign a contract with a new client, then you should be willing to take the chance regardless of the outcome. When making a major decision regarding your business, ask yourself the three questions listed below:

- Will this decision be an asset for my business—financially or professionally?
- What will be the long-term results due to this decision?
- Does the rest of my team (staff, board of directors, investors) agree with this decision?

References

Functional Foods (Part of Panel Open for the Public)

Objectives

1. Review current knowledge and identify future research questions regarding functional foods
2. Offer practical dietary strategies for clients to include more functional foods into their diets
3. Understand what are the foods with beneficial physiological or psychological effects beyond providing essential nutrients

Description (Focus Statement)

Functional food: A modified food that claims to improve health or well-being by providing benefit beyond that of the traditional nutrients it contains. Functional foods may include such items as cereals, breads, beverages that are fortified with vitamins, some herbs, and nutraceuticals.

- Naturally occurring food components providing demonstrated physiological benefits or that reduce the risk of chronic disease
- Beyond basic nutrition – health benefits
  - Functional foods – whole food
  - Nutraceuticals – isolate component of food sold in dosage form

Learning Outcomes Assessment

- Discussion with audience after the panel

Abstract

While food has long been used to improve health, our knowledge of health is now being used to improve food. Strictly speaking, all food is functional, in that it provides energy and nutrients necessary for survival. But the term “functional food” in use today conveys health benefits that extend far beyond mere survival. Food and nutrition science has moved from identifying and correcting nutritional deficiencies to designing foods that promote optimal health and reduce the risk of disease.

The costly and complex process of translating scientific advances and nutritional innovations into consumer products is not without pitfalls. Sound science must underlie the development,
marketing, and regulation of these new functional foods to protect and inform consumers. Regulatory oversight must ensure the safety and efficacy of products and the accuracy of their marketing claims.

The term “functional food,” although arbitrary, is nonetheless useful to convey to consumers the unique characteristics of the food and its associated health benefits. The Expert Report defines functional foods as foods and food components that provide a health benefit beyond basic nutrition (for the intended population). Examples may include conventional foods; fortified, enriched, or enhanced foods; and dietary supplements. Functional foods provide essential nutrients beyond quantities necessary for normal maintenance, growth, and development, and/or provide other biologically active components that impart health benefits or desirable physiological effects.

When defining functional foods, a word about dietary supplements is necessary. Some current legal standards classify dietary supplements separately from whole foods and apply different requirements for benefit claims and supporting scientific documentation. The panel considered this legal distinction and decided that, from a scientific perspective, dietary supplements should be included in the definition of functional foods. Supplements merely constitute a different delivery vehicle for a bioactive component, and therefore the scientific demonstration of efficacy and safety remains the same.

Creating a scientifically valid distinction between food and medicine has never been easy. Early nutrition research focused on establishing the necessary intake levels for vitamins and minerals, resulting in cures for numerous deficiency-based diseases. Recent scientific advances have further blurred the line between food and medicine, as scientists identify bioactive food components that can reduce the risk of chronic disease, improve quality of life, and promote growth and development.

Traditional definitions of and divisions between food and medicine should not restrict consumer access to knowledge about the benefits of functional foods. Likewise, the framework for strong regulatory oversight should not present unnecessary barriers to the development and marketing of functional foods. Where existing terminology and regulatory frameworks are inadequate, they must be modified.

Research currently underway will reveal how a myriad of substances can be used as functional food components. In some cases, advances are as simple as better understanding the role and optimal levels of traditional nutrients, especially for specific subpopulations. New research in proteomics, nutrigenomics, metabolomics, and other disciplines is helping to identify the biological basis by which food components promote health and wellness.
Shifting the Health Care Paradigm

“An apple a day keeps the doctor away” could perhaps be considered the first functional food advertisement. Functional foods offer opportunities to reduce disease risk and promote wellness with minimal health professional involvement.

A growing number of consumers perceive the ability to control their health by improving their present health and/or hedging against aging and future disease. These consumers create a demand for food products with enhanced characteristics and associated health benefits. The combination of consumer interest, advances in food technology, and new evidence-based science linking diet to disease and disease prevention provides an unprecedented opportunity to improve public health.

A new self-care paradigm recognizes that foods can provide health benefits that can coexist with traditional medical approaches to disease treatment. Science has clearly demonstrated additional dietary roles in reducing disease risk, and consumers have learned that food has a greater impact on health than previously known. At the same time, consumers recognize problems with the current health care system, perceiving that it is often expensive, time-constrained, and impersonal.

Functional foods fit into a continuum that ranges from health maintenance/promotion to disease treatment. On one end of the continuum are public health programs aimed at reducing disease risk in a large segment of the population through self-directed lifestyle changes. On the other end of the continuum is individualized treatment of disease by health care professionals, using drugs and other medical interventions.

Our health care system has a role for all these treatment options. Functional foods should be integral components of established health programs to reduce the risk of specific diseases while enhancing consumer control and minimizing cost.

References


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Mr Argyrides Lambros

Abstract Title

Coffee – Different Types and Health Impact (Part of Panel: Novel / Innovate of Food Science and Technology)

Objectives

1. Will know that caffeine is not the only basic ingredient of coffee, but there are hundreds of others as well, including some, like antioxidants which give coffee its health enhancing properties.
2. Will have learnt about the basic types of coffee which are determined by the coffee-brewing method as well as about the characteristics developed by each type of coffee.
3. Will know about decaffeinated coffee and the main methods used to remove the caffeine

Description (Focus Statement)

Coffee has always been a much-discussed subject. In recent years more and more internationally recognised medical research centres confirm that coffee can be one of the healthiest beverage choices with zero calories (if taken without sugar) and with other properties beneficial to health. The species and quality of the green coffee, the degree of roasting and of grinding of the specific type of coffee that will be produced, as well as the method of preparation of the final beverage confer on the coffee its corresponding chemical and organoleptic characteristics.

Learning Outcomes Assessment

• Coffee is a rich source of antioxidants and if consumed in reasonable quantities is not harmful to healthy organisms
• Scientific opinion on the safety of caffeine: 400mg/day for all sources for healthy adults and 200 mg/day for pregnant women
• Knowledge about each type of coffee and its characteristics will help each of us - who know ourselves and our habits best – to judge which type is best for us
• So really the traditional saying that ‘life needs a good coffee’ has to lot to say for itself
Abstract

Coffee has conquered the earth and is now a vital ingredient of everyday life all over the world. Worldwide, we consume 400 billion cups of coffee every year. The question as to whether coffee is bad or good for our health cannot be answered with a simple yes or no, one the one hand, because laboratory research is still placing coffee under the microscope, and on the other, because it is an issue which concerns our HEALTH. Coffee naturally contains a variety of compounds including chlorogenic acids, trigonelline, caffeine, carbohydrates, lipids and protein. The basic coffee type (of which there are four) is determined by the coffee-brewing method employed:

1. Boiling method – Turkish/Greek/Cyprus coffee
2. Filter method – filter coffee
3. Pressure method – espresso
4. Dissolving method – instant/soluble coffee

Is becoming increasingly clear is that coffee brewed in different ways could have varying health effects.

Turkish/Greek/Cyprus Coffee

This type of coffee is consumed more than any other in our own broader geographical region. Very fine-ground roasted Arabica coffee is slowly heated with cold water in a special pot. It is rich in antioxidants, contains only a moderate amount of caffeine and seems to offer more benefits than other coffee beverages. The above preparation method leads to the appearance of an increased amount of lipids-diterpenes (cafestol and kahweol). Studies have shown that these compounds can raise the levels of total and LDL cholesterol, but have also been shown to be anti-carcinogenic and anti-mutagenic.

According to ‘The Ikaria Coffee Study’ (Dr Siasos Gerasimos), a cup of boiled Greek coffee could improve cardiovascular health and increase longevity.

Filter Coffee

Is usually prepared with a filter brewing machine. Hot water is running through a filter paper (filled with medium ground coffee) into a glass pot. It contains the highest percentage of caffeine in comparison to the other types of coffee. The greatest advantage of filter coffee is that the filter paper absorbs the lipids of the coffee.

Espresso

Coarse or medium-ground coffee is extracted with hot water under high pressure. It is low in caffeine (60 mg/cup) and low in diterpenes (cafestol and kahweol).
**Instant Coffee**
This is made from brewed coffee from which the water has been removed. There are two methods for drying the coffee to make instant coffee: a) spray-drying and b) freeze-drying. Preparation: simply add one teaspoon of powdered instant coffee to a cup of hot or cold water. It contains 65-100 mg/cup of caffeine, is full of antioxidants and contains almost no diterpenes. Other compounds found in coffee are formed during the roasting or processing of the coffee beans. They include acrylamide and furan. A reaction between asparagine and reducing sugars or reactive carbonyls produces acrylamide. The amounts found in coffee can vary greatly. Dark Roast coffee contains lower levels of acrylamide than Light Roast. In addition, different types of coffee contain varying levels of acrylamide. The highest mean acrylamide concentrations were found in coffee substitutes, followed by instant coffee and then roasted coffee.

**Furan:** this is formed in coffee, as well as in other foodstuffs at high temperatures. It is a volatile substance and between the roasting and packaging process as well as during brewing, furan levels fall up to 90%.

**Decaffeinated Coffee**
For people who for any reason wish to cut down on the amount of caffeine they consume, decaffeinated coffee is an excellent solution. Currently three methods are mainly used to remove the caffeine from the green coffee beans: a) chemical decaffeination; b) with the use of CO₂; c) with H₂O.

**Caffeine**
Coffee is one of the most heavily researched products in the world today and the overwhelming weight of scientific information suggests that moderate coffee consumption – 4-5 cups (400 mg of caffeine per day) – can contribute to a healthy balanced diet, and could confer health benefits.

**References**
1. Coffee Chemistry R.J. Clark and R. Macrae
2. Coffee Physiology R.J. Clark and R. Macrae
3. Coffee in Health and Disease Prevention Victor R. Preedy
4. EFSA journal 2015,4102, Parma Italy.
6. The Ikaria Study – Vascular Medicine University of Athens Medicine School Dr Gerasimos Siasos (04-22-2013)
7. WHO /IARC June 2016
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Abstract Title:

Dietitian in Public Sector (Part of Panel: The role of dietitian in different settings and within healthcare team)

Objectives

1. Understand how dietitians work as members of integrated interdisciplinary and multidisciplinary teams in the (public) hospital setting, ranging from general medical wards, to intensive care, and in out-patient clinics.
2. Summarise the key role of dietitians in the prevention and management of nutrition-related diseases by giving individualised nutrition advice and counselling to individuals and groups.
3. Discuss the importance of using Evidence-based Dietetics Practice as described in International Code of Ethics and MNT (Medical Nutrition Therapy), an evidenced-based application of the Nutrition Care Process (NCP) in different focus areas.

Description (Focus Statement)

To be able to describe the role of the dietitian in the (public) hospital setting in different focus areas, as a member of the health care team, understand how important is to perform MNT (Medical Nutrition Therapy) and keep up to date with evidence-based dietetics literature.

Learning Outcomes Assessment

- Understand how dietitians work as members of integrated interdisciplinary and multidisciplinary teams in the (public) hospital setting, ranging from general medical wards, to intensive care, and in out-patient clinics. The delegate will be able to understand the input of dietitians in the interdisciplinary and the multidisciplinary health care teams in the hospital setting with different specialties.
- Summarise the key role of dietitians in the prevention and management of nutrition-related diseases by giving individualised nutrition advice and counselling to individuals and groups. The delegate will be able to acknowledge the work of dietitians in different clinical models, as described by the American Dietetic Association (ADA).
- Discuss the importance of using Evidence-based Dietetics Practice as described in International Code of Ethics and MNT (Medical Nutrition Therapy) by RDs, an evidenced-based application of the Nutrition Care Process (NCP) in different focus areas. The delegate will be able to recognise the importance of:
  - performing Medical Nutrition Therapy as a standardized language internationally
Dietitians, as members of integrated interdisciplinary and multi-disciplinary teams, play a key role in the prevention and management of nutrition-related disease (EFAD 2013) and they are uniquely qualified to apply evidence-based dietetics practice to the promotion of healthy eating, individualized nutritional therapy and counselling to individuals and groups (ICDA 2014). They work in hospital wards, ranging from general medical wards to intensive care, and in out-patient clinics and they may have a specialisation in one particular area.

Dietitians are responsible to enhance the health and well-being of patients/clients; and deliver quality products, programs, and services, including Medical Nutrition Therapy (MNT), an evidenced-based application of the Nutrition Care Process (NCP), across different focus areas i.e. diabetes, obesity, hypertension, osteoporosis, chronic kidney disease (Academy of Nutrition and Dietetics, JAMA 2010). They should also, adhere to the standards of good practice in nutrition and dietetics as determined by International Code of Ethics and Code of Good Practice by the International Confederation of Dietetic Associations (2014).

Abstract

Dietitians, as members of integrated interdisciplinary and multi-disciplinary teams, play a key role in the prevention and management of nutrition-related disease (EFAD 2013) and they are uniquely qualified to apply evidence-based dietetics practice to the promotion of healthy eating, individualized nutritional therapy and counselling to individuals and groups (ICDA 2014). They work in hospital wards, ranging from general medical wards to intensive care, and in out-patient clinics and they may have a specialisation in one particular area.

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References

1. Briefing Paper on the Role of the Dietitian in the Prevention and Management of Nutrition-related Disease in Older Adults EFAD (European Federation of the Associations of Dietitians) June 2013
2. The Dietetic Contribution to Health in the Workplace EFAD (European Federation of the Associations of Dietitians) January 2010
3. Want a career as a dietitian? The British Dietetic Association
After this presentation, the attendee will be able to:

1. To describe the new methodologies used in body composition, nutrient/energy intake, and energy expenditure.
2. To understand the relative strengths and weaknesses associated with these new methodologies for use with specific population groups.
3. To enable appropriate application of these new methodologies, through strategic application for different populations, to help assure that the information obtained is useful for client/patient care.

**Description (Focus Statement)**

Food intake, energy expenditure, and body composition assessments are common features of the nutrition care process. However, commonly used strategies date back to the mid-20th Century and have problems with accuracy related to under and over-reporting of food, excessive reliance on self reports to describe activity-associated energy expenditure, and the necessity for the client to travel to a clinic/lab for accurate assessment of body composition. New technologies are now available that are portable, passively provide direct assessments of food intake, energy expenditure, body composition and hydration state, and with values that can be electronically ported to communication devices. While not without certain inherent problems, these technologies provide a snapshot into the future of nutrition/dietetic care.
Learning Outcomes Assessment

- Attendees will be able to demonstrate an understanding for (a) how new and innovative technologies can be integrated into the nutrition care process for the purpose of enhancing care and improving patient/client outcomes; and (b) the relative strengths and weaknesses of these new technologies for use in different settings and with different patient/client populations.

Abstract

There are many new and novel approaches to assessing body composition, food/nutrient/energy intake, and energy expenditures. These innovations may enhance the quality and frequency of data obtained from clients/patients, thereby enhancing the potential of improvements in the nutrition care process. For some populations, the passive nature of the data acquisition process found in some devices may provide information that was otherwise unattainable. Many devices also have built-in blue-tooth capability, enabling data transfer to smartphones and then to the nutrition practitioner. This feature enables remote data acquisition and counseling that was not previously available to the practitioner. However, some innovations, while commercially available, have had limited validation and may, therefore, be of questionable use in professional settings. Despite this limitation, it is important for practitioners to be fully aware of the limitations of these devices to allow for logical patient/client counseling. For instance, many athletes use wrist-worn devices that predict energy expenditure, but study results suggest that many of these devices over-predict the actual energy expended. A failure to understand this weakness may result in over-prescribing foods/energy with a resultant increase in body fat.

New and innovative food intake devices come in many forms, including an electronic device that is glued to the jaw that predicts both timing of intake and also energy consumed. The system is based on the fact that consumed food requires chewing and, thus, jaw movement, and some foods require more chewing than others, allowing for a prediction of energy intake. Other devices incorporate photographic identification of food on a plate, using a smartphone, with algorithms that predict both food type and volume to provide an estimate of food energy and energy substrates on the plate.

For the prediction of energy expenditure, devices range from chest worn, to wrist worn, to arm worn, and use a multitude of strategies to determine expended energy. The strategies include direct assessment of the heartbeat (heart rate is associated with energy expended), GPS to assess length and duration of movement, and changes in body and skin temperature. Body composition assessment has increasingly become more portable, with several new hand-held and wrist-worn devices that incorporate several strategies, including magnetic resonance, ultrasound, and bioelectrical impedance. These devices provide data on both body fat and lean
mass that can be electronically messaged to the nutrition professional at intervals that provide information on the trajectory and direction of change.

Hydration status has been an extremely difficult value to assess in real-time, yet poor hydration is a common problem observed in poor athletic performance and in a number of clinically important conditions. New and innovative worn patches, via the assessment of changes in sweat composition, can now provide real-time electronically delivered information to the practitioner on patient/client hydration state.

With all new technologies, there is limited validation with the potential for assessment error. However, knowing the current state-of-the-art in both nutrition and body composition assessment innovations will help put nutrition professionals at the cutting edge of client/patient care as these technologies become clinically accepted. Of course, no single device may be suitable for all clients/patients, but knowing how they work, the information they provide, and the ease of use should enable best use practice where nutrition data acquisition is key to monitoring desired client/patient outcomes.

References

1. Basiotis PP, Welsh SO, Cronin FJ, Kelsay JL, and Mertz W. Number of days of food intake records required to estimate individual and group nutrient intakes with defined confidence. Journal of Nutrition 1987; 117: 1638–1641


B. Abstract Title

A Step-by-step Process for Helping Athletes Achieve Optimal Performance Weight and Body Composition (Part of Panel: Matters of Exercise and Body Weight)

Objectives

1. To present studies that demonstrate why using ‘weight’ and associated measures, such as BMI, that fail to provide insights on an individual’s body composition changes, are both misleading and counterproductive in working with athletes.
2. To present strategies related to relative energy availability and energy substrate timing that are associated with improved body composition changes and performance improvements.

After this presentation, the attendee will be able to:

1. To describe why using weight as a metric of change is likely to be misleading in athletes.
2. To understand how to use trends in body composition change to better understand if nutrition and activity protocols are having the desired effect.
3. To apply presented information, through application of presented case studies involving power, team, and endurance athletes, to athletes that attendees work with.

Description (Focus Statement)

Weight and BMI are often used as metrics to determine if dietary strategies have helped athletes achieve performance-related goals. However, both weight and BMI fail to provide critical information on muscle and fat-mass changes that are critically important to athletic performance. This session will help attendees better understand how to dynamically use dietary and body composition methodologies for helping athletes achieve desired performance goals.

Learning Outcomes Assessment

- Attendees will be able to demonstrate an understanding for (a) why weight and BMI may not provide suitable information for enhancing athletic performance; and (b) the
dietary and body composition strategies that can be used to improve relative lean body mass and lower relative fat mass, while reducing nutrition-related health risks.

Abstract

Weight is an important issue for athletes because it influences the ease with which they can perform required sport-specific skills. However, the measurement of weight alone may be a misleading metric of whether the athlete is in a desirable state. Athletes may alter a training regimen with the goal of improving performance, but then inappropriately rely on changes in weight as the sole marker of success. Imagine an athlete with an unaccustomed high weight. It may well be that the athlete worked extremely hard during the off-season to increase muscle mass, and the increase in weight is a result of more muscle. Wouldn’t it be wrong to tell that player that s/he has to lose weight? Gymnasts often reach their competitive peak during adolescence, when fast growth is the normal biological expectation. However, gymnasts are often weighed weekly to assure maintenance of the current weight. Shouldn’t all the training they do increase muscle mass and bone mass and, therefore, their weight? Shouldn’t they be growing and thus increasing their weight? These are examples of how weight is often used arbitrarily and wrongly. Tracking the constituents of weight (fat, bone, muscle, water, etc.) is far more logical, and provides athletes with more actionable information on whether the body is changing in a desirable way. Body mass index (BMI) may also be useful tool for categorizing the weight of populations/groups. However, it is not likely to be as useful for individuals or athletes. BMI fails to measure individual body fatness which is, by definition, the marker of obesity. Athletes typically carry more muscle for any given height and, because of this increased body density, may appear to be ‘overweight’ or ‘obese’ by BMI standards, but may neither be overweight nor obese. Using BMI on athletes is likely to create false positives, and it may also create false negatives. That is, a thin, small, person may have a BMI of ~20, but has a relatively low lean mass and a high body fat, so is obese. The best strategy for BMI is to use it as it was intended, as a predictive measure of population obesity prevalence, and not as a means of identifying individual obesity. Importantly, the dietary strategy for changing “weight” is different than the dietary strategy for losing “fat” while sustaining or increasing “muscle”.

Terms are often misused. For example: high body fat does not mean high body weight, leanness is not the same as thinness, and a higher weight may be desirable if it is the result of more lean mass that can improve the strength-to-weight ratio. The failure of many physically active people to optimally consume energy may be the direct result of using an inappropriate metrics, weight and BMI, as the sole determinants of performance readiness. Energy deficiency may occur as a result of several factors, including intentionally restricting energy intake to make a certain weight class or lean physique, or because of an eating disorder, a sport-associated disordered eating pattern, or from a simple misunderstanding of how a failure to supply the needed energy
can compromise health, body composition, and performance. Sustaining an energy deficient diet may result in precisely what they wish to avoid: A loss of muscle mass and an increase in fat mass. The IOC recently introduced the concept of “Relative Energy Deficiency in Sport” (RED-S), and includes health and performance problems faced by all physically active people who fail to supply the energy required for the activity, often to achieve an arbitrarily low ‘weight’.

The assessment of body composition can be a useful tool in helping the athlete and coach understand the changes that are occurring as a result of training and nutritional factors. But a single body composition measure may prove to be misleading. Imagine a measure suggesting that an athlete is overfat. However, if that athlete had an even higher body fat level 1 or 2 months earlier, they are already doing something that is making a desirable change in body composition. An intervention could inadvertently change that successful strategy. The same might be true for an athlete who appears to be relatively lean, causing no intervention to occur. But what if that athlete has been experiencing a steady increase in body fat levels? This would never be known if only a single measure was taken.

The aim of this session is to help nutrition/dietetic practitioners understand how to best use dietary and body composition strategies to obtain the desired improvements in body composition and performance.

References

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Abstract Title:

Nutritional Intervention in Inherited Metabolic Diseases (Part of Panel: Paediatric Rare diseases - in coordination with the Association of Unique Smiles)

Objectives

1. To understand the general concepts of the biochemical pathways and the nutritional intervention in Inherited Metabolic Diseases
2. To explore various nutritional intervention strategies and use of the Emergency Regimen in some Inherited Metabolic Diseases (e.g. Phenylketonuria, Maple Syrup Urine Disease, Glutaric Aciduria Type I, Ornithine Transcarbamylase Deficiency, Galactosaemia)

Description (Focus Statement)

Inherited Metabolic Diseases although collectively common, individually are rare diseases which are the result of defects in the enzymes which break down nutrients in the metabolic pathway. Many inherited metabolic diseases require nutritional intervention which, although simple in principle, is complex, diverse, highly restrictive, difficult to administer and often includes an Emergency Regimen. Clinical dietitians with knowledge and experience in Inherited Metabolic Diseases play an important role in the multidisciplinary approach of the metabolic team, which is essential in the management of Inherited Metabolic Diseases.

Learning Outcomes Assessment

- Participants will be able to ascertain the various pathways of inherited metabolic diseases and how their management includes diverse nutritional interventions. More detailed and specific information will be given for some inherited metabolic diseases like PKU, MSUD, Glutaric Aciduria Type I, Ornithine Transcarbamylase Deficiency, Galactosaemia.
Abstract

Inherited Metabolic Diseases although collectively common, individually are rare genetic disorders. They are the result of defects in the enzymes which break down nutrients in the metabolic pathway, leading to a block in the metabolic pathway. In most, problems arise due to the accumulation of substrates before the block, intermediates from alternative pathways, and/or defects in energy production and utilization caused by a deficiency of the products beyond the block.

Therefore, treatment aims include restriction of the precursors (through nutritional intervention), supplementation with the deficient products, removal of toxic metabolites, stimulation of alternative pathways, vitamin co-factor supplementation, organ transplantation, enzyme replacement, and gene therapy.

The aim of the nutritional intervention in Inherited Metabolic Diseases is the dietary restriction of the accumulated toxic substrates indicated by the disease. This could involve the restriction of either macro nutrients (protein, carbohydrate and fat) or specific amino acids or nutritional components (e.g. phenylalanine in Phenylketonuria (PKU), branched chained amino acids leucine, isoleucine and valine in Maple Syrup Urine Disease (MSUD), protein in Urea Cycle Disorders, galactose in Galactosaemia).

In amino acid disorders where the mainstay of treatment is nutritional intervention, the daily dietary protein intake from moderate protein containing foods is given through measured amounts using an exchange system, whereby one food can be exchanged or substituted for another of equivalent content (examples of exchanges: 50mg phenylalanine in PKU, 50mg leucine in MSUD, 20mg methionine in Homocystinuria, 1g protein in Tyrosinaemia Type I). The rest of the protein required to sustain normal growth and development is supplied through a protein substitute, free of the specific amino acids associated with each disease. Other nutritional supplements which help optimize caloric intake (e.g. glucose polymers or fat emulsions), as well as vitamin and mineral supplements, may also be incorporated in the nutritional intervention.

For some diseases, severe metabolic decompensation can occur due to intercurrent infections, combined with poor oral intake and fasting. One of the aims of the nutritional intervention for preventing this is the use of an Emergency Regimen in order to reduce the production of the potentially toxic metabolites from either protein catabolism and/or lipolysis (in disorders such as organic acidaemias and fatty acid oxidation defects), or to prevent hypoglycaemia (in disorders such as ketotic hypoglycaemia or glycogen storage disease type I). The standard Emergency Regimen is administered for only a short period of time as it does not provide adequate...
nutrition. It consists of a glucose polymer solution given at regular intervals as the main energy source and in some diseases the administration of the protein substitute continues.

Regular monitoring is of crucial importance in Inherited Metabolic Diseases, in order to support and modify the nutritional intervention accordingly and identify and correct any nutritional deficiencies secondary to the nutritional intervention.

The diversity of the nutritional interventions will be touched upon in this presentation through the following Inherited Metabolic Diseases:

Amino Acid Metabolism: PKU and MSUD
Organic Acidaemia: Glutaric Aciduria Type 1 (GA1)
Urea Cycle Defect: Ornithine Transcarbamylase Deficiency (OTC)
Carbohydrate Metabolism: Galactosaemia

<table>
<thead>
<tr>
<th>Inherited Metabolic Disease</th>
<th>Deficient Enzyme</th>
<th>Involved substrate</th>
<th>Nutritional Intervention</th>
</tr>
</thead>
</table>
| Phenylketonuria (PKU)               | • Phenylalanine Hydroxylase               | Phenylalanine (Phe)                 | **Low Phe diet:**
|                                     |                                           |                                     | • Phe-free protein substitute                                                             |
|                                     |                                           |                                     | • 50mg Phe exchange diet                                                                 |
| Maple Syrup Urine Disease (MSUD)    | • Branched-chain α-ketoacid dehydrogenase complex (BCKDH) | Branched chain amino acids:          | **Low Leu, Ile, Val diet:**
|                                     |                                           | • Leucine (Leu)                     | • Leu, Ile, Val-free protein substitute                                                  |
|                                     |                                           | • Isoleucine (Ile)                  | • Val supplementation                                                                   |
|                                     |                                           | • Valine (Val)                      | • Ile supplementation                                                                  |
|                                     |                                           |                                     | • 50mg Leu exchange diet                                                                |
|                                     |                                           |                                     | • **Emergency Regimen** during illness (glucose polymer solution & Leu, Ile, Val-free protein substitute) |
| Glutaric Aciduria Type 1 (GA1)      | • Glutaryl-CoA dehydrogenase              | Lysine (Lys)                        | **Low / Moderate protein diet** OR                                                      |
|                                     |                                           | • Hydroxylysine                     | • Low Lysine and Tryptophan diet                                                        |
|                                     |                                           | • Tryptophan (Try)                  | • Lys-free, low-Try protein substitute                                                  |
|                                     |                                           | • Secondary Carnitine Depletion     | • Carnitine supplementation                                                            |
|                                     |                                           |                                     | • **Emergency Regimen** during illness (glucose polymer solution & Leu, Ile, Val-free protein substitute) |
Clinical dietitians with knowledge and experience in Inherited Metabolic Diseases are an indispensable member of the multidisciplinary metabolic team caring for these patients, in order to achieve satisfactory metabolic control but also to sustain normal growth and development.

**References**

5. British Inherited Metabolic Diseases Group [www.bimdg.org.uk](http://www.bimdg.org.uk)
6. [IEMbase](http://www.iembase.org) Inborn Errors of Metabolism Knowledgebase [www.iembase.org](http://www.iembase.org)
7. [MedlinePlus](https://medlineplus.gov/metabolicdisorders.html); Metabolic Disorders [https://medlineplus.gov/metabolicdisorders.html](https://medlineplus.gov/metabolicdisorders.html)
8. [MedlinePlus](https://medlineplus.gov/ency/article/002438.htm); Inborn Errors of Metabolism [https://medlineplus.gov/ency/article/002438.htm](https://medlineplus.gov/ency/article/002438.htm)


15. Phenylketonuria: http://www.nhs.uk/conditions/Phenylketonuria/Pages/Introduction.aspx


23. Glutaric Aciduria Type I: http://www.nhs.uk/conditions/glutaric-aciduria


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Abstract Title:

Rare disorders in Cyprus in the last 25 years (Part of Panel: Pediatric Rare disorders – in coordination with the Association of Unique Smiles)

Abstract

A disease or a condition is defined as rare when it affects no more than 1 in 2000 people. As there are more than 6000 rare disorders recognised today and each one has a different prevalence, some disorders affect very few people while others affect a few thousands around Europe. So eventually rare disorders are not so rare and it has been shown that they affect the life of one in ten people collectively.

Rare disorders are mostly of genetic origin and are often chronic, multi-systemic and debilitating. Recognising signs and symptoms in order to proceed to appropriate investigations requires professional awareness and knowledge. It also requires expertise and collaboration between specialists including physicians, scientists and researchers. Achieving a diagnosis is usually complicated and time consuming while several patients remain aetiologically undiagnosed for years or even for ever. On the other hand a clarified and definite diagnosis will make a difference if not for treatment but for better care, prognosis and recurrence risks which leaves space for appropriate genetic counselling. Furthermore care and management of patients require multidisciplinary teams involving not only physicians but also other health professionals and therapists. Examples of rare disorders include multiple congenital anomalies, chromosomal or monogenic syndromes, heritable diseases of the nervous system, inborn errors of metabolism, rare autoimmune disorders, rare rheumatoid conditions, rare cancers and others.

A diagnosis of a rare disorder might endanger people’s rights in health care, insurance coverage and employment, not to mention the risk of stigmatization. Rare disorders affect the lives not only of the patient but of the entire family as several disabilities may be caused, so long term personal and family support measures and steps are extremely important for better quality of life and better inclusion in education and society.

In Cyprus, the referral Centre for Rare Diseases is the Clinical Genetics Clinic offering services in two premises, the Archbishop Makarios III Hospital and the Cyprus Institute of Neurology and Genetics. In the last 25 years professionals and patients have been increasingly using the pathway to this clinic for recognising the signs, investigating and taking care of people of all age groups from all over the island. Our registry is rich in reporting various extremely rare disorders and private syndromes. Molecular and other specialised studies have helped us identifying rare
and common genetic changes often specific and characteristic of our population. Still several remain under investigation for years. Many patients receive treatment and management including very rare cases which request personalized medical care such as enzyme replacement therapies or other orphan drugs.

The Cyprus National Committee for Rare Diseases is active in the field of public and professional awareness for early detection and prevention, as well as improving capacities in diagnosis, management, rehabilitation and inclusion as these are four out of five pillars of our National Strategic plan. A fifth pillar is research and efforts have been taken in order to engage authorities and researchers in more funding and research activities. Even though rare disorders, especially in childhood are currently covered by the public health care sector and capacities, it is not clarified what will be the future for services for our patients in the expected new health care system. Empowerment of patients and good collaboration between them and specialists will hopefully lead the way to a better future.

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Abstract Title
Taking dietitians into 2050; the profession on a mission (Part of Panel: The Role of Dietitian in Different Settings and within Healthcare Team)

Objectives
1. Understand how the European goals for health and nutrition together with global goals impact on dietitians and their work
2. Identify how the EFAD Strategic Plan 2017-2021 can be used for future career planning
3. See their role in advancing the profession of dietetics in Europe.

Description (Focus Statement)
Dietitians, as evidence based health professionals, need to anticipate and prepare themselves for the impact and influence they can have on health and economic challenges we face in Europe. New care delivery models for health and changes in health system delivery will mean dietitians will be involved in cost benefit/efficiency analysis and need to balance approaches towards prevention vs treatment. How the profession responds and focuses its response is the business of all national associations and higher education working together in the European Federation of the Associations of Dietitians (EFAD).

Learning Outcomes Assessment
1. Understand how the European goals for health and nutrition together with global goals impact on dietitians and their work

   The delegate will engage with the published European goals to improve nutritional health by the WHO, European Commission and global challenges (United Nations) and draw conclusions as to how these impact on dietitians and dietetics

2. Identify how the EFAD Diet Action Plan (2015-2020) and the Strategic Plan 2017-2021 can be used for future career planning

   The delegates will understand the political and scientific rationale for the EFAD strategies with respect to raising the profile of dietitians and their work in Europe and how they can engage with these plans.

3. See their role in advancing the profession of dietetics in Europe.

   The delegates can begin to see how their own work can impact on advancing the profession through careful monitoring and promotion of the outcomes to key stakeholders.
Abstract:

In 2015 European Ministers of Health adopted the WHO European region plan to improve the health of European citizens (WHO, 2014) and this plan is now the basis of strategies in member states. The impact of dietitians on improvements in food choice and consequent health benefit through nutrition for individuals, families, workplace, industry and public health has been well documented and yet not given the recognition it deserves.

In Europe the European Federation of the Associations of Dietitians (EFAD) took the opportunity to state their commitment to action for health improvement through nutrition in healthcare, food provision/service (restaurants), research, industry, public health or in the homes of individual citizens through its European Dietetic Action Plan 2015-2020 (EuDAP) (EFAD 2015). EuDAP has these five objectives:-

- **Objective 1** – Ensure that healthy food and nutrition is accessible, affordable, attractive and sustainable
- **Objective 2** – Promote the gains of a healthy diet throughout the life course, especially for the most vulnerable groups in clinical settings and the community
- **Objective 3** – Use dietitians as educators and experts in community and clinical settings to advise the general population, other health professions, authorities (for example ministries, health insurance companies), mass media and industry
- **Objective 4** – Invest in establishing the (cost) effectiveness of dietitians in the delivery of better health through improved nutrition
- **Objective 5** – Strengthen governance, alliances and networks for a Health-in-all-policies approach

However dietitians will need to increasingly meet these objectives against changing demographics, shifts in care provision and increasingly unpredictable economic conditions. The EFAD Strategic Plan 2017-2021 (EFAD, 2016) anticipates that dietetics will have increased involvement in prevention, primary/community care and nutrition education, using technology as an essential means of communication with an increased need to collect data to demonstrate how dietitians contribution to cost-effective healthcare.

Higher Education Institutes are also considering how they can prepare and empower dietitians to meet these challenges especially the challenge of shifting a curriculum which has a medical approach to a more psychosocial consumerist approach which also relies heavily on the ‘internet of things’. The challenges facing dietitians cannot be solved in isolation and will require new, creative and innovative thinking. The following objectives and goals from the EFAD Strategic Plan reflect the need for more collaborative, flexible and sustainable approaches to healthcare which is never-the-less evidence based:-
Objective 1: To build European-level cooperation between stakeholders who promote nutrition and dietetics

Goals:
- We develop strategic partnerships and relationships to collaborate on topics of mutual benefit and interest for nutritional health.
- We engage with stakeholders and recommend policy to promote nutrition and dietetics.
- To promote and emphasise essential research partnerships and collaborations.

Objective 2: To continually enhance the profession by taking an approach that is flexible, innovative and can be experimental.

Goals:
- EFAD, its committees, ESDNs and members anticipate change and respond to make sure the profession is fit for purpose, proactive and provides sustainable quality of service to meet the needs of society.
- EFAD, NDAs and Education Associates embed evidence-based practice and knowledge creation through systematic enquiry.

Objective 3: To develop a system which encourages exchange of knowledge in Europe and leads to the sustainability of EFAD?

Goals:
- EFAD develops secure and transparent methods for collection, analysis and exchange of information.
- EFAD selects and uses appropriate channels of communication to promote dietitians and dietetics in Europe.
- EFAD plans for sustainability as the primary voice for dietitians in Europe.

But dietitians do not just have a significant part to play in European health improvement; they also have a role globally. In 2015 the United Nations published 17 Sustainable Development Goals which were identified to ‘transform our world’. Improved food and nutrition can be seen to be essential to many of the goals and demonstrates to the profession how food and hydration is not only essential to life but also how critical interdependence and intradependance is to our future health. Food, nutrition, hydration and health are the business of dietitians and we need to invest in our future profession.

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1 EFAD Stakeholders include EFAD member associations and their member dietitians, ministers of health, education and employment, other health professionals, dietetic service users (including patients), employers, food industry, non-governmental organisations.
References:


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Inherited Kidney Disorders—hematuria during early childhood. In this presentation we will focus on collagen IV renal glomerulus. Depending on the gene at fault, transmission in families may follow any one of the three Mendelian patterns of inheritance and they invariably present with microscopic hematuria during early childhood. In this presentation we will focus on collagen IV.

Like nearly all other familial inherited diseases, the overwhelming majority of monogenic conditions, either of X-linked, autosomal dominant or autosomal recessive pattern of transmission. CKD is emerging as a very frequent health problem, estimated to affect up to 10% of the adult population. CKD can also manifest because of the inheritance of genetic mutations that follow Mendelian inheritance as monogenic conditions, either of X-linked, autosomal dominant or autosomal recessive pattern of transmission. Like nearly all other familial inherited diseases, the overwhelming majority of inherited renal pathologies are rare, affecting less than 1/2,500 individuals of the population.

Familial hematurias: This is a major class of monogenic inherited nephropathies that affect the renal glomerulus. Depending on the gene at fault, transmission in families may follow any one of the three Mendelian patterns of inheritance and they invariably present with microscopic hematuria during early childhood. In this presentation we will focus on collagen IV.

Abstract

Background: There are many kidney disorders that affect renal function, resulting in renal failure, either acutely or chronically. Of the chronic kidney diseases (CKD) the most frequent ones are complex and multifactorial (eg diabetic nephropathy), requiring the interplay of many genetic and environmental factors for them to develop. CKD is emerging as a very frequent health problem, estimated to affect up to 10% of the adult population. CKD can also manifest because of the inheritance of genetic mutations that follow Mendelian inheritance as monogenic conditions, either of X-linked, autosomal dominant or autosomal recessive pattern of transmission. Like nearly all other familial inherited diseases, the overwhelming majority of inherited renal pathologies are rare, affecting less than 1/2,500 individuals of the population.

Familial hematurias: This is a major class of monogenic inherited nephropathies that affect the renal glomerulus. Depending on the gene at fault, transmission in families may follow any one of the three Mendelian patterns of inheritance and they invariably present with microscopic hematuria during early childhood. In this presentation we will focus on collagen IV.

Learning Outcomes Assessment

1. Recognize important forms of familial hematurias
2. Comprehend the spectrum in regards to patient variable clinical presentation
3. Appreciate the positive role of molecular genetics approaches in disease diagnosis and treatment

Description (Focus Statement)

In the Cypriot population there are several important medical phenomena in regards to inherited conditions. One of them concerns the several founder mutations that are responsible for various renal conditions that can result in chronic and end-stage renal disease. Here we focus on familial hematurias, which are not always benign but to the contrary, our research identified numerous families and hundreds of patients at high risk for end-stage renal disease.
nephropathies and CFHR5 nephropathy, which although they are rare, they appear relatively more frequently in the Cypriot population. Importantly, among Cypriot patients we found several founder mutations; that is mutations that have been inherited from common ancestors several generations back. In some cases, these mutations appear in geographic clusters.

**Collagen IV nephropathies:** Collagen IV nephropathies (COL4N) comprise benign familial microscopic hematuria (BFMH), thin basement membrane nephropathy (TBMN), X-linked Alport syndrome (AS), and also autosomal recessive and dominant AS. They are caused by mutations in the Collagen IV genes, highly expressed in the glomerular basement membrane (extracellular matrix). The diagnosis of these conditions used to be based on clinical and/or histological findings of renal biopsies but it was the new molecular genetics approach that revolutionised their investigation and proved particularly instrumental, especially in many, not so clear-cut cases. More recently, the spectrum of COL4N has expanded to include late onset focal segmental glomerulosclerosis (FSGS) that develops on top of TBMN in later life. In the presence of a renal biopsy picture of FSGS and in the absence of either electron microscopy (EM) studies or molecular genetic studies that point to TBMN and COL4N, the patient and his family may be mistakenly diagnosed as hereditary FSGS leading to unnecessary further investigations, erroneous family counselling and improper corticosteroid treatment. TBMN is a frequent finding in the general population but apparently under-diagnosed. To date, in Cyprus we identified and archived more than 100 families and found mutations in 30, some of them very large.

**CFHR5 nephropathy:** CFHR5 gene is a recently recognized regulator of the complement alternative pathway and mutated in a recently revisited form of inherited C3 glomerulonephritis(C3GN), characterized by isolated C3 deposits in the absence of immune complexes. Interestingly, for reasons that remain unknown, gender plays a major role in disease severity, with men to run a much higher risk to progress to severe kidney function failure, compared to women. In Cyprus there is a unique form of the disease, caused by an endemic mutation in the CFHR5 gene, found in no other populations. To date, it has been detected in 23 families with more than 170 patients, originating to a common ancestor (founder mutation).

A hallmark feature of all conditions is the age-dependent penetrance and a broad phenotypic heterogeneity in the sense that subsets of patients progress to added proteinuria or proteinuria and chronic renal failure that may or may not lead to end-stage renal disease (ESRD) anywhere between the second and seventh decade of life. In addition to other excellent laboratory tools that assist the clinician in reaching the correct diagnosis, the molecular analysis emerges as the gold standard in establishing the diagnosis in many cases of doubt due to equivocal findings that complicate the differential diagnosis. It is anticipated that the molecular genetic analysis with next generation sequencing (NGS) technologies will certainly offer timely correct diagnosis. Recent work led to the description of candidate genetic modifiers which confer a variable risk for progressing to chronic renal failure when co-inherited on the background of a primary glomerulopathy. In fact, it is our thesis that the full spectrum of the
phenotypes of the hematurias described above, behaves as a multifactorial condition that implicates the primary genes, modifier genes and environmental factors. The implication of protective genes cannot be excluded.

Conclusion: The familial hematuric diseases are relatively frequent in the Cypriot population, with several widespread founder phenomena. They are genetically and phenotypically heterogeneous, including benign and severe cases that require medical attention to prevent or delay renal failure. Molecular approaches are the gold standard for the early correct diagnosis for many patients, offered at the Molecular Medicine Research Center of the University of Cyprus, which also maintains the best archive of these families along with biological material for research studies, in its Biobank.

References


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Abstract Title

The use of modern technology and the dietary treatment of Diabetes Mellitus (Part of Panel: Innovative in Nutrition Diabetes Management)

Objectives

1. To learn more about the latest technological devices (pumps, Continuous Glucose Monitoring CGM etc) on diabetes
2. To understand the role of dietitians in diabetes nutritional education for patients using these devices
3. To realise the importance of the medical nutrition education by a specialised dietitian at the efficient control of diabetes

Description (Focus Statement)

The last years there are many new technological devices that contribute to a more efficient diabetes control. The professional dietary education is an obligatory procedure in order to succeed the better diabetes control. Dietitians should be well informed and educated so as to play their role in the final education of the diabetes patients.

Abstract

Nutrition therapy and counselling play a crucial role in the treatment and self-management of diabetes. The main goals of nutrition therapy are to maintain or improve quality of life and nutritional health; and to prevent and treat acute and long-term complications of diabetes, associated comorbid conditions and concomitant disorders.

It is well known that nutrition therapy can improve glycemic control by reducing glycated hemoglobin (A1C) by 1.0% to 2.0% and, when used with other components of diabetes care, can further improve clinical and metabolic outcomes. Furthermore, frequent follow-up (i.e. every 3 months) by a registered dietitian (RD) has been associated with better dietary adherence in type 2 diabetes. Nutrition therapy provided by an RD with expertise in diabetes management, delivered in either a small group and/or an individual setting, has demonstrated benefits for patients with diabetes. More specifically, people with type 2 diabetes, culturally sensitive peer education has been shown to improve A1C, nutrition knowledge and diabetes self-management, and web-based care management has been shown to improve glycemic control.
In general, people with diabetes should follow a healthy diet recommended for the general population. This involves consuming a variety of foods from the 4 food groups (vegetables and fruits; grain products; milk and alternatives; meat and alternatives), with an emphasis on foods that are low in energy density and high in volume to optimize satiety and discourage overconsumption. This diet may help a person attain and maintain a healthy body weight while ensuring an adequate intake of carbohydrate (CHO), fibre, fat and essential fatty acids, protein, vitamins and minerals. Nutrition counselling should be individualized, regularly evaluated and reinforced in an intensive manner, and incorporate self-management education.

The latest years technology is used to provide a better treatment and to supplement healthcare provider diabetes care by providing both educational and motivational support but also an easier way to control diabetes. Nutritional education can be provided in patients using new technological devices such as insulin pumps or CGMs, allowing patients to learn new practices and routines related to diabetes management. Technology can support daily diabetes self-management activities including blood glucose monitoring, exercising, healthy eating and carbs counting and monitoring for complications.

While technology can be effective for promoting diabetes education, support, and self-management, patients have a need for personal contact with clinical dietitians and other health care providers in order to succeed a better control of their diabetes. For this reason the role of a well educated dietitian is very important and necessary to the olistic approach of the diabetes patient.

References

1. Yves Reznik, Ohad Cohen, Ronnie Aronson, Ignacio Conget, Sarah Runzis, Javier Castaneda, Scott W Lee, for the OpT2mise Study Group. Insulin pump treatment compared with multiple daily injections for treatment of type 2 diabetes (OpT2mise): a randomised open-label controlled trial. The Lancet 2014; Published online July 3 http://dx.doi.org/10.1016/S0140-6736(14)61037-0


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A. Abstract Title

Fetal Origins of Adult Chronic Disease

Objectives

1. Identify 3 chronic disorders that are affected by maternal nutrition/malnutrition
2. Describe 2 measures for consideration by dietitians working in maternal-child health
3. Identify additional areas of research that are needed

Description (Focus Statement)

Epigenetics represents how a stable genome is expressed in different ways by nutrition and environment. Genes are upregulated or downregulated without changes to genetic sequence. Changes to the phenotype reset fetal homeostatic set points by changing metabolism, hormone production, hormone sensitivity, and organ development. These changes cause lifelong alterations that set up chronic disease risks. Personalized nutrition counseling requires knowledge of these fetal effects.

Learning Outcomes Assessment

- Participants will discuss (1) the need for pre-conceptual care to modify a woman’s medical, behavioral and social risks through interventions and (2) the role of the dietitian in treatment of NCDs to reduce the impact during pregnancy (hypertension, diabetes, obesity, systemic lupus erythematosus, thyroid disease, anemia, epilepsy, asthma, and cardiac disease.)

Abstract

Epigenetics represents how a stable genome is expressed in different ways by nutrition and environment. Genes are upregulated or downregulated without changes to genetic sequence. Changes to the phenotype reset fetal homeostatic set points by changing metabolism, hormone production, hormone sensitivity, and organ development. These changes cause lifelong alterations that set up chronic disease risks. Personalized nutrition counseling requires knowledge of these fetal effects. This session will highlight findings that support the “developmental origins of adult disease” theory and promote the importance of the first “1000 days” of life as the preface to lifelong health.
References

23. Leeuwerke M et al. DNA Methylation and Expression Patterns of Selected Genes in First-Trimester Placental Tissue from Pregnancies with Small-for-Gestational-Age Infants at Birth. BiolReprod. 94:37, 2016.
B. Abstract Title

Not a Drop to Drink – Nutrition and Hydration at the End of Life (Part of Panel: Aging, Long-Term Care, End of Life)

Objectives

1. Define the philosophy and principles of hospice and palliative care that can be integrated across settings to effect quality nutrition care at the end of life.
2. Identify common symptoms that are experienced at the end-of-life.
3. Discuss burden versus benefit in nutritional goals in end of life care.

Description (Focus Statement)

End of life nutrition can be challenging for the dietitian, especially at the beginning of a career. Dietitians are taught to feed individuals with a focus on nutrition, and provide sufficient hydration to maintain life and vitality. In palliative care, these principles are overridden by the patient’s right to choose otherwise. It is the position of the Academy of Nutrition and Dietetics that individuals have the right to request or refuse nutrition and hydration as medical treatment. This discussion will highlight the ethical, legal and social ramifications of palliative nutrition measures.

Learning Outcomes Assessment

- Participants will work on two case studies, discuss as a group and select the best nutrition decision for the end-of-life patient.

Abstract

End of life (EoL) is challenging for the dietitian. Dietitians are taught how to feed individuals with a focus on nutrition, and to provide sufficient hydration to maintain life and vitality. In palliative care, these principles are overridden by the patient’s right to choose otherwise. It is the position of the Academy of Nutrition and Dietetics that individuals have the right to request or refuse nutrition and hydration as medical treatment. Artificial nutrition is an option when a patient cannot or refuses oral intake. The ethical, legal and social ramifications of palliative nutrition measures are numerous and have cultural overtones that must be addressed. The role of the dietitian includes discussion with the patient, the family members, the medical team and legal counsel when necessary. Palliative care yields some of the most difficult choices for decision-making by the dietetic professional.
References


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Food Demonstration- Cooking very low protein recipes for renal patients (dialysis)-Renal Diets With Flavor

Objectives

1. Demonstrate how you can achieve Renal Diets With Flavor for dialysis patients
2. Emphasize on the protein content, phosphorus, sodium and the spices available to renal-dialysis diets
3. Present the principle of educating renal patients through culinary nutrition

Description (Focus Statement)

One of the biggest challenges in creating recipes for renal-dialysis patients that have diet restrictions is making them taste good despite reducing or avoiding fat, salt, sugar, and other key essential ingredients. You have to supplement these missing ingredients with herbs and spices to make the dish look and taste good.

Learning Outcomes Assessment

- Pre-test and post-test for the audience
- Food Testing

Abstract

Several conditions can cause the loss of kidney function. Whatever the underlying reason may be, once kidney function deteriorates to the point where the kidneys can no longer remove enough toxins from a person’s blood to keep him or her healthy—a condition known as end-stage renal disease (ESRD)—the person must start dialysis.

Dialysis “does the work” that the kidneys can no longer perform. Unless a patient receives a kidney transplant, he or she will stay on dialysis indefinitely. Because patients who are on dialysis need to restrict certain dietary nutrients to maintain their health, renal diets can be incredibly challenging for patients and dietitians alike.

Many dialysis patients have food restrictions related to other health problems. Trying to sort through multiple diets can quickly become a intimidating task. Finding ways to stick to the diet without robbing it of flavor is a critical concern but easier said than done. To begin, because it causes increased thirst and fluid retention in patients, salt needs to be eliminated from renal diets to the greatest extent possible.
Foods that contain phosphates, such as nuts, beans, dairy products, and colas, are also problematic. An excess amount of phosphates in the blood can affect bone and heart health, particularly for people who rely on dialysis. Adding to the difficulty, many food manufacturers add phosphates to their products.

In the renal diets, there has been a lot of attention paid to phosphate additives. The food manufacturing companies will add phosphate compounds to a number of food products, mostly for longevity, to extend the shelf life. These phosphate additives are very easily absorbed through the intestinal tract into the bloodstream. It’s an issue for all of renal patients but especially for dialysis patients.

In addition, patients on hemodialysis—the mechanical cleansing of the blood using an external filter—need to restrict foods that contain potassium. Too much potassium can cause cardiac arrest in patients on hemodialysis. Foods such as oranges, tomatoes, and bananas are high in potassium. Patients also need to eat about 1.5 times the amount of protein that a person without diet restrictions would need as well as additional calories. Rather than eating three big meals, patients are encouraged to eat several smaller meals during the course of the day. Lean cuts of meat are preferred because excess fat can lead to cardiovascular disease. To help meet protein needs, dietary supplements are often prescribed.

For vegetarian patients, supplements are almost always necessary. Planning a renal diet for a vegetarian patient isn’t easy, but it can be done. One of the difficulties lies in the bean restriction; many vegetarians meet their protein needs by eating a variety of beans. Research suggests that beans may not be as problematic as they were once thought to be as long as they’re not overused.

One of the things they’re finding with beans—[which] goes to the phosphorus again—is that there is less [of] a function of phosphorus in a food like beans than there is in other foods that have phosphate additives. So this is all part of the conversation. It’s just an ongoing conversation.

One reason for increased protein intake is to maintain albumin levels in the blood, because protein contributes to albumin production. Higher albumin levels are associated with fewer hospitalizations and a lower risk of death. Although albumin levels are also influenced by nonnutritional factors, such as a wound or dental periodontitis. Unfortunately, dialysis patients often experience decreased appetite and lose their taste for meat.

**Tell Me What I Can Eat**

One of the biggest challenges in creating recipes that have diet restrictions is making them taste good despite reducing or avoiding fat, salt, sugar, and other key essential ingredients. You have to supplement these missing ingredients with herbs and spices to make the dish look and taste good.”
The herbs used are black pepper, red pepper flakes, cumin, chili powder, garlic and onion (both granulated), dried oregano, smoked paprika, fresh cilantro, fresh basil, fresh scallions, fresh lemon and lime zest, and rosemary in his own cooking. He likes the versatility these herbs and spices allow. They can easily be combined to make marinades, rubs, or dips, which add flavor without disrupting a healthful diet. However, for people who don’t spend much time in the kitchen, a spice rack may not be much more useful than a chemistry set when it’s time to make dinner.

There’s nothing to fear. The only hard and fast rules he follows are “everything in moderation” and “only serve food you want to eat.” Different cultures and ethnic groups have different ideas about which herbs and spices work well together. Instead, it is better to mix a potent herb or spice, such as dill, basil, tarragon, rosemary, or fennel—with a lighter one, such as parsley, chervil, or marjoram.

It is better to go lighter on earthy, winter- and fall-type spices, such as cinnamon, cloves, nutmeg, and allspice, as well as summer-type spices, such as curry, anise, dry dill, and dried tarragon. These spices have the potential to become overpowering in a dish, but personal preference is the ultimate guide. With a little trial and error, even a novice can create healthful, tasty meals.

Pick and choose the combination that works best for the dish by using smaller amounts of the summer and winter spices, since they tend to be more pungent in flavor, and offset them with the list of my basic favorites to make sure that all the spices and herbs get a fair play on the plate.

Patient Education
It’s extremely important to speak with patients about their food preferences to get a better idea of how they are coping; lab values tell only part of the story. Dietitians should ask patients which foods they miss most and try to find ways to incorporate these foods into the diet. The goal is to be as nonrestrictive as possible.

We need to be listening about their appetite and about what it is that they’re missing from their food that they’ve always liked and enjoyed that perhaps we can work back into their meal plans, perhaps in smaller quantities and perhaps less frequently, but it’s there so that people can continue to have satisfying meals.

Recipes that don’t require much preparation are helpful as well. The goal of the educational tools is to provide patients and their families with as much information as possible to improve patients’ quality of life. Starting dialysis can be overwhelming, and the associated food restrictions can be especially difficult to understand as well as implement. Educating patients and their families is one of the best ways dietitians can help dialysis patients adjust. Dietitians should also listen closely to what their patients tell them to better assist them in maintaining their quality of life.
“Dialysis treatments can be difficult for a patient. Sometimes they need to know that, outside of dialysis, they can still enjoy life.”

Five Tips

The dietitians at Medical Care North America have developed these five tips to help dietitians educate patients and their families about cooking tasty, renal diet-friendly meals:

1. Be creative. Look for recipes that make good leftovers. For example, leftover beef tacos can be used in a quesadilla, chili (without tomatoes), or a lettuce wrap.

2. Look for lower-cost items. Many patients don’t have a lot of money, so stretching a budget is important.

3. Mix it up. Eat a wide variety of approved foods to keep the diet exciting, using spices and herbs but no salt.

4. Lots of pots and pans aren’t necessary. A simple frying pan and possibly a cookie sheet should suffice. People who are tired don’t have to do too much to make an enjoyable meal.

5. Talk with dietitians about what you like, what your concerns are, and what you don’t understand. Dietitians are always ready to listen and be responsive.

References

1. U.S. Renal Data System: www.usrds.org
3. Fresenius Medical Care North America: www.ultracare-dialysis.com

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A. Abstract Title

Fertility and Nutrition- The essential role of adequate micronutrient status pre-conceptually for both male and female fertility (Part of Panel: Before, During and After Pregnancy)

Objectives

1. Evaluate the evidence for nutritional intervention with respect to male and female infertility and miscarriage
2. Implement focused nutritional interventions either for natural conception or assisted reproductive techniques
3. Understand that dietary modification is often not sufficient and supplementation may be needed to correct deficiencies

Descriptions (Focus Statement)

An integrated approach to infertility offers women and couples the best of both the medical and nutritional worlds. So that alongside the medical infertility investigations should go nutritional assessments for nutrient deficiencies and a complete medical history that will highlight lifestyle factors such as smoking, alcohol consumption, stress, occupational and environmental hazards.

Abstract

Fertility is multi-factorial and needs to be addressed in terms of a number of areas including medical problems, lifestyle, age, nutrition, stress, environmental and occupational hazards. There is sufficient evidence to support the view that nutrition has a valuable part to play in improving both male and female infertility.

This presentation will cover the evidence base from the medical literature showing that many nutrients have an impact on both male and female infertility and the prevention of miscarriage. It will cover dietary interventions and also specific nutrient supplementation including zinc, vitamin C etc. The role of certain nutrients like vitamin D and Omega 3 essential fatty acids will be covered in general and also in relation to immunological factors affecting female fertility. Sperm health, sperm DNA fragmentation, reactive oxygen species and the use of antioxidants in male infertility will also be covered.
It will also look at how certain lifestyle factors e.g. smoking, alcohol and occupational and environmental hazards can impact fertility. The use of nutrition during assisted reproductive techniques will also be discussed.

This presentation will also cover the most important nutritional tests for checking for deficiencies and imbalances.

It is now not enough to just recommend couples to eat a ‘well balanced diet’ as it is clear from the research that most people are not getting adequate nutrient levels from their food alone. This is of particular concern with women who can be either overweight and undernourished or permanently watching their weight, restricting their calories and often on no fat or low fat diets with inadequate intake of essential fatty acids along with other nutrients. It is also not enough to supplement with only individual nutrients such as folic acid as the synergistic effect of nutrients needs to be considered.

References

B. Abstract Title

Individualising the diet for obesity based on genetic testing (Part of Panel: Evidence Based Topics in Nutrition and Dietetics)

Objectives

1. Outline the structure and function of DNA and how it is organized in cells to form the human genome
2. Explain what gene expression is and how environmental factors such as diet can influence gene expression
3. How gene expression can influence health and susceptibility to disease.

Descriptions (Focus Statement)

This session will over the science of nutrigenomics and how we can use genetic testing to personalize nutrition advice and physical activity recommendations tailored to the patient’s DNA. The results of genetic testing can impact weight management, cardiometabolic health, nutrient metabolism, food intolerance, eating habits, physics activity and injury risk.

Abstract

There is increasing awareness among researchers, educators, healthcare professionals and consumers that the one-size-fits-all, population-based approach to nutritional guidance is inefficient and often ineffective. This awareness has created a growing market for personal, genetic testing advice.

Recent advances in human genomics have uncovered extensive variations in genes affecting nutrient metabolism, but their full impact on nutrient requirements remains to be elucidated. Differences in the rates of absorption, distribution, uptake, utilization, biotransformation and excretion influence the concentration of nutrients at a target site of interest, which ultimately impacts nutritional needs.

Research has shown that DNA-based dietary advice is superior to population-based recommendations at motivating changes in eating behaviors. Incorporating markers of genetic variation into studies of nutrition and health, aims to benefit those seeking personalized dietary advice by proving sound scientific evidence linking diet and health. This presentation will explain the science of nutrigenomics and cover the most important markers in terms of nutrition and physical activity that impact on weight management, cardiometabolic health, nutrient metabolism, food intolerance, eating habits, physical activity and injury risk.
References


Speaker’s Details:

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Dr Hadjiluca Phroso, M.Sc, Ph.D.

Abstract Title

Gluten Free Without the Sacrifice (Part Of the Panel: Novel/Innovative of Food Science and Technology)

Objectives

1. Know what is gluten, the hidden sources of gluten and the Commission Regulation (EC) No 41/2009, 20/1/2009, concerning the composition and labelling of foodstuffs suitable for people intolerant to gluten (very low gluten and gluten free)
2. Understand the reasons why more consumers are encouraged by medical conditions or life style choices to eliminate gluten free form their diet
3. Learn why scientists are responding by turning to a plethora of ingredients to produce tasty gluten free items through the supermarket.

Description (Focus Statement)

Gluten defines a very diverse and complex group of two water-insoluble wheat proteins: gliadin and glutenin. Gliadins are prolamine proteins and provide viscosity to dough, while glutenins are polymeric proteins that give dough its elasticity and strength.

While the number of people gravitating toward a gluten free diet by choice is on the rise, many individuals have to eliminate gluten for specific medical reasons. For those with celiac disease eating gluten prompts an autoimmune response directed at their small intestine and the result is inflammation and injury to the villi that line the small intestine, thus affecting nutrient absorption and leading to a multitude of symptoms.

As consumer demand surge, food and beverage companies are scrambling to launch new products or reformulate existing ones to capture a piece of the market.

Food technologists, formulators and chefs have worked hard to –crack the code- of delicious tasting gluten free foods over the years, because when gluten is taken out as an ingredient, of a foodstuff, then, problems arise with the processing, taste, texture, appearance, shelf life and the nutritional profile of the product. Gluten is often found in foods and beverages that the everyday consumer might not expect. (I.e. coffee and tea mixes, soy sauce, egg substitutes).

Consumers are not only wanting more gluten free foods and beverages but they demand better taste, but also improved nutrition. This is an indication that there is still room for the category to
develop, especially in food segments that typically contain gluten such as bread and bakery products. The gluten free category is continuing to grow in the near term especially as the European Commission Regulations have made it easier for consumers to purchase gluten free products and trust the manufacturers who make them.

**Learning Outcomes Assessment**

- Understanding the terms of gluten free and low gluten foods, and have knowledge of hidden sources of gluten.
- Having the knowledge that formulators are working hard to produce gluten free products that are indistinguishable from their gluten-containing counterparts.
- Having the knowledge why more consumers are encouraged by medical conditions or lifestyle to eliminate gluten from their diet.

**Abstract**

Today more consumers are encouraged by medical conditions, those with celiac disease or lifestyle choices, non-celiac gluten sensitivity, and those who believe is better for their overall health (more energy, more natural) and for weight loss to eliminate gluten from their diet.

Food scientists and food Technologists are responding by turning to a plethora of ingredients to produce tasty gluten free items throughout the supermarket.

Gluten defines a very diverse and complex group of two water-insoluble wheat proteins: gliadin and glutenin. While gluten is best known for giving baked goods their doughy elastic structure, many foods contain gluten for other purposes. According to the International Food Information Council, gluten is often found in foods and beverages that the everyday consumer might not expect. For example deli meats, egg substitutes, flavoured grain dishes, soy sauce, salad dressings, veggie burgers and vegetable protein products.

The increase of gluten free chain products is partly due to improved labelling restrictions by European Union. Commission Regulation (EC) No 41/2009, 20th January 2009, concerning the composition and labelling of foodstuffs suitable for people intolerant to gluten, specifies that the use of the terms very low gluten or gluten free on the labelling of such products is used for indicating respectively a content of gluten not exceeding 100mg/kg and 20mg/kg.

Food technologists, formulators and chefs are working hard to –crack the code – of delicious tasting gluten free foods over the years. Gluten provides: structure, strength, elasticity and extensibility. In, food processing gluten imparts viscosity, provides taste, texture and appearance (crust colour development), helps to extend the shelf life of the product, and increases the nutritional profile (delivers proteins, nutrient, and fibre). Bakery products suffer the most because their texture is dependent on gluten formation in doughs and batters. Therefore rice flour, potato starch form the primary structure of gluten free foods especially
baked goods. Gums such as xanthan and cellulose act as binders to hold baked goods together. Proteins such as eggs, soy or pulses are important in adding structure. Additionally fibres, fats and emulsifiers, enzymes and mould inhibitors (to improve shelf life) are used in the processing of gluten free foods.

Consumers are not only wanting more gluten free foods and beverages but they demand better taste, but also improved nutrition. This is an indication that there is still room for the category to develop, especially in food segments that typically contain gluten such as breads and bakery products.

The people who are supporting the gluten free growth are not people who have celiac. It is a whole other group of people, and to keep them engaged it’s really about product quality. If the continuous improvement and development is there then the food and beverage industry will continue to have audience. That is where the growth comes from.

References

1. NSF international.2015,U.S.consimers struggle to define and identify gluten. Press release Aug.24/2015
2. International food Information council foundation 2014,fact sheet Dec.9

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Nutritional Labelling: encouraging consumers to make healthier choices (Part of Panel Open for the Public)

Objectives

1. The importance of nutrition labelling system
2. Recognise which information by law must appear on the food labels
3. How to read food labels correctly

Description (Focus Statement)

1. Reading a label properly is important for people who are trying to manage their food intake
2. Simple formats enable consumers to quickly find the information they need to make nutritional balanced food choices depending on their lifestyle.
3. % Daily Values can help consumers to identity how a food can fit into their overall daily diet.

Abstract

Information is provided on packaging of food products to help consumers choose between different foods, brands and flavours. The European (EU) Food Information Regulation (FIR) came into force in December 2011 and applies to all member states. The new regulation serves to bring together existing general food labelling and nutrition labelling legislation while bringing it up to date with recent developments in food information. It has also simplified certain aspects to improve clarity and therefore consumer understanding. Companies have been given a 3 year transitional period to implement the legislation, giving them until December 2014 to comply with the changes to packaging. Mandatory provision of back of pack nutrition information will apply from December 2016. Back of back nutrition labelling will be compulsory for pre-packed foods from 2016. Front of pack labelling remains voluntary but the regulation specifies which information is presented if it is used. Specific information (for example name of food, weight or volume, ingredients, date and storage conditions, preparation instructions, name and address of manufacturer, packer or seller, lot number) must appear on food labels by law, although there are some exceptions.
Consumers across the European Union (EU) are confronted with an increasing variety of foods, especially processed and packaged products. Faced with such a range of foods, and with less and less time available for food shopping, it is important that healthy food choices are made easy. In this context, nutrition labelling may represent a useful tool to highlight essential information about the nutritional value and composition of products. But do consumers really notice these nutrition labels, do they understand them, and do they use them when buying foods?

Nutrition labelling is a means to inform consumers about the nutritional value of foods and ideally should help them make healthier food choices when doing their shopping. Various labelling schemes are available as governments, food manufacturers, retailers, and health and consumer organisations work on a consumer-friendly label design.

The new labelling law aims to empower consumers to make more informed dietary decisions. However, the challenge remains to generate and promote interest in and motivation for healthy eating among consumers. Provision of consistent information across food products will hopefully aid in achieving greater awareness and use of nutrition information.

References

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Abstract Title

Novel Foods with emphasis on the provisions of the new legislation on the Novel Food Regulation 2015/2283 (Part of Panel: Novel / Innovative of Food Science and Technology)

Objectives

1. Understand the concept of novel foods
2. Be familiar with the new EU legislation on Novel foods
3. Be able to recognise novel foods.

Description (Focus Statement)

The objective is to get a better understanding of what are Novel foods and the legal requirements for their use in the EU.

Abstract

The European Union has early on, in the mid 90’s, recognized the need to regulate Novel or new/innovative foods.

Since the adoption of the relevant legislation (Regulation 258/97) the Member States and the EU Commission recognized the need to reform this Regulation in order to mirror that numerous advancements in Food Science, Technology and Nutrition along with the emergence of new categories of foods.

The new Regulation on Novel Foods (Regulation 2015/2283) aims in simplifying the current authorisation procedure and bringing it in line with the latest EU Law and technological progress. This new Regulation includes and regulates new food categories such as food with new or intentionally modified molecular structure, as well as food from cell culture or tissue and food from material of mineral origin. Furthermore, the new Regulation covers food from plant obtained by non-traditional propagation practices where those practices give rise to significant changes in the composition or structure of the food affecting its nutritional value, metabolism or level of undesirable substances. The use of food from cloned animals as nanomaterials is also regulated in this Regulation.
Regarding the authorization of new novel foods, this has been simplified and EU centralized and an added authorization procedure regarding food used traditionally in third Countries with a track record of safe use.

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A. Abstract Title

LLL – T.12: Nutrition in Gastrointestinal Disease

Objectives

1. Apply the major nutritional recommendations in GI disease
2. Criticize and compare GI disease nutritional management in daily practice as opposed to recommendations
3. Synthesize protocols and procedures for the nutritional management of GI diseases

Description (Focus Statement)

LLL seminars in Clinical Nutrition and Metabolism are organized by CySPEN, which is the recognized partner of ESPEN in Cyprus. They are delivered in online and face to face format and allow accumulation of credits towards the award of the ESPEN Postgraduate Diploma in Clinical Nutrition and Metabolism. The Diploma requires successful participation in 14 live LLL courses and can be completed in any number of years according to individual progress.

Learning Outcomes Assessment

- Speaker and session evaluation report at the end of each session
- 30 question true/false post-test with an 80% (24/30) pass grade as a condition to receive 3 CME credits

Abstract:

Nutrition has been recognized as a significant contributor to human health since ancient times. In the works of Hippocrates, it is considered a necessary element in human health and disease prevention and its deregulation is associated with numerous human conditions, resulting in poor health, weakness, disability or even death.

Despite these traditional beliefs and doctrines, the scientific basis of the association between health and nutrition was only investigated after the 18th century, when technological advances (discovery of the microscope and micro-organisms, principles of Hygiene and Food Safety,
Industrial Revolution, transportations and networks) allowed the mass production, storage and distribution of food and therefore the study of its various effects in human population. This scientific and technological burst soon lead to the understanding that nutrition is both a direct cause of several diseases (e.g. vitamin c deficiency and scurvy, vitamin d deficiency and rickets) and a co-factor for most of the core causes of human mortality and morbidity, such as cardiovascular disease and cancer. Thus, it is nowadays recognized by the World Health Organization as one of the 10 main socioeconomic determinant of global public health.

With regard to G.I. diseases, it is well understood that the function of the G.I. tract is primarily the assistance of nutritional intake and nutrient processing and it is therefore essential that nutritional support is continuous to sustain a health G.I. tract. This is nowadays recommended even in conditions where traditionally total parenteral nutrition and G.I. rest were indicated, such as acute pancreatitis or short bowel syndrome. Moreover, early enteral refeeding has been shown to accelerate recovery and shorten duration of hospitalization in perioperative patients after abdominal surgery. In some such cases, nutritional enrichment with glutamine (immunonitrit) may also be beneficial. Moreover, in cases of ulcerative and Crohn colitis, nutrition is a core component of treatment and especially in early stages it has been shown to be at least equal if not superior to steroid treatment to induce and sustain disease regression. In more advanced stages, enteral nutrition should still be included in a multidisciplinary approach to inflammatory bowel disease, since it has been shown to assist wound repair and improve patient quality of life.

High output fistulas are common both in post-operative settings as well as in patients with inflammatory bowel disease. They are hard to manage due to their slow healing rate and their significant systematic effects (loss of fluid, nutrients and electrolytes). In most such patients it is not sufficient to provide the required calories orally / enterally and it is therefore required to supplement a proportion of the nutrients parenterally, with a goal to eventually stop parenteral support over a few months. If the nature of the fistula permits it, hypodermoclysis may also be used to provide additional fluids and prevent dehydration, especially in geriatric / terminal patients.

Nutritional fibres are known to offer a number of beneficial effects in human health. Although they do not contribute to total available calories, they can be absorbed and used by the gut flora, thus acting as a prebiotic to increase anaerobic metabolism and vitamin K production in the large intestine. They are also contributing to an increased transfer and catabolism rate across the G.I. tract, a process that may be beneficial for the removal of carcinogens (prevention of colon cancer) and the avoidance of bowel obstruction, malabsorption syndromes and infectious colitis. In addition, the capacity to retain a healthy normal gut flora also protects from bacterial translocation, a serious pathophysiological process in patients with liver and kidney failure.
B. Abstract Title
LLL - T. 23: Nutrition in Obesity

Objectives

1. Apply the major nutritional recommendations in obesity
2. Criticize and compare obesity nutritional management in daily practice as opposed to recommendations
3. Synthesize multidisciplinary nutritional interventions in obesity prevention, diagnosis and treatment

Description (Focus Statement)

LLL seminars in Clinical Nutrition and Metabolism are organized by CySPEN, which is the recognized partner of ESPEN in Cyprus. They are delivered in online and face to face format and allow accumulation of credits towards the award of the ESPEN Postgraduate Diploma in Clinical Nutrition and Metabolism. The Diploma requires successful participation in 14 live LLL courses and can be completed in any number of years according to individual progress.

Learning Outcomes Assessment

- Speaker and session evaluation report at the end of each session
- 30 question true/false post-test with an 80% (24/30) pass grade as a condition to receive 3 CME credits

Abstract

Obesity is one of the major health problems of today and is associated with increased risk of several diseases both in frequency and severity. The first module of LLL “Nutrition in Obesity”, deals with nutrition in the prevention of obesity and the role of both genetic and environmental factors in the development of obesity. Childhood obesity is also a major health problem not only in the United States and the other western countries but now also in developing countries throughout the world. Scientific researched has shown that breastfed infants tend to have a lower BMI than formula-fed infants and behavioral and hormonal mechanisms may explain this difference. Sedentary behavior and reduced overall physical activity along with shorter sleep duration promote the overconsumption of dietary macronutrients leading to obesity. Physical
activity or exercise in a sufficient dose, seem to better facilitate long-term maintenance of the new lower body weight after successful dieting. A negative energy balance is the crucial parameter in regard to weight loss and prevention of obesity.

Prevalence of severe obesity is increasing at a much faster rate than the prevalence of moderate obesity. Compared to moderate obesity, severe obesity causes twice the rate of morbidity and mortality obesity. Severely obese patients are characterized by several alterations that persist unchanged after weight loss and that may be linked to genetic predisposition. Conventional (non-invasive) therapy of severe obesity is based on lifestyle modification and includes diet, exercise and behaviour therapy. The aforementioned parameters are discussed in detail within the second module, entitled “Non-surgical interventions in severely obese patients”. However, many patients experience unsatisfactory results with such conservative treatment modalities. The third module deals with bariatric surgery as an increasing amount of data demonstrates that it is the only treatment for obesity with documented long-lasting effects not only on obesity itself, but also on associated disease. The number of bariatric surgical procedures performed annually is increasing. Bariatric surgical procedures can be divided into purely restrictive, malabsorptive, or combined types. In order to achieve optimal results after bariatric surgery, proper preoperative information and medical assessment is mandatory. Patients should be followed up life-long after bariatric surgery. Long-term outcome after bariatric surgery is related to attendance to follow-up.

As an individual ages, it must be acknowledged that there is more to keeping healthy than just maintaining optimal BMI. BMI is a crude indicator of obesity and differs in different populations. Optimal BMI of healthy adults is different from that of ill adults and it is age dependent. In the fourth module, the obesity paradox in different patient groups is thoroughly discussed. Emphasis is given in the areas of nutritional therapy in the ICU and of the obese patient in particular.

References:

1. ESPEN LLL Information on official website: [http://www.espen.org/education/lll-programme](http://www.espen.org/education/lll-programme)
### Speaker’s Details:

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A Abstract Title

Nutritional labeling, health claims – the meaning and their enforcement (Part of Panel: All about Nutritional Labelling)

Objectives

1. Understand the new rules of Regulation (EU) No.1169/2011 on the provision of food information to consumers with respect to mandatory nutrition labeling, requirements on food allergens and Nutrition and Health Claims
2. Understand how the mandatory nutrition declaration, food allergens, nutrition and health claims must be expressed and provided on the packing.

Learning Outcomes Assessment

- General provisions of Regulation (EU) No.1169/2011 on the provision of food information to consumers.
  - Basic requirements
  - Fair Information practices
  - Responsibilities
  - List of mandatory particulars
  - Additional mandatory particulars for specific types or categories of foods
  - Language requirements

- Mandatory Nutrition Declaration
  - Content of the mandatory nutrition declaration
  - Supplementation of the nutrition declaration with other nutrients and vitamins
  - Calculation of the energy value
  - Expression per 100g or per 100ml of the energy value and the amount of nutrients
  - Expression on a per portion basis or per consumption unit
  - Presentation, additional forms of expression and presentation
  - Omission of the requirement for the mandatory nutrition declaration

- Requirements on Labeling of certain substances or products causing allergies or intolerances
  - Substances or products causing allergies or intolerances
  - Labeling of certain substances or products causing allergies or intolerances
  - Labeling of food allergens for non-prepacked foods
  - Examples of labeling for pre-packed and non prepacked foods
• Nutrition and Health Claims
  - General principles for all claims
  - Definitions of Claims
  - Conditions for the use of nutrition and health claims
  - Nutrition claims and condition applying to them
  - Public EU register for nutrition and health claims

B. Abstract Title
The Law of the Food Labelling and How it is Enforced in Cyprus (Part of panel Open for the Public)
**Abstract Title**

Nutritional Claims and the impact to the consumer (Part of Panel Open for the Public)

**Objectives**

1. Understand the meaning of the permitted nutrition claims according to European legislation, what has to be aware and how to look the relevant information on the labels of food is going to bye, with practical examples, so as the make healthy and proper choices.
2. To be more careful and have more knowledge about the nutrition information on food labels.

**Description (Focus Statement)**

The consumers must have a high level of protection towards there healthy eating choices in relation to the packaged food they are going to buy and must be protected from misleading information by appropriate legislative, control and other measures.

**Learning Outcomes Assessment**

- In this lecture will be explained to the consumers the meaning of the permitted nutrition claims, what must they be aware and how to look this information on the labels of food they are going to bye, with practical examples, so as the make healthy and proper choices.

**Abstract**

The EU legislation (Regulation (EC) No 1924/2006 & 1047/2012) for nutrition and health claims aims to high level of protection of consumers from misleading information and to guarantee their right to information. Nutrition claim means any claim which states, suggests or implies that a food has particular beneficial nutritional properties due to: (i) the energy (calorific value) it provides or provides at a reduced or increased rate or does not provide, and (ii) the nutrients or other substances it contains or contains in reduced or increased proportions or does not contain. The permitted nutrition claims are the following in relation to the food they are used and they must comply to specified restrictions: (i) low in energy, (ii) energy reduced, (iii) energy-free, (iv) low fat, (v) fat-free, (vi) low saturated fat, (vii) saturated fat-free, (viii) low in sugars, (ix) sugars-free, (x) with no added sugars, (xi) low in sodium/salt, (x) very low in sodium/salt,
(xi) sodium-free or salt-free, (xii) no added sodium/salt, (xiii) source of fibre, (xiv) high in fibre, (xv) source of protein, (xvi) high in protein, (xvii) source (name) of vitamins and/or minerals, (xviii) high in (name) of vitamins and/or minerals, (xv) contains (name) of nutrient, (xvi) reduced (name) of nutrient, (xvii) light or “lite”, (xviii) naturally/natural’, (xix) source of omega-3 fatty acids, (xx) high in omega-3 fatty acids, (xxi) high in monounsaturated fat, (xxii) high in polyunsaturated fat and (xxiii) high in unsaturated fat. In this lecture will be explained to the consumers the meaning of these claims, what must they be aware and how to look this information on the labels of food they are going to buy, with practical examples, so as the make healthy and proper choices.

References

2. Commission Regulation (EU) No 1047/2012 of 8 November 2012 amending Regulation (EC) No 1924/2006 with regard to the list of nutrition claims Text with EEA relevance
Abstract Title:

Let us be inspired by a parent (Part of Panel: Pediatric Rare disorders – in coordination with the Association of Unique Smiles)

Abstract:

My Journey as a mother of Unique Smile started 6 years ago when after visiting numerous doctors, specialist, having a few surgeries for treating symptoms, my little son Antreas was diagnosed as the only child in Cyprus with Maroteaux-Lamy Syndrome. Shifting sides from a health care professional to being the mother of the patient made me face firsthand the importance of early diagnosis, specialization and patient centered multidisciplinary team. A team of a group of health care professionals who have the opportunity to meet often in order to catch up on difficulties and find proper treatments early enough before another disability. At the moment services are scattered and patients usually visit specialists to therapists searching for answers. Scattered services that are rather impersonal without specialization are faced not only in health but in education, too.

Through peer to peer support we have managed to turn all the painto positive energy establishing in 2014 the Pancyprian Association for Rare disease Unique Smiles with a main goal to great a Reference Center for Rare Disease in Cyprus. Every Unique Smile in our lives gives us the strength and inspiration to bring this Center to life, because, alone we are rare but together we are strong!

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Abstract Title:

Nutritional needs in early childhood: How to ensure optimum growth and prevent obesity (Part of Panel: Obesity: A Great Worry)

Abstract

The prevalence of childhood obesity varies throughout Europe but also varies within each member state, among different socioeconomic groups and regions, reaching epidemic proportions in several population groups and/or sub-groups of children [1, 2]. Recent data indicate that the etiological roots of childhood obesity can be found in very early life stages, with several pre- and post-natal factors implicated in the manifestation of the disorder [3, 4]. In addition, several lifestyle patterns and energy balance related behaviors (EBRBs) are also strongly implicated in the multifactorial etiology of childhood obesity, with most of these EBRBs being driven by cultural, social and environmental parameters, within the family and the local communities [5]. Regarding preschool children, the reported prevalence of overweight and obesity at 4 years ranges from 11.8% in Romania to 32.3% in Spain with countries in the Mediterranean region reporting higher rates than those in Middle, Northern and Eastern Europe [6].

In addition to the excess caloric surplus that leads to obesity, a number of national dietary surveys conducted throughout Europe have consistently reported a considerable increased prevalence of suboptimal dietary micronutrient intakes [7, 8]. As a result, nutritional insufficiencies are very common among infants, toddlers and preschool children in Europe. More specifically, iron deficiency (serum ferritin levels < 12 mg/dL) has been reported to range from 2% to 48% in infants 9 and 10 months old from Denmark and France, as well as from 14% to 38% in toddlers and preschool children (2-6 years old) from France. Vitamin D insufficiency (serum 25(OH) D levels: 25-30 nmol/L) is another clinical condition requiring special attention, since its prevalence in children has been reported to be considerably high in most European countries, particularly from southern Europe [9]. Furthermore, although scarce, data from different European countries indicate that some sub-groups of preschool children have inadequate intakes of certain nutrients, such as zinc, iodine and selenium, and might be at risk of insufficiency.

The above “paradox” in terms of having a dietary energy intake surplus on the one hand and insufficient dietary intakes of micronutrients on the other, could mainly be due to a shift observed in many developed countries over the last decades regarding food consumption.
patterns in their populations. More specifically, the consumption of nutrient-rich core food groups (e.g. whole grains, vegetables and low-fat dairy products) has been partially replaced by the consumption of nutrient-poor but, at the same time, energy-dense food groups (i.e. added sugars and solid fats) [10]. This shift in food consumption patterns could be considered as one of the main aetiological factors of the observed insufficient dietary intakes of micronutrients and seems to be strengthened even more when taking into account the fact that compliance of the population with food-based dietary recommendations has been repeatedly reported to be particularly low.

Further to the above, any public health initiative should be tailored to the needs of specific population groups or sub-groups most in need for intervention. In addition to preventing obesity, such public health initiatives should also be aiming in promoting sufficient micronutrient intakes within the recommended thresholds possibly by putting, among other strategies, special emphasis on adequate consumption of a variety of nutrient rich core food groups, thus also supporting optimum growth and development of children.

References


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A. Abstract Title

The importance of the first 1000 days (Part of Panel: Before, During and After Pregnancy)

Objectives

1. have an awareness of the vision of the “First 1000 days” initiative
2. have an awareness of the evidence that underpins the priorities for this initiative,
3. have some appreciation of the impact of the “First 1000 days” initiative to date

Description (Focus Statement)

The “First 1000 days” initiative has important implications internationally and should not be seen as one for only developing countries. All Governments should be committed to prioritising this period in maternal and child lifespans to promote the health of their populations long term. This presentation aims to explore the background evidence of the priorities within the initiative and also how addressing these can impact on population health outcomes.

Learning Outcomes Assessment

- Not Applicable, no formal assessment will take place

Abstract

In 2008 the Lancet’s Series on Maternal and Child Undernutrition reported that by a child’s second birthday, ongoing undernutrition, could result in irreversible physical and cognitive damage, impacting future health, economic well-being, and welfare. The series also called for focused evidence-based international action to address this problem. This attention to the impact of poor nutrition through pregnancy and up to the 2nd birthday of a child gave rise to focused international efforts and the birth of the “First 1000 days” initiative. This short presentation will review the evidence supporting this initiative, and the positive impacts that strategies may have in promoting good nutrition to mothers and their children.

B. Abstract Title

Nutrition Intervention and Autism (Part of Panel: The new data in pediatrics and maternal nutrition)
Objectives

1. have an awareness of the current research in the area of nutrition and autism
2. be aware of the common issues faced by families and carers in relation to diet in children with autism
3. be aware of practical strategies that may be used to addressing the common issues faced.

Description (Focus Statement)

Autism presents with significant behavioural issues and not least of these relate to basic activities such as eating and drinking. The impact on families and carers can be significant but evidence to support dietary intervention is limited. This presentation will explore common issues faced by children, families and carers and the evidence to support strategies for intervention.

Learning Outcomes Assessment

- Not Applicable, no formal assessment will take place

Abstract

The cause of autism (ASD) remains unclear but it is clearly linked with behavioural issues, including food related behaviours. Additionally some evidence suggests that there is a high prevalence of gastrointestinal and increased gut permeability in individuals with ASD. This presentation will focus on the common nutritional issues associated with ASD, and the evidence base underpinning nutrition interventions with this condition.

Speaker’s Details

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An Exploration of Nutrition Information For People With Type 2 Diabetes (Part of Panel: Innovative in Nutrition Diabetes Management)

Objectives

1. Have a knowledge and understanding of: the diary: diary – interview method that may be used to explore how people with diabetes access nutrition information
2. how data from these methods may be analysed
3. the experience of using food labels as a source of nutrition information by people with type 2 diabetes

Description (Focus Statement)

Provision of information about nutrition is a key aspect of diabetes management and is available from food labels, the media and internet. The aim of the research was to explore nutrition information accessed and used by people with type 2 diabetes and their partners/carers. Further research is needed to explore how best to support people with type 2 diabetes in food label interpretation and managing the information available to them about diet.

Abstract

Provision of information about nutrition is a key aspect of diabetes management and is available from food labels, the media and internet. The aim of the research presentation is to explore nutrition information accessed and used by people with type 2 diabetes and their partners/carers.

The research utilised a qualitative approach involving the use of unstructured solicited diaries followed by qualitative interviews (diary: diary-interview method, (Zimmerman & Wieder, 1977)) with people who have type 2 diabetes. Diaries recording nutrition information accessed were kept for one month and were followed up by qualitative interviews exploring the diary entries and experiences of nutrition information in general. Thematic analysis supported by qualitative data analysis software was used. Ethics approval was obtained from the University of Hertfordshire.
Nutrition methods, and the application of the measurement methods, and the application of the measurement hand grip strength in the assessment of nutritional status, the recommended equipment and kilograms of force (eg Jamar® and Takei®). This paper will review the research on the use of nutritional interventions in dietetic practice. The main type of hand grip strength equipment

Objectives

Reduced hand grip strength is associated with malnutrition and an improvement in hand grip strength is an indicator of improved nutritional status and thus is a useful outcome measure of nutritional interventions in dietetic practice. The main type of hand grip strength equipment used in the assessment of nutritional status is the hydraulic type which measures strength in kilograms of force (eg Jamar® and Takei®). This paper will review the research on the use of hand grip strength in the assessment of nutritional status, the recommended equipment and methods, and the application of the measurement in dietetic practice.

References


B. Abstract Title

Nutrition Focused Physical Exam: Identifying Malnutrition with Hands-On Training (Part of Panel: Evidence Based Topics in Nutrition and Dietetics)

Objectives

1. assess the research relating to the use of hand grip strength and the assessment of nutritional status
2. assess the equipment and methods used to assess hand grip strength
3. practically apply the knowledge to their dietetic practice

Description (Focus Statement)

Reduced hand grip strength is associated with malnutrition and an improvement in hand grip strength is an indicator of improved nutritional status and thus is a useful outcome measure of nutritional interventions in dietetic practice. The main type of hand grip strength equipment used in the assessment of nutritional status is the hydraulic type which measures strength in kilograms of force (eg Jamar® and Takei®). This paper will review the research on the use of hand grip strength in the assessment of nutritional status, the recommended equipment and methods, and the application of the measurement in dietetic practice.

Further research is needed to explore how best to support people with type 2 diabetes in food label interpretation and managing the information available to them about diet.
Abstract

Dynamometry or hand grip strength measures functional strength is used by dietitians as a tool to assess nutritional status. A change in grip strength can be used to determine the outcome of a particular nutritional intervention and has been linked with post-operative recovery and length of hospital stay (Norman, Stobäus, Gonzalez, Schulzke, & Pirlich, 2011). Patients are asked to grip the dynamometer as hard as they can, the maximum of three readings is then taken as the measurement. Specific guidance is given on how to use a dynamometer by the manufacturer. The figure is compared to standards with 85% of the standard figure for age and gender suggesting malnutrition. To find out what research is being undertaken in this area a search of the research literature published between 2007 and 2016. The terms used were (hand grip strength or dynamometry) AND (nutritional assessment or nutritional status) AND (nutritional intervention). 15 articles that were accessible, in English and that related to adults were reviewed. Twelve were RCTs, one was a prospective study, one was a systematic review and one was a meta-analysis. 80% (12) specifically investigated supplementing nutritional intake in grip strength, 27% (4) investigated the impact of a dietitian as part of patient care on grip strength and 40% (6) of the studies explored the impact of the intervention on the grip strength of older people. 60% (9) studies showed an improvement in grip strength following the intervention. 80% (12) referred to using a specific hydraulic dynamometer. No study used the assessment of grip strength alone as the outcome measure. Grip strength using a hydraulic dynamometer is used as an outcome measure of dietetic intervention alongside other methods to assess nutritional status. This presentation will discuss the dynamometers available on the market currently and review with the participants the potential application to their clinical practice.

References


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Abstract Title

Allergens-Challenges at a National and European Level (Part of Panel: All about Nutritional Labeling)

Abstract

The number of people with food allergies is increasing year by year and despite the fact that exact prevalence is unknown, estimates are (1) adults ~2%, Children ~6%, summing up to 250 million people worldwide.

The introduction of the new Regulation (2) on labelling, has been a great improvement for the prevention of such food allergies, since the consumer is given warning that the food contains or may contain a food allergen. Cases of unsuspected consumers ended up in hospital in a serious condition. There is therefore a need for more stringent control on behalf of the Food Authorities and National Labs (3) that have sensitive and reliable methods but also the need to have a harmonized approach, since there is a free movement of food products among MS. This approach is also necessary for import control for products.

Focus on products, that could be fraudulently substituted with food allergens, for economic gain, and can go by undetected, is important where unsuspected consumers can find themselves in a life threatening situation (4).

Cyprus, was among the countries which gave in the recent past a number of RASFF Notifications, based on a zero tolerance for a food allergen. Later Cyprus decided to use the Risk Assessment tool “Vital” prior to Notifications but this seems not to be fully accepted by MS. In the RASFF system, countries report (5) allergens at 1.5ppb but others at higher levels.

Allergiologists in Cyprus placed themselves at zero tolerance for food allergens as the concentration of proteins that can bring allergic reactions to consumers varies from person to person and from protein to protein. There is consequently a need for further implementing a robust traceability system in place, strict implementation of the Regulation with food surveillance and control programmes, sensitive and reliable methods for the determination of allergens, studies for the threshold and a harmonized risk assessment of food allergens.

References:

3. Table: “Trend of the presence of allergens from 2006-2015 in Cyprus”.
5. RASFF notification no. 2016.0561, Subject: Traces of milk in acacia honey from China.
Obesity and metabolic syndrome in children (Part of Panel: The new in pediatrics and maternal nutrition)

**Objectives**

1. Describe the relationship between obesity and metabolic syndrome in children
2. Recognize the difficulty of defining metabolic syndrome in children
3. Recognize the multiple risk factors associated with obesity and metabolic syndrome in children

**Description:**

As the prevalence of obesity in youth is increasing with extremely high rates, so does the occurrence of obesity related comorbidities. The criteria for defining metabolic syndrome in children have not been established yet; what is clear though is that the risk of developing CVD or T2DM increases substantially in the presence of metabolic syndrome.

**Learning Outcomes Assessment:**

- Discussing the prevalence of obesity and metabolic syndrome in children
- Explain how to assess obesity and metabolic syndrome in youth

**Abstract**

Based on IOTF, it is estimated that approximately 10% of children worldwide aged 5-17 are overweight and 2-3% are obese. These prevalence rates vary between regions and countries, from <5% in Africa and some parts in Asia to >20% in Europe and >30% in the Americas and some countries in Middle East. Childhood obesity increases the potential for early onset of cardiovascular disease as a result of metabolic syndrome, a name for a group of factors that raise the risk for heart disease and other health problems. Metabolic syndrome in obese children is also associated with increased risk for the development of type 2 diabetes. Currently, no unifying definition exists and the impact of metabolic syndrome on other obesity-related comorbidities continues to be poorly understood. However, it is clear that the risk of developing CVD or T2D increases substantially in the presence of metabolic syndrome, with a twofold increase for the...
children and fivefold increase in adult populations. Screening and identifying children and adolescents of high cardiometabolic risk and encouraging them and their families through healthy lifestyle changes should be implemented to as a global public health strategy. We as health care providers, together with government, community members and parents, have a serious challenge in maintaining the health, well-being, and quality of life for all our children, as they are our future.

References:


B. Abstract Title

Nutrition in Nonalcoholic fatty liver disease in adults and children (Part of Panel: Evidence based topics in Nutrition and Diabetics)

Objectives

1. Define NAFLD and summarize demographic features of NAFLD in children and adults
2. Identify clinical manifestations of NAFLD
3. Distinguish the importance of different nutrients for adults and children with NAFLD

Description (Focus Statement)

Both genetics factors and lifestyle contribute to the pathogenesis of NAFLD. Lifestyle, including dietary habits and physical activity, is a modifiable risk factor and thus represents the main target for the prevention and treatment of NAFLD. This session will explore and evaluate our current understanding of NAFLD in childhood, adolescent and how it differs from adult NAFLD, especially when it comes to dietary treatment.
Learning Outcomes Assessment

- Discussing the definition of NAFLD in adults and children as well as the prevalence
- Identify risk factors to both groups
- Discussing the effects of energy, CHO, Fiber and other nutrients for both groups

Abstract

NAFLD is the most common liver disease worldwide and it is associated with other medical conditions such as diabetes mellitus, metabolic syndrome, and obesity with an estimated prevalence of 20 to 30% in developed countries. Pediatric population is affected around 10-20%. While our understanding of the pathophysiological mechanisms underlying this disease remains limited, it is thought to be the hepatic manifestation of more widespread metabolic dysfunction and is strongly associated with a number of metabolic risk factors, including insulin resistance, dyslipidemia, cardiovascular disease and, most significantly, obesity. Energy intake, CHO, carotenoids, fructose, vitamin D, Omega 3 FA, probiotics and many other nutrients have been found to have either negative or positive effects. However, maintenance of a high clinical suspicion by all members of the multidisciplinary team in primary and specialist care settings remains the most potent of diagnostic tools, enabling early diagnosis and appropriate therapeutic interventions.

References:


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Abstract Title

Dietitian in Education (Part of Panel: The role of dietitian in different settings and within healthcare team)

Objectives

1. Understand the importance of Nutrition Education as an intervention tool providing people with the knowledge, skills and motivation to make wise dietary and lifestyle choices, building thus a strong basis for a healthy and active life.
2. Identify the role of the Dietitian in Nutrition Education and Research and the different setting where dietitians can work as Nutrition Educators
3. Familiarize with Nutrition and Education Programs Worldwide and their effectiveness

Description (Focus Statement)

The average one-year health expenditure per capita in the European member states has doubled in the last 15 years. Prevention is less expensive than treatment, and changes in diet and lifestyle remain the most effective way to reduce the financial health care costs. However, European health systems are primarily treatment systems, not preventive systems. Improper diet and lack of physical activity are the most critical factors contributing to the overweight and obesity pandemic. Nutrition Education is a necessary tool in shaping lifelong positive behaviors of young people, leading to actively promoting and maintaining health.

Learning Outcomes Assessment

- The above stated objectives are assessed by the interactive lecture that will be given and with the final assessment of the conference.

Abstract

In the European Commission Press Release (2013) the emphasize that the average one-year health expenditure per capita in the European member states has doubled in the last 15 years. Furthermore, prevention is less expensive than treatment, and changes in diet and lifestyle remain the most effective way to reduce the financial health care costs. However, European health systems are primarily treatment systems, not preventive systems. Inappropriate diet and lack of physical activity are the most serious factors contributing to the overweight and obesity
pandemic. Nutrition Education is a necessary tool in shaping lifelong positive behaviors of young people, leading to actively promoting and maintaining health.

Research has shown that schools or districts where the nutrition education efforts are coordinated by a person or group have an opportunity to present a more focused message to students about the importance of healthy eating. However, the majority of European schools have no nutrition education coordination.

Dietitians as Nutrition Educators can work in training student dietitians, doctors and other health professionals. Furthermore, they can work in research which forms a key element in the decisions made around human health and in research for government and non-government organizations interested in how best to improve health. Dietitians can also work in health professional school, and culinary school, in elementary and high schools teaching nutrition education, as coordinators of programs for Ministry of Education and Culture, Ministry of Health (i.e. School breakfast program), Ministry of Agriculture, at worksite wellness--teaching nutrition and other health promotion to employees, as well as educators in hospitals, research institutes, in the food industry and as academia in universities teaching and researching.

Interventions targeted at healthy nutrition need to occur early in childhood and adolescence in order to prevent or reverse the adverse health effects of overweight and poor eating habits (St-Onge, Keller &Heymsfield, 2003). Childhood and adolescence is a critical period as the biological need for nutrients is high in comparison to energy needs. A diet of high nutritional value is therefore particularly important. In addition, eating habits, lifestyle and behaviour patterns are developed that may persist throughout adulthood. Schools can provide an important opportunity for prevention (Carter, 2002), as they provide the most effective way of reaching large numbers of people, including youth, school staff, families and community members (WHO, 1998). Healthy food and nutrition should be a high priority on every school agenda because of the positive affect on child well-being. Evidence suggests healthy food and improved nutrition improves learning ability, leading to better academic performance. A universal food and nutrition policy cannot be formulated due to the wide variation in European school systems. Individual countries, authorities or schools are therefore responsible for deciding which suggestions are most appropriate and applicable to their circumstances. However, the key elements are the school community, the school curriculum, school environment and school nutrition and health services (WHO 2006).

The Health Eating for young people in Europe program, a school-based nutrition education guide (WHO) intends to encourage the further development of nutrition education in European schools. It intends to do this by placing nutrition education within the idea of the health-promoting school and by providing a framework for nutrition education in the health-promoting school. The framework provides objectives for nutrition education for four age groups from 4 to 16 years old under seven topic headings. The objectives are not only focused on the whole school but also the families and the community (Dixey et al 2006).
References

7. EUROPEAN HEALTH21 TARGET 14 MULTISECTORAL RESPONSIBILITY FOR HEALTH. (Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)

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Mrs Philpot Ursula, MSc, RD, FHEA

A. Abstract Title

MARSIPAN: Management of Really Sick Patients with Anorexia Nervosa (Workshop)

Objectives

1. State the differences between general refeeding guidelines and MARSIPAN guidelines
2. State 3 different treatment approaches for refeeding at low weight
3. Discuss how these guidelines apply to different clinical practice settings

Description (Focus Statement)

MARSPIAN guidelines have been developed to support complex decision making in the refeeding of low weight patients with eating disorders. The workshop discusses the development and implementation of these guidelines, and critically reviews the evidence for refeeding approaches within this patient group.

Abstract

MARSPIAN and Junior MARZIPAN guidelines are published by the Royal Collage of Psychiatry and have been developed by a multi-professional group to support clinicians making complex decision making in the refeeding of low weight patients with eating disorders. This workshop takes a closer look at the development and implementation of these guidelines, and their impact on clinical practice. It discusses the background to the development of MARSIPAN and Junior MARSIPAN, starting with case examples of at recent recorded deaths through under feeding, overfeeding or a lack of joined up care management between community and hospitals teams. Strategies to prevent under or over feeding, and the complexities of managing this balance alongside dealing with staff anxiety and patient behaviours are debated. The workshop aims to support dietitians in making difficult decisions around macronutrient and energy requirements, and prophylactic supplementation of micronutrients to help prevent refeeding syndrome. These are with some evidence base, but they do not replace clinical assessment and judgement - the workshop aims to support dietitians to critically think about critical care in refeeding.
Each of the clinical recommendations from the guidelines are considered, and the application of these to practice reviewed, and examples of good practice and strategies for managing patients with complex mental health needs on acute wards and discussed. Included in the workshop are reviews of some recent and post MARSIPAN publications on refeeding approaches including the use of low salt feeds, PEG feeds and supplementing diet with Nasogastric feeding. The implication of these papers and MARSIPAN guidelines on practice are reviewed.

References


B. Abstract Title

Supersize vs Superskinny (kids)-Evidenced based (Part of Panel: Matters of Exercise and Body Weight)

Abstract

Using TV programmes to effect nutritional behaviour change- opportunities and challenges

Planning and delivering successful TV programmes such as these involves a considerable amount of negotiation in regard to:

1) Drama on screen, and professional boundaries/ethics and duty of care to the contributors involved. For example the producers prefer an “expert knows best” “exposing/shaming” approach which conflicts with patient centred care which is non-blaming/shaming and aims to collaboratively explore how the person become stuck in current situation and how they might move forwards. These tensions have to careful balanced to ensure a successful programme and
comply with ethical and professional standards and duty of care. The onscreen impression is often misleading – what you see on screen does not reflect the package of care the contributors get.

2) Dietetic interventions that translate to screen with take home messages. For example information exchange about physiology or food science, and balanced constructive advice around diet is not exciting on screen. Therefore any educational point must have a very visual and revealing or challenging task involved.

Many of the contributors are very successful during the 3 months of TV intervention work. This is due a combination of the following:

- The “magical power of television” and the effect this has on hope, and positive thinking.
- Access to the a very wide support team on a regular basis –including expert psychology, psychiatry, general support team, and Dietetics.
- Individualised meal/exercise plans and daily contact for support to implement these
- Modelling- via support teams
- Innovative interventions that can happen because of resources of time, money and a team to implement.
- Accountability in terms of commitment to the project on TV!

There are some contributors for whom it does not seem to work as well. This is usually due to

- The “magical power of television” and the expectations that brings e.g. “the magic wand effect” and belief that if they are “told” to stop eating, they will be able to do it. Intention gap.

Inappropriate selection of contributors. The TV team select families that have considerable (often dramatic) “back story” and will come across well on screen- due to complex back stories, intervention for behavioural goals around food and activity is often not sufficient to effect change, because fundamental psychological work has not taken place prior to behaviour change interventions. Despite expectations and commitments of contributors we do not have a magic wand and just being told to stop eating, will not work if eating is bound up with conditions such as trauma, Obsessive compulsive disorder, eating disorders etc! Some contributors will be unsuccessful on screen, and leave with new diagnosis and need for ongoing support.
Mr Pipis Hristodoulos

Abstract Title

Cow Milk Varieties, Processing and Health – Evidence Based (Part of Panel: Novel/Innovative of Food Science and Technology)

Objectives

After this presentation, the attendee will be able to:
1. Comprehend which are the existing nutritional varieties of cow milk
2. No detrimental effect occurs to milk quality as a result of this variety processing
3. The performed examinations (microbiological and physicochemical) safeguard milk’s safety

Abstract

High quality and safety of cow, sheep and goat milk in Cyprus is of great importance in order to produce high quality and safe dairy products. In Cyprus there are about 250 cow farms, 3500 sheep and goat flocks.

The dairy products produced in Cyprus are mainly: a) semi-hard cheese (i.e. Halloumi), b) soft whey cheese (i.e. fresh anari), c) hard cheeses (i.e. dry anari and kefalotyri) and d) yoghurt, which are exported in major quantities to EU and non-EU countries.

The Veterinary Services in order to ensure high milk quality and milk products safety has established since 2004 the National Control Plan for raw milk. This program includes sampling of milk at the farm during transportation and during delivery of milk to the dairy industry. The analyses are carried out by the laboratory of control of food of animal origin (LFCAO). Raw milk section includes tests for presence of antibiotics residues, aflatoxin-M1, Total Plate Count (TPC) and Somatic Cell Count (SCC).

Additionally, cow, sheep and goat milk raw milk sample analysis are carried out according to the National Residue Plan which includes analysis for dioxins, residues, heavy metal etc. The analyses are carried out either by the State General Laboratory (SGL) or other external accredited laboratories.

Both programs are implemented annually and can be reviewed accordingly.
Abstract Title

FODMAPs: Emerging Science and Implications for Practice (Part of Panel: Newer data and considerations in gastrointestinal diseases)

Abstract

Fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMAPs) are being investigated for their role in gastrointestinal symptom generation in irritable bowel syndrome (IBS). The mechanisms underpinning symptom-aggravation include an increased osmotic load in the small intestine and gas volume in the colon, demonstrated in both MRI and blinded, controlled feeding studies. Dietary restriction of fermentable carbohydrates (popularly termed the ‘low FODMAP diet’) has received considerable attention. There is a growing body of research that demonstrates the efficacy of fermentable carbohydrate restriction in IBS; however, our understanding of this approach including who is most likely to respond and other benefits beyond symptom control are only beginning to be elucidated. Emerging evidence also advocates caution surrounding the diets influence on the gut microbiota and nutrient intake. Moreover, strategies to mitigate these potential detrimental side effects, including pre- and probiotic supplementation, are currently under investigation. Fermentable carbohydrate restriction in people with IBS is promising, but the effects on gastrointestinal health and refining patient selection requires further investigation.

References

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A. Abstract Title

Feeding the Critically Ill Obese Patient - Current Approaches and Potential Implications (Part of Panel: A Great Worry)

Objectives

1. Recognize the emerging importance of nutrition support care in the critically ill obese patients.
2. Assess and implement the current approaches and implications regarding the nutrition support if the critically ill obese patients.

Description (Focus Statement)

Nutrition support is a key element of management during critical illness. Discussing the challenges, current approaches and implications in the management of critically ill obese patients helps to improve outcomes favorably.

Learning Outcomes Assessment

- Providing guidance, discussing implications of caloric and protein prescriptions and identifying challenges and management strategies in providing nutrition support to critically ill obese patients.

Abstract

The growing prevalence of critically ill obese patients is considered a challenge across medical and surgical intensive care units. The impact of obesity in the critically ill patients may vary by type of critical illness, obesity severity and its associated co-morbidities. Given the increased awareness of the detrimental complications of overfeeding, the safety and efficacy of specialized nutritional support for the critically ill obese patient is of major concern.

Energy requirements are altered in critically ill patients and are influenced by the clinical situation, treatment, and phase of the process.

As a response to metabolic stress, obese critically-ill patients have the same risk of nutritional deficiency as the non-obese and can develop protein-energy malnutrition with accelerated loss of muscle mass.
The primary aim of nutritional support in these patients should be to minimize loss of lean mass and accurately evaluate energy expenditure. Thus, a strategy to approach the nutritional needs of these patients should be carefully assessed and a strategy of hypocaloric nutrition support with beneficial fat reduction and sparing lean body mass is crucial. However, routinely used formulae can overestimate calorie requirements if the patient’s actual weight is used. Consequently, the use of adjusted or ideal weight is recommended with these formulae, although indirect calorimetry is the method of choice.

Controversy surrounds the question of whether a strict nutritional support protocol adjusted to the patient’s requirements, should be applied or whether a certain degree of hyponutrition should be allowed. Current evidence suggested that hypocaloric nutrition can improve results, partly due to a lower rate of infectious complications and better control of hyperglycemia. Therefore, hypocaloric and hyperproteic nutrition, whether enteral or parenteral, should be standard practice in the nutritional support of critically-ill obese patients when not contraindicated.


Further research is needed to validate a standard nutrition support in this population.

REFERENCES


11. Society of Critical Care Medicine: www.sccm.org


13. The European Society for Clinical Nutrition and Metabolism: www.espen.org/education/lll-programme

B. Abstract Title

Medical Nutrition Therapy for the Different Types of Renal Diseases (Part of Panel: Renal Diseases)

Objectives

1. Assess the common diseases associated with kidney dysfunction.

2. Recommend basic medical nutrition therapy goals and treatments for a variety of kidney diseases and their manifestations.

Description (Focus Statement)

There is a strong correlation between medical nutrition therapy and kidney disease progression. Discussing the latest clinical guidelines and current approaches and implications in these patients helps to improve outcomes favorably.

Learning Outcomes Assessment

- Providing current clinical practice guidelines and recommendations to apply the principles of medical nutrition therapy for a variety of kidney diseases.

Abstract

The renal diet has traditionally been regarded as one of the most complex medical nutrition therapies. Renal failure is the state resulting from a reduction in renal excretory function sufficient to have adverse physiological effects. It may be chronic and irreversible or acute and potentially reversible, and fatal in its extreme form.
As the incidence of kidney disease continues to increase worldwide, early intervention, screening and appropriate medical nutrition therapy play a major role in the progression and prevention of complications of different types of renal disease.

The National Kidney Foundation in the U.S recommends testing for all patients with diabetes, hypertension, a family history of kidney disease, age >60 years, and ethnic minorities because these are the most prominent risk factors for chronic kidney disease. Chronic kidney disease is defined by the National Kidney Foundation as either a decline in glomerular filtration rate (GFR) to <60 mL/min/1.73m2 or the presence of kidney damage for at least 3 months and is subdivided into 5 stages of increasing severity. Assessment for the complications of the disease, include anemia, bone metabolism abnormalities, metabolic acidosis, and malnourishment.

Chronic kidney disease promotes hypertension and dyslipidemia, which in turn can contribute to the progression of renal failure. Furthermore, diabetic nephropathy is the leading cause of renal failure in developed countries. Together, hypertension, dyslipidemia, and diabetes are major risk factors for the development of endothelial dysfunction and progression of atherosclerosis. Consequently, subjects with chronic renal failure are exposed to increased morbidity and mortality as a result of cardiovascular events. Early screening and treatment, in addition to nutritional management and patient education are key elements to help to maintain good nutritional status, slow progression, and treat complications of renal disease.

References

8. The Renal Association-UK, 2016: www.renal.org
11. Then and Now: How the Dietary Guidelines for Americans Changed from 2010 to 2015; Academy of Nutrition and Dietetics, 2016: www.eatright.org

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Childhood obesity and dietary habits: Lessons from the Greek Childhood Obesity (GRECO) Study (Part of Panel: Evidence based topics in Nutrition and Dietetics)

A. Abstract Title

Childhood obesity and dietary habits: Lessons from the Greek Childhood Obesity (GRECO) Study (Part of Panel: Evidence based topics in Nutrition and Dietetics)

Objectives

1. Know the importance to prevent childhood obesity
2. Understand the relationship between childhood obesity and dietary patterns/nutrients
3. Realize the importance of other factors apart from dietary habits which increase the risk of childhood obesity

Description (Focus Statement)

Childhood Obesity is a public health problem associated with various conditions in this age group as well as with the development of chronic diseases in adulthood. GRECO Study was a cross sectional study which was carried out between Oct and May 2009. The sample, which was representative, was collected from primary schools (5th&6th grade) at 10 counties (14 prefectures and consisted of 5000 children 10-12 yr of age and their parents. Overweight and obesity rates were almost 40% in both genders and regarding adherence to the Mediterranean diet (MD), only 4.3% of children had an optimal score, while 46.8% were classified as low adherers to the MD.

Abstract

Childhood Obesity is a public health problem associated with various conditions in this age group as well as with the development of chronic diseases in adulthood.

The aim of the GRECO Study was to provide national data on overweight and obesity (OW/OB) prevalence in a representative sample of primary schoolchildren aged 10-12 years old, to evaluate the quality of children’s diet by assessing the degree of adherence to the Mediterranean diet and its association with the obesity rates, and to identify those socio-economic, demographic factors, as well as dietary and physical activity habits and family characteristics that are associated with childhood and preadolescent OW/OB.
GRECO Study was a cross sectional study which was carried out between Oct and May 2009. The sample, which was representative, was collected from primary schools (5th&6th grade) at 10 counties (14 prefectures and consisted of 5000 children 10-12 yr of age and their parents. Overweight and obesity rates were almost 40% in both genders. Regarding adherence to the Mediterranean diet (MD), only 4.3% of children had an optimal score, while 46.8% were classified as low adherers to the MD. Physical activity levels did not correlate with BMI levels, but on the other hand studying hours during weekdays (a sedentary behavior reported in the literature) did. Free sugars were not correlated with BMI and main contributors to sodium intake were found to be pizza, white cheese and bread. In addition, meat products and cheese were also positively correlated with blood pressure. The presence of TV and PC/video game player in the children's bedroom was also associated with higher OW/OB risk. Breakfast consumption, frequent eating occasions, and regular family meals were negatively associated with OW/OB. Both maternal and paternal BMI were significant predictors for childhood OW/OB status, an effect previously shown in Greek childhood populations. The most dominant risk factor for children OW/OB was the parental misperception of the children's body weight status and the inability to recognise OW in their children. The likelihood of parents who misclassified their child's body weight status, to have an OW/OB child was 6.22 times greater. Among several parameters indicating socioeconomic status (SES), increased mother’s age and a less manual paternal type of occupation, a factor which is considered indicative of social class, seemed to have a protective effect on the likelihood of having an OW/OB child. Furthermore, the odds for a child of being OW/OB were threefold higher when both parents were OW/OB as compared with normal-weight parents (OR 3.24; 95% CI 2.39, 4.38). The perinatal factor which was found to have a strong association with overweight/obesity was high maternal weight.

The results of the GRECO study could be used among to other to design nutritional policies to tackle the problem of obesity in childhood.

References


B. Abstract Title

Omega 3 fatty acids: The effects during pregnancy and breastfeeding (Part of Panel: The new data in pediatrics and maternal nutrition)

Objectives

1. The normal development during pregnancy and infancy
2. The effects of n-3 fatty acids on brain development, visual acuity and growth indices
3. Recommended intakes and preferred food sources

Description (Focus Statement)

During pregnancy and/or lactation, maternal nutrition is related to the adequate development of the fetus, newborn and future adult, likely by modifications in fetal programming and other factors. The main n-3 fatty acid in this period of life seems to be DHA, and together with arachidonic acid (AA, 20:4n-6) studies suggest that they are associated with optimal visual and cognitive development.

Abstract

During pregnancy and/or lactation, maternal nutrition is related to the adequate development of the fetus, newborn and future adult, likely by modifications in fetal programming, and other
factors. N-3 fatty acids are widely known as important nutrient with anti-atherogenic and anti-inflammatory properties in adults. One of them is an essential fatty acid, namely, α-linolenic acid and it is the precursor of eicosapentaenoic (EPA, C20:5n-3) and docosahexaenoic acids (DHA, C22:6n-3). Relatively recently, it is has also observed that n-3 fatty acid intake may be very important during pregnancy and lactation for the optimal development. The main n-3 fatty acid in this period of life seems to be DHA, and together with arachidonic acid (AA, 20:4n-6) studies suggest that they are associated with optimal visual and cognitive development. However, the bulk of the available data suggest a modest effect of these fatty acids on increasing gestational duration and possibly enhancing infant neurodevelopment. Regarding supplementation, a recent meta-analysis suggested that the evidence on the effects of n-3 PUFA on growth is stronger than the ones on cognitive and visual functions. Consumption of n-3 LC-PUFA during pregnancy also reduces the risk for early premature birth.

Several concerns regarding the safety of increasing n-3 fatty acid intakes during pregnancy or lactation have been raised, including the possible risk posed by potential contaminants in certain dietary sources of long-chain polyunsaturated n-3 fatty acids and possible problems with bleeding. Therefore, pregnant and lactating women must select dietary sources of n-3 fatty acids known to have a low mercury content as well as low levels of other potentially harmful contaminants.

Several scientific groups have made recommendations for mainly DHA intake, which seems to be, according to the current available data, 200-300 mg/d during pregnancy and lactation. Although intakes well in excess of these recommendations are the norm in many areas of the world and a case can be made for higher intakes, such recommendations seem reasonable at this time, especially because the average intake of DHA by pregnant and lactating women seems to be lower than these recommended amounts.

References

Dr. Agathangelou Petros, MD

Abstract Title

How do the Doctors Perceive Working with Dietitians (Part of the Panel: The Role of Dietitian in Different Settings and within Healthcare Team).

Dr. Meier Remy, MD

Abstract Title

Microbiota and Intestinal Diseases (Part of Panel: Newer and Considerations in Gastrointestinal Diseases)
ORAL PRESENTATIONS
OP001 - THE CYPRiot HEALTHY FOOD BASKET. IS IT AFFORDABLE?

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2Economics Research Center, University of Cyprus

Introduction: There is a general perception that healthy food is more expensive than unhealthy alternatives and therefore, low socioeconomic groups are unable to maintain good health. Food stress is the product of the cost of healthy food relative to the income of the household and not due to lack of access to healthy food.

Aim: To assess the cost, acceptability and affordability of the Healthy Food Basket (HFB) among low-income families in Cyprus.

Methods: HFBs were constructed by a qualified nutritionist and were based on the National Guidelines for Nutrition and Exercise for 6 different types of households (a single woman, a single man, a couple, a single woman with two children, a single man with two children, a couple and a couple with two children). HFBs were priced in March 2015 using market prices. Feasibility and acceptability were tested through focus groups (FGs). Affordability was defined as the cost of the HFB as a percentage of the Guaranteed Minimum Income (GMI). The value of the GMI is set to be equal to €480 for a single individual and increases with the size of the recipient unit according to the Organization for Economic Co-operation and Development equivalence scales. The Ministry of Labour estimates that on average nearly 50% of the GMI is required for food.

Results: The Cypriot HFB consisted of 34 foods. The analysis of the outcomes of the FG discussion indicated that the contents of the HFB were considered acceptable and feasible by all participants. Regarding the cost of each HFB, it was observed that a single woman requires the lowest budget for healthy food consumption equal to 187.1 euros/month whereas the highest budget was for a couple with the two children (791.3 euros/month). The monthly HFB budget for a single man was 258.8 euros/month whereas for a single man with two dependents, the budget was more than doubled (604.3 euros/month). The single woman with two dependents requires a slightly lower budget (532.6 euros/month) compared to that of a single man with two dependents and also less budget compared to that of a couple (445.8 euros/month). Regarding the affordability of each FB, the total monthly budget for HFB was 0.80, 1.11, 1.27, 1.28, 1.44 and 1.48 times higher than the GMI budget for food among different types of households (a single woman, a single man, a couple, a single woman with two children, a single man with two children and a couple with two children, respectively). Particularly, a family with two children on GMI would need to spend 71.68% of their income on the HFB.

Conclusions: The content of the HFB is well feasible and acceptable among Cypriots. However, the GMI scheme seems to not consider the cost of healthy food and thus, families on welfare payments in Cyprus are at a high risk of experiencing food stress.
OP002 - THE EFFECT OF VITAMIN D SUPPLEMENTATION IN PATIENTS WITH NEW-ONSET OF TYPE 1 DIABETES: A SYSTEMATIC REVIEW OF RANDOMIZED CONTROL TRIALS

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²Department of Life Sciences, School of Sciences, European University of Cyprus, Nicosia, Cyprus

Introduction: Many observational studies have shown that vitamin D deficiency is strongly associated with Type 1 Diabetes Mellitus. Indeed, results of interventional studies regarding the effect of vitamin D supplementation in type 1 diabetes still remain controversial.

Aim of study: To examine the effect of vitamin D supplementation in patients newly diagnosed with T1DM through randomized controlled trials (RCTs). Other objectives were to identify the most effective formulation, dosage and duration of vitamin D supplementation needed for the treatment of T1DM.

Methods: PubMed, Medline and EBCO Host were systematically searched by two authors. All available literature published to date in English language was searched using specific keywords. The outcomes used in order to examine the effectiveness of vitamin D supplementation were changes in glycemic indexes [fasting C-peptide (FCP), Stimulated C-peptide (SCP), Hemoglobin A1c (HbA1c)] and Daily Insulin Doses (DID). The studies included in the articles were assessed for their internal validity with specific methodological quality criteria which concluded to grades of low to high quality.

Results: 7 RCTs were included in the current analysis comprised a total of 287 individuals aged between 5 to 38 years. The definition of the new-onset of diabetes varied between the studies and ranged between 4 weeks to 1 year. The current systematic review was of high methodological quality since 85.7% of the included studies were of high-quality. 2 studies have used alfalcaldiole in doses varied between 0.25-0.5μg/d for 6-12 months, 2 studies have used cholecalciferol in doses 70IU/kg/d and 2000IU/d for 12-18 months and 3 studies have used 0.25μg/d of calcitriol for 12-24 months. Significant decreases in DID were observed after alphacaldiole, calcitriol and cholecalciferol supplementation demonstrating a positive effect on b-pancreatic cells. Positive effects were also shown through significant increases in SCP after cholecalciferol and calcitriol supplementation, respectively, whereas 1 study showed a significant decrease in SCP after calcitriol supplementation indicating a negative effect. Positive effects on b-pancreatic cell function were also shown through significant increases in FCP in 3 studies after treatment with cholecalciferol and alphacaldiole. However, 1 study showed a significant short-term (at 12months) positive change on FCP but without any significant changes at the end of the study, after treatment with calcitriol. Also, a positive effect was shown through HbA1c levels after 6 months of treatment with cholecalciferol.

Conclusion: Alphacaldiole, cholecalciferol and calcitriol are the main forms of supplementation examined in patients with new onset of T1DM. Alphacaldiole is a new promising form of supplementation but more long-term studies (>24months) are required for better clarification of this hypothesis. Cholecalciferol supplementation is also a safe and effective form of
supplementation when using standard doses for a short period (at least 2000IU/d for 12 months). Moreover, calcitriol supplementation still remains controversial and it could be assumed that it is the less effective, safe and preferable treatment compared to the other forms of treatment.
OP003 - DIETARY PATTERNS AND WEIGHT LOSS MAINTENANCE: SYSTEMATIC REVIEW

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Introduction: Dietary factors contributing to weight loss maintenance are not fully understood. Traditional analyses that examine single nutrients or food items and their relation with weight loss maintenance have several limitations. People do not consume ingredients or foods separately but rather combinations of them. Widely known dietary patterns that propose the consumption of specific food and drink portions could be a novel way of studying the association of dietary intake and weight loss maintenance.

Aim: To identify which dietary pattern(s) is associated with the least weight gain over the long term.

Methods: We systematically reviewed epidemiological studies from 1980 to 2016, which included at least overweight men and women aged 18-65. Successful weight loss maintenance was defined as the maintenance of at least 5% of the initial weight loss or gaining less than 5% of the weight at study baseline. This would allow for drawing conclusions with clinical significance for various diseases. After the evaluation of the abstracts of references, full texts were gathered for further evaluation. The studies which met the inclusion criteria were evaluated based on the Newcastle-Ottawa Scale and individuals’ dietary patterns assessed with the “a posterior analysis” were identified.

Results: Five studies were eligible for inclusion in the current analysis. Three of the studies were prospective, one case-control and one prevalence-observational study. There seems to be a positive relationship between the adoption of a Traditional (based on rice and beans) or a Healthy dietary pattern and weight maintenance or a reduced rate of weight gain. On the contrary, the adoption of a Western type dietary pattern seems to be related with long term weight gain and obesity.

Conclusions: Greater adherence to a Traditional and Prudent-Healthy dietary pattern could be a promising approach aiming for long term weight loss maintenance. Results should be taken into account with caution since the number of studies evaluating the relation of dietary patterns and weight loss maintenance is small.
OP004 - OBSERVATIONAL STUDY OF THE ATTITUDE OF NUTRITIONISTS, DIETITIANS AND CLINICAL DIETITIANS FROM LARNACA, AMMOCHOSTOS AND PAPHOS TOWARDS THE USE OF EDUCATIONAL MATERIAL FOR T2DM

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Background: The present study aimed to examine the nutrition information and tools used by Clinical Dietitians (CD), Dietitians (NC-D) and Nutritionists (NC-N) in Larnaca, Ammochostos and Paphos in Cyprus for the education of type 2 diabetes (T2DM) adult patients. It also aimed in investigating whether CD, NC-D and NC-N in the designated regions provide tailored made nutrition information and diet plans to T2DM patients that meet the recommendations and quality criteria of national and international institutions. Another aim was to examine whether these groups of nutritionist/dietetic professionals supply diabetes nutrition material to non-nutrition related healthcare professionals (HCPs).

Methods: A semi-structured questionnaire was sent via SurveyMonkey® to email addresses of candidate participants, obtained by the Cyprus Dietetic and Nutrition Association (CyDNA) external member-list. Follow up phone calls were made by the student researcher within 3 and 6 weeks and a reminder email was also sent by the study’s coordinator within 3 weeks since the questionnaire was initially sent. Quantitative data were statistically analysed twice through SPSS and the Kolmogorov-Smirnov test was used to determine whether they were normally or not-normally distributed. Parametric data were analysed with one-way analysis of variance (ANOVA) test and non-parametric data with cross-tabulation analysis. Statistical significant results were those with a P-value<0.05. Qualitative data were analysed through inductive thematic analysis.

This project was evaluated by the President of the Cyprus National Bioethics Committee, who concluded that the proposal study did not require a full review and was approved by the University of Nicosia Research Ethics Committee. This study was also carried out in line with guidelines provided in the Declaration of Helsinki and approved by the University of Hertfordshire Ethics Committee Involving Human Participants.

Results: Forty eligible participants participated in this survey and 7 (17.5%) were registered and licensed as CD, 32 (80%) as NC-D and 1 (2.5%) as NC-N. Written information was provided by 37/40 (92.5%) participants while 26/38 (68.4%) and 17/38 (44.7%) respectively use leaflets produced by themselves and the Ministry of Health in Cyprus/CyDNA/Cyprus Diabetic
Association (CDA). “Diabetes Exchanges” leaflet was chosen to be “always” used by 7/25 (28%) participants. Individualized diet-plans were used by 34/35 (97.1%) participants. The flexibility of tailoring these educational materials’ written information to the patient’s needs, was rated as an “extremely significant” reason for their choice. A significant effect was found for a non-written information source (P=0.04). Sixteen out of 34 (47.1%) participants recommended T2DM information to other HCPs. Lack of communication/collaboration were the main reasons (4/10, 40%) for not providing educational material to other HCPs.

**Principal Conclusions:** Written information is tailored to meet T2DM patients’ individual needs while it is supported on evidence-based data and readability. Conflicting evidence has been emerged regarding the collaboration and provision of information to other HCPs, establishing this issue as an area for future research. The summative results from a statistical analysis for all cities and all nutritionist/dietetic professionals in Cyprus may provide more reliable and representative conclusions.

(Keywords: diabetes nutrition education, written information, individualized diet-plans)
In 1981, David Jenkins, Thomas Wolever, and colleagues introduced the concept of the glycemic index (GI) to differentiate carbohydrates based on the rate of blood glucose rise following their consumption. Although GI was first used in diet therapy for diabetes, research evidence has accumulated since then to thousands of publications from all over the world with applications for prevention and/or management of many diseases, as well as effects on physiological states and exercise.

*The Glycemic Index: Applications in Practice* has gathered together, in an unbiased and critical way, all the evidence and research on GI that has been studied, including diabetes, cardiovascular disease, cancer, obesity, polycystic ovary syndrome, pregnancy outcomes, sports performance, eye health, and cognitive functioning. It provides a detailed explanation on how to correctly measure a food’s GI, how the GI of food products can be altered, as well as the use and misuse of GI labelling around the globe.

The contributors are either pioneers or experts in the area of GI from all around the globe, including Australia, Canada, Europe, and the United States. The book is a valuable source of information for healthcare professionals of various disciplines, nutritionists, dietitians, food scientists, medical doctors, sports scientists, psychologists, public health (nutrition) policy makers, and students in these fields, as well as an important addition to university libraries.

**Key Features**
- Critically reviews scientific evidence on GI.
- Provides practical recommendations on how to adjust diet GI for disease prevention and/or best outcomes in relation to physiological states or exercise.
- Includes a detailed description and examples of how to measure a food’s GI and how to adjust different food products’ GI.
- Draws together and compares the use of the GI logo on food labels in different countries.

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OP006 - Book Presentation - Antioxidants in Health and Disease

Presented by Author: Dr Eleni Andreou, RDN, DProf
Assistant Professor Nutrition-Dietetics, University of Nicosia, Cyprus


Format: Hardback - eBook - VitalSource eBook - VitalSource 6 Month Rental eBook - VitalSource 12 Month Rental

Edited by: Antonis Zampelas, Renata Micha

Authors: Robert B. Rucker, Moschos Polissiou and Dimitra Daferera, Ung Lim Teo and Andrew Shennan, Fátima Pérez de Heredia, Ligia Esperanza Díaz, Aurora Hernández, Ana María Veses, Sonia Gómez-Martinez, and Ascensión Marcos, Antonios E. Koutelidakis, Maria Kapsokefalou, Aristea Baschali, Dimitrios Karagiannis, Mustafa Atalay, Jani Lappalainen, Ayhan Korkmaz, Chandan K. Sen, Antonis Zampelas, Ioannis Dimakopoulos, Eleni Andreou, Francisco Capani, George Barreto, Eduardo Blanco Calvo, and Christopher Horst Lillig, Michael Georgoulis, Ioanna Kechribari, Meropi D. Kontogianni, Chrysi Koliaki, Alexander Kokkinos, Nicholas Katsilambros, Kathrin Becker, Florian Überall, Dietmar Fuchs, Johanna M. Gostner, Heike Englert, Germaine Nkengfack, Krishnapura Srinivasan

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Antioxidants are chemicals that obstruct the action of other chemicals acknowledged as free radicals. Free radicals are highly reactive and have the potential to cause damage to cells, including damage that may lead to cancer. Free radicals are produced naturally in the body. Additionally, some environmental toxins may contain high levels of free radicals or encourage the body’s cells to produce more free radicals.

Although, some antioxidants are made naturally by the body, others can only be obtained by external (exogenous) sources, including the diet and dietary supplements. Laboratory and animal research has shown that exogenous antioxidants can help prevent the free radical damage associated with the development of cancer.
OP007 - HIGHER ADHERENCE TO MEDITERRANEAN DIET PRIOR TO PREGNANCY IS ASSOCIATED WITH DECREASED RISK FOR DEVIATION FROM THE RECOMMENDED GESTATIONAL WEIGHT GAIN

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Objective: To evaluate whether adherence to the Mediterranean diet before pregnancy is associated with the risk of maternal gestational weight gain outside Institute of Medicine (IOM) recommendations.

Methods: 1432 pregnant women were included in this retrospective study. Pre-pregnancy adherence to the Mediterranean diet was assessed by 11 food patterns according to their contribution in the Mediterranean diet pyramid, using the Med Diet Score index.

Results: The high consumption of fruits, legumes and seafood, the moderate alcohol consumption and the low consumption of red meat and dairy products before pregnancy were associated with increased possibility for gestational weight gain inside the IOM recommendations. Women with high adherence to the Mediterranean diet were significantly more frequently characterized by weight gain inside the IOM recommendations. In multivariate logistic regression analysis, women with low Mediterranean diet adherence were almost twice at risk in presenting deflection from recommended weight gain during pregnancy regardless of various confounding factors.

Conclusion: High pre-pregnancy adherence to the Mediterranean diet may be associated with reduced risk for gestational weight gain outside the IOM recommendations. Large prospective studies are strongly recommended in order to confirm these results.
OP008 - BUTTER OR MARGARINE? A DIETARY PATTERNS APPROACH OF THE CONTROVERSY

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Overview: Many scientists, health care professionals and researchers are still debating whether to recommend butter or margarine, although soft margarines contain mono- and poly-unsaturated, and no trans-fatty acids.

Objectives: A nationwide cross-sectional study was used to identify food patterns potentially associated with children’s BMI, and to investigate how these patterns relate to butter and margarine intake. Secondary objective was to assess the children’s assertiveness in butter or margarine intake based on their BMI status.

Methods: Data from 3098 children, 10-12 years of age, were included in the analysis. Anthropometric measurements were performed. Dietary information were obtained via a semi-quantitative Food Frequency Questionaire (FFQ). Principal component analysis on 15 food groups, selected based on previous relevant studies, was applied to identify dietary patterns. Multiple nested linear and logistic regression analyses were performed using STATA 12.0.

Results: Four (4) dietary patterns were identified, explaining 44% of the variation in intake. KMO (Kaiser-Meyer-Olkin measure of sampling adequacy) of 0.81 was derived and all food group had KMO>0.67. The components were characterized as follows: 1st pattern: higher simple sugars intake (fruit and sweets); 2nd pattern: higher consumption of vegetables and legumes and lower fast-food and sweet intake; 3rd pattern: higher protein and saturated fat intake (red meat and pulses) and lower liquid calories intake (milk and juice); And 4th pattern: higher fiber intake and polyunsaturated fatty acids (PUFA) and lower animal protein and saturated fats (red meat) and sugar sweetened beverages.

Multiple linear regression analysis, adjusted for age and gender, revealed that children’s BMI was positively associated with components 2 and 3 (0.25 ±.05; p<0.001 and 0.12 ±.06; p<.04, respectively) and negatively associated with components 1 and 4 (-0.29±.04; p<.001 and -0.34 ±.06; p<.001, respectively). When adjusted for over and under-reporting the association between BMI and pattern 1 was nulled, but remained significant in the others. Multiple logistic regression analysis revealed that dietary patterns and BMI status, differ between frequency of butter and margarine consumption. The 3rd pattern was associated with 14% higher odds of butter consumption, whereas no significant association was found with margarine. Differences in butter and margarine intake were not significantly different with patterns 1 and 4 (30% and 16% for butter versus 28% and 14% for margarine, respectively). The second pattern was not significantly associated with either butter or margarine intake. Furthermore, ow and ob children reported more likely of replacing butter intake to margarine(p<.001).

Conclusion: A dietary pattern characterized by high protein and red meat is associated with a higher BMI and with butter consumption but not with margarine. These findings remained when under-reporters were excluded.
OP009 - Maternal smoking and school children’s weight status and adiposity level: the basis of Early Life Theory from the GRECO study

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Overview: Based on the Early Life Theory, a great number of chronic diseases that occur later in life start from in utero fetal development. There is increasing evidence that children’s health and weight-status may be «programmed» from in utero life, therefore affected by maternal behavior. Maternal smoking may be one such factor affecting child weight status, adiposity level and blood pressure, later in life.

Objectives: The aim of the study was to examine the effect of prenatal and maternal smoking on school children’s weight status, as defined by the International Obesity Task Force (IOTF) BMI cutoffs, central adiposity, defined by waist circumference (wc), and total adiposity, measured with bio-impedance analysis (BIA). Secondarily, the potential association of maternal smoking with children’s blood pressure (BP) in relation to children’s weight status and diet quality was investigated, since BP is a heart disease marker.

Methods: Data from parental questionnaires given during national cross sectional study were used in the analyses. A total of 2001 parental questionnaires were gathered with complete data available in a sample of 837 which were included in the final analysis. Anthropometric measurements were performed. Children’s BP was measured via two consecutive measurements, after 10 min relaxation period, in the field. Children’s dietary information were gathered via a semi-quantitative food frequency questionnaire (FFQ). Multivariate logistic and linear regression analysis were conducted, adjusting for multiple covariates including, age & BMI at pregnancy, current maternal BMI, weight gain during pregnancy, maternal education, alcohol and coffee intake during pregnancy, birth weight and height, gestational weeks, as well as children’s age and gender.

Results: Children were 1.8 times more likely to be overweight (95% CI: 1.04, 3.12, p=0.037) and 2.3 times more likely to be obese (95% CI: 1.05, 5.13, p=0.035) if their mother smoked during pregnancy compared to their healthy weight peers. The model was adjusted for known confounding factors, including caffeine which was also highly significant with smoking (p<0.001). Maternal smoking was also found positively associated with children’s total body fat percentage (95%CI: 0.338, 4.118), as well as maternal current BMI (95% CI: 0.104, 0.533), and negatively associated with age at pregnancy (95% CI: -0.312, -0.042). Systolic and diastolic blood pressure, were associated with overweight and obesity, height at birth, but not maternal smoking. SBP was also positively associated with age whereas diastolic was positively associated with sleep duration.
Conclusion: Maternal smoking, was found to increase the odds of being ow or ob and was associated with a higher adiposity level in school aged children. This remained significant upon adjusting for known covariates that increase risk of childhood ow. Fetal programming may therefore be greatly affected by maternal smoking one of the most important modifiable risk factors, and affect not only weight status but adiposity levels as well, which is highly linked with increased risk of chronic diseases.
OP010 - Pre-planned School-feeding Improves Physical Health of Students: Systematic Review of Randomized Controlled Trials

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Background/Objectives: Early malnutrition and/or micronutrient deficiencies adversely affect physical, mental and social aspects of child health. Physical health adverse effects include: underweight children, stunted growth, lowered immunity and increased mortality. Several school feeding programs may provide solutions for some of these problems. The main purpose of this study was to evaluate the effectiveness of school feeding programs in improving students’ physical health, according to socio-economic status.

Subjects/Methods: We performed a literature search of PubMed and EBSCO between 2009 and November 25, 2015; we included only randomized controlled trials (RCTs). The studies included in the articles were then assessed for their internal validity with specific methodological quality criteria which concluded to grades of low to high quality.

Results: Eight studies were included in this systematic review. Were observed with school feeding interventions, there were small improvements in body weight and height of children between different age groups. Additionally, there was improvement in the mid-upper arm circumference, as well as increased hemoglobin levels and decreased prevalence of anemia. There were small benefits in cardiometabolic and biochemical markers and some changes in the eating habits of children with pre-planned feeding. Regarding body composition, in addition to reducing the BMI of any other measures of body composition didn’t differ.

Conclusions: In conclusion school meals, have small benefits for children, as found in the majority studies examined in this review. However, considering the lack of high quality data for school meals and the complexity of the review findings, there is a need for well-designed longitudinal studies in low- as well as high-income countries.
OP011- Nutrigenetics And The Impact Of The Mediterranean Diet On Breast Cancer Risk Among Greek-Cypriot Women

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Background: A high adherence to the Mediterranean diet (MD), rich in vegetables, fruit, legumes and fish, was shown to be associated with a decreased breast cancer (BC) risk among Greek-Cypriot women. Nevertheless, the underlying molecular pathways via which the MD protects against BC risk remain unclear. One-carbon metabolism involves DNA methylation and synthesis, which are both critical in carcinogenesis. Another pathway important in carcinogenesis is the xenobiotic metabolism involving detoxification enzymes, which metabolise compounds that are either mutagenic or anticarcinogenic. Genetic and dietary factors play an important role in both one-carbon metabolism and xenobiotic metabolism, making them prominent pathways to investigate.

Objective: To gain insights into the protective mechanisms that interplay between MD and BC risk using nutrigenetics to study whether inter-individual genetic variation (particularly single nucleotide polymorphisms (SNPs)) can modify the effect of the MD on BC risk.

Methods: Women participants of the MASTOS case-control study of BC (1109 BC cases and 1177 controls) in Cyprus were used. Genotyping was performed for 7 SNPs in 6 genes, which encode enzymes involved in one-carbon metabolism and detoxification pathways. Namely these SNPs were the MTHFR 677C>T, MTHFR 1298A>C, MTR 2756A>G, NAT2 590G>A, GSTP1 p.Ile105Val, GSTM1 and GSTT1 deletion polymorphisms. These SNPs are known to alter the activity of the corresponding enzymes. Information about dietary intake was obtained using food frequency questionnaires. A dietary pattern specific to the Greek-Cypriot population under study was previously derived using principal component analysis (PCA). The pattern included high loadings of vegetables, fruit, legumes and fish, closely resembling thus the MD.

Results: High adherence to the PCA-derived MD statistically significantly reduced BC risk in women with the variant 677T alleles of the MTHFR SNP. Women with a high concordance to the MD and with at least one wild type 2756A MTR allele or with the variant 1298CC MTHFR genotype had also a significantly decreased BC risk. Additionally, increasing MD adherence lowered significantly BC risk in women with at least one wild type Ile GSTP1 allele or one wild type 590G NAT2 allele.

Conclusions: It is the first time that the effect of a dietary pattern, and not of single nutrients has been investigated in nutrigenetics studies of one-carbon metabolism and xenobiotic metabolism-related SNPs. Specific genetic inter-individual differences, namely variant alleles of MTHFR SNPs and wild type alleles of MTR, GSTP1 and NAT2 SNPs, were shown to enhance the anticarcinogenic protective effect of the high adherence to the MD against BC risk. Our results suggest a synergy between SNPs and MD in the prevention of BC development, through the one-carbon metabolism and detoxification pathways.
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PP 013 - EFFECTS OF DIETARY FAT INTAKE ON BLOOD LIPID PROFILES
Olluran G, Bayak F.
Introduction: Many preclinical studies have shown that exposure to high concentrations of calcitriol in vitro may inhibit the growth of prostate cancer cells and delay the tumor growth in the prostate of animal models. Indeed, treatment methods for prostate cancer are still under investigation and results of several tested methods are still conflicting.

Purpose: The main purpose of this systematic review was to investigate the effect of vitamin D supplementation in patients with prostate cancer. Specific objectives were to determine the most appropriate dosage, formulation and duration of vitamin D supplementation that are necessary to provide positive outcomes for the most effective treatment of patients with prostate cancer.

Methods: Pubmed, Medline and Ebsco Host databases were systematically searched for literature. All studies selected were randomized control trials (RCTs). All available literature published to date, in English language was searched using specific keywords. The studies included were assessed for their internal validity with specific methodological quality criteria which concluded to grades of low to high quality.

Results: A total of 8 RCTs, conducted from 2004 since 2013 were included in the current analysis. This review was considered of high methodological quality since 83% of the included studies were of high quality. 4 out of 8 studies have used calcitriol in doses varied between 0.5μg - 45μg, 2 out of 8 studies have used vitamin D₃ in doses varied between 150μg and 10-1000μg, and 2 out of 8 studies used 1α-hydroxy Vitamin D₃ at a dose of 10μg. Duration of supplementation ranged between 28 days up to 18.3 months. 6 out of the 8 studies have examined the effect of vitamin D supplementation on the PSA and only 2 studies have shown significant positive effects between the two groups (p<0.05). 3 out of 8 studies have examined the effect of supplementation on median survival but only 1 study showed significant positive effects between the two groups (p<0.05). Moreover, in one study, a significant reduction of the VDR expression was observed demonstrating positive effect after calcitriol supplementation.

Conclusion: Vitamin D supplementation mainly through calcitriol seems to be an effective way of treatment in patients with prostate cancer. Calcitriol supplementation in doses ranged from 250 to 1000mg for a short-term period (around 3-8 weeks) or lower dose of supplementation equal to 45mg for a long-term period (around 18.3 months) seems to be effective, mainly based on the PSA response. However, more randomized controlled studies are required to clarify this hypothesis.
PP102 - THE INFLUENCE OF THE NUTRITIONAL STATUS AND EATING BEHAVIOUR IN THE RISK OF EATING DISORDERS AMONG UNIVERSITY STUDENTS OF DIETETICS AND NUTRITION

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Background: Worldwide evidence suggests that students from dietetics and nutrition (DN) courses are at greatest risk for developing an eating disorder (ED), mainly attributed to their increased knowledge on weight control, body composition and food. To date, there is a limited research on ED among Cypriot DN students since the last five years dietetics is offered as a subject in local universities. This study aimed for the first time to determine the risk of developing ED in Cypriot DN students, through the eating behaviour and nutritional status, including body composition and dietary intake assessment, as well as to assess their nutritional status based on DRVs and to available anthropometric standards.

Methods: Cross-sectional observational study including 30 undergraduate DN students aged 18 to 24 years, from a university in Nicosia. Data have already been collected from a published and validated questionnaire. Four parts of the questionnaire were considered in the data analysis including basic demographics, the checklist C-what influences eating behaviour (BC), anthropometric and body composition measurements (body mass index, waist circumference and body fat percentage) and a 24-hour diet recall assessing energy and macronutrient intakes.

Results: BC score was used to group students as at-risk (AR) (BC score ≥24) and not-at-risk (NAR) (BC score <24) for ED. AR group consisted of 11 female students (n=23) and 4 male students (n=7). There were significant differences between the two BC groups and social, emotional, thinking and physiological BC categories (p<0.001). AR female students had a significantly higher body fat percentage compared to NAR female students (p<0.05). Dietary intakes of both BC groups were below their recommended dietary reference value (DRV) except protein intake which was almost twice as high the recommended. However, dietary variables did not differ significantly among the groups. No other significant differences concerning eating behaviour, anthropometry and dietary intake were found.

Conclusion: This study confirms the findings reported by various studies suggesting that students in this major are at increased risk for ED. Males were seemed to be more susceptible than females but a further research with larger sample is required to confirm this finding. It was established that gender could mediate associations between eating behaviours and body fat percentage. Overall student’s intakes failed to meet DRVs for energy and macronutrients but the majority maintained anthropometric standards.
**PP103 - OMEGA-3 POLYUNSATURATED FATTY ACIDS AND HEART FAILURE: SYSTEMATIC REVIEW**

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**Introduction:** Heart failure is a multisystemic syndrome with one of its consequences to be the increased levels of proinflammatory factors. TNF-a, IL-6 and CRP are predictive factors for the development and worsening of the disease. It has been suggested that omega-3 polyunsaturated fatty acids contribute to the reduction of these factors.

**Aim:** This systematic review intended to evaluate the clinical researches, which studied the effect of omega-3 supplementation in patients with diagnosed heart failure to proinflammatory markers TNF-a, IL-6 and CRP.

**Methodology:** PUBMED was used for the search of articles as well as the keywords 'heart failure' 'and' 'omega-3'. Articles’ publication should have been from 1st December 1984 until 15th March 2013. The composition of the review was based on PRISMA protocol. Evaluation of articles was completed by using CONSORT protocol.

**Results:** Seven out of 246 studies were included in this review. Six studied the effects of omega-3 concerning TNF-a, five studied fatty acids effects on IL-6 and three studied the CRP. From the studies which measured the change in the levels of TNF-a by administering omega-3, four achieved a statistically significant reduction. The difference between the results of the clinical researches is possibly due to the following: the variation of the severity of the subjects (who were included in the studies based on the NYHA), the difference of the duration of the intervention, the portion of omega-3 that was administered, the medication that the patients received before and during the studies, and the initial stages of proinflammatory markers. Three studies managed to find an important reduction in IL-6 and no research showed any changes for CRP.

**Conclusions:** This systematic review indicates that omega-3 contribute positively to TNF-a and IL-6 reduction, but have no significant effect as it comes to CRP. However, a remarkable result could not be exported regarding the hypothesis, because the studies had a small number of participants, short duration and low power. Nevertheless, through this review, several important conclusions were emerged, which would become the inspiration for further research and study on the subject.
PP104 - IDENTIFICATION AND COMPARISON OF THE NUTRITION INFORMATION USED BY CLINICAL AND NON-CLINICAL DIETITIANS WORKING IN LIMASSOL FOR ADULT PATIENTS WITH TYPE 2 DIABETES

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Background: Type 2 diabetes (T2D) is considered a public health concern with the number of diabetic patients in Cyprus rapidly increasing. Patients with T2D report a range of dietary problems and high-quality written information should be available to address these. Dietitians play a key role in making nutrition information accessible and practical to these patients. The present study investigates the written information used by dietitians in Limassol for T2D patients, whether clinical dietitians, dietitians and nutritionists have a different approach to adult patients with T2D and whether they recommend nutrition-related information to other healthcare professionals.

Methods: All licensed dietitians (clinical dietitians, dietitians and nutritionists) who were registered with the Cyprus Dietetic and Nutritionist Association (CyDNA) and work in Limassol were contacted through email and by phone. They were asked to complete an online semi-structured standardized questionnaire using the software, Survey Monkey®. The questionnaire contained questions about the participants' registration, the town and the setting they mainly work in, the type of information they provide to patients with T2D, the factors influencing their choice, the topics covered by the provided information, the reasons for recommending it or not, provision of written information to other healthcare professionals and whether their patients participate in the creation, evaluation and updating process of the handouts. The statistical analysis was performed using the SPSS 21.0 software. The data was non-normally distributed thus non-parametric tests, including the Cross tab test and the Mann-Whitney U test, were used. A p-value (p) ≤ 0.05 was considered statistically significant.

Results: A total of 41/48 (91.6%) of the dietitians contacted, completed the questionnaire. The majority of them (85.4%) reported that they provide nutrition-related written information to patients with T2D, in the form of individualized diet plans. All the participants were also aware of the importance of providing written information but they were unaware of the importance of involving patients in the creation, assessment and updating process of the written information. In reference to what they consider when they create their own educational leaflets, there was a significant difference between clinical and non-clinical dietitians, with 80% of clinical dietitians reporting that they use evidence-based guidelines and 60% of dietitians stating they do not (p=0.035). Finally, 60% of clinical dietitians suggest information regarding T2D to other healthcare professionals while 70% of dietitians and all the nutritionists do not.
Conclusion: This study showed that there are no significant differences between clinical-dietitians, dietitians and nutritionists in Limassol in regards to the availability and types of written information provided to patients with T2D. It was also observed that the majority of participants do not involve their patients in the handouts' creation, evaluation and updating process. Finally, it was observed that clinical dietitians provide such information to other non-nutrition related healthcare professionals while dietitians and nutritionists do not. Further research should be done to explore the reasons why dietitians do not involve patients in the creation process of handouts and why healthcare professionals do not cooperate with dietitians for the nutrition information given to their patients.
PP105 - OBSERVATION AND COMPARISON OF THE USE OF NUTRITION INFORMATION BY CLINICAL DIETITIANS, DIETITIANS AND NUTRITIONISTS IN NICOSIA FOR TYPE 2 DIABETES PATIENTS.

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Introduction: Type 2 Diabetes Mellitus (T2DM) is the most common form of diabetes. Medical Nutrition Therapy (MNT) is an integral part of comprehensive T2DM management. Therefore to manage T2DM, the patient needs information and support. The aim of this study is to identify the differences between the nutrition material used by Clinical Dietitians, Dietitians and Nutritionists for adult T2DM patients in Nicosia.

Methods: Clinical Dietitians, Dietitians, and Nutritionists from Nicosia were contacted to participate at the present study. Participants answered online questionnaire with Qualitative and Quantitative questions. The questionnaire and consent form were sent through the online survey Software, SurveyMonkeys (SurveyMonkey®) to all dietitians listed in the registry provided by Cyprus Dietitian and Nutritionist Association. The statistical analysis was carried out using the SPSS version 21.0 statistical software (IBM Corp., 2012). Based on the outcome of normality test non-parametric tests were used.

Results: The results showed that 49 out of 61 participants see T2DM people and give written information to their patients such as the ready-made leaflet “Dietary Exchange” or leaflets were produced by themselves. This sample of participants (especially CD) considered that they had training before on writing nutrition information leaflets for patients. Also, except leaflets and other information, most of the Clinical Dietitians and Dietitians used personalized diet plans for T2DM patient. However, they did not recommend information about T2DM to other health professionals.

Conclusion: To conclude, Clinical Dietitians and Dietitians of Nicosia showed that were not any differences between them about the manner they nutritionally educate their patients with T2DM and the information they gave them. Also, it showed that they have lack of cooperation with other health professionals possibly contributing to the inefficient treatment of patients with T2DM.
**PP106- Prevalence of Type 2 Diabetes in Cyprus.**

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**Introduction:**

Obesity rates in Cyprus are very high and epidemiological information on type 2 Diabetes mellitus is limited. The correlates of type 2 diabetes among adults remain unknown in the Cypriot population. Thus, the purpose of this study is to provide the first national estimate of the prevalence of type 2 diabetes and investigate its correlates.

**Methodology:**

A randomly stratified nationally sample of 1001 adults aged 18-80 participated in the study. Only 718 subjects completed the study.

**Results:**

All subjects were free of any diseases (known diabetes, kidney, liver), medication and supplementation. The overall prevalence of diabetes and pre-diabetes based on WHO criteria was 9.2% and 16.3%, respectively. After adjusting for age, energy intake, smoking and physical activity participants with obesity (BMI) (OR=2.00, P<0.001), waist circumference (WC) (OR=2.08, P<0.001), hypertension (HT) (OR=1.99, P<0.001) and hypercholesterolemia (HC) (OR=2.07, P<0.007) were most likely to develop T2DM compared with the normal ones. The odds of having Diabetes was also found significant between subjects with high levels of Triglycerides (TG) (OR=1.49, P<0.007), compared with the normal ones and between subjects with low levels of HDL (OR=1.44, P<0.008) compared with the ones with high levels of HDL.

**Conclusion:**

The prevalence of type 2 diabetes in Cyprus is low. However, the pre-diabetes rates are very high showing a promising increase towards total rates of type 2 Diabetes. Obesity, HT, WC, TG, HC and low HDL are all strong correlates of type 2 Diabetes. Healthy education programs should be initiated for young and older- aged people and those with described abnormal risk factors.
PP107 - DOES NUTRITION AND EXERCISE AFFECT BRAIN COGNITION, DEVELOPMENT AND PERFORMANCE?

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Abstract

Nowadays, nutrition and exercise are interrelated and used as intervention to improve health or reverse possible negative health effects. Brain functioning can also be affected through nutritional and physical interventions. The purpose of this article is to describe how nutrition and exercise can influence brain cognition, development and performance. For the purpose of the research, a literature review was conducted to determine the effects of nutrition and exercise in brain cognition, development and athletic performance. Nutrition is important for the normal and health brain development and function. Long chain omega-3 polyunsaturated fatty acids and eating breakfast were found to contribute to human central nervous system development by providing building material to the brain, supporting intercellular signaling events and therefore positively influence synaptic function and cognitive performance. Fruits and vegetables due to their high levels of antioxidants and bioactive compounds they are linked to a reduced risk of diseases and associated to cognitive benefits. Whereas, diets that are rich in saturated fats and refined sugars were found to contribute negatively to neural health, as they act to increase the levels of oxidative stress and reduce synaptic plasticity and cognition because of the reduced concentration of BDNF.

In addition, aerobic exercises were found to benefit cognitive function, speed, controlled processing and executive control, attention and memory in adults while resistance exercise found to increase the cognitive performance in the whole population and significantly increase the insulin (insulin growth factor 1) meaning that the utilization of glucose can be encouraged. Moreover, central fatigue can be postponed through interventions based on nutritional intake and nutritional status.

Last but not least, hydration is crucial for brain function. Dehydration can affect the volume of the brain, impairs performance and has an adverse effect on health. At approximately 8% of fluid loss can lead to dizziness, weakness and confusion, things which are correlated with the brain.

Conclusion: Exercise, nutrition and cognitive functioning are all active interrelated. It is well known that exercise and nutrition have health-enhancing effects on the brain as well as on the performance.
PP108 - Educating adult patients with type 2 diabetes; written information used by clinical dietitians in public and private settings in Cyprus.

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Background: Structured education is the cornerstone of type II diabetes mellitus (T2DM) management. The present study compared the written information on T2DM used, and how it was shared with other healthcare professionals (HPs), between clinical dietitians (CDs) working in public and private settings in Cyprus.

Methods: A mixed methods comparison of the written information on T2DM was undertaken through an online survey of CDs working in public or private settings in Cyprus.

Results: The two groups did not use written information on T2DM differently. Although public setting CDs used information in Turkish and shared information with other HP more than private setting CDs, they were less likely to provide written information when patients could not read or spoke a different language. The cost and presentation of self-produced leaflets was considered more important for public setting CDs. Both groups expressed their need to have better access to information published by national suppliers, and indirectly involved patients in the development and evaluation of self-produced leaflets. Private setting CDs reported a lack of collaboration between them and doctors.

Conclusions: Information on T2DM available in public settings in Cyprus should be culturally appropriate and address patient health literacy limitations. Making information published by national suppliers more accessible may help ensure that patients receive more evidence-based information. A more direct involvement of patients in the development and evaluation of self-produced leaflets, and a more collaborative relationship between CDs and other HPs involved in T2DM care, are promising targets to help maximize efficacy of practice.
PP109 - DOES CAFFEINE ENHANCE ATHLETIC PERFORMANCE?

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**Aim:** A plethora of studies have been conducted to examine the effect of caffeine on athletic performance, with conflicting results. The purpose of the study is to investigate the effects of caffeine on muscle activity, physical training, competitive sports events and short-term physical activity.

**Methods:** For the purpose of the research, a literature review was conducted to determine the optimal dosage of caffeine for athletes, and collected scientific evidence about the caffeine’s effect on athletic endurance. The inclusion criteria contain original articles with primary data collection, both quantitative and qualitative published research studies, and studies with athletic subjects. The exclusion criteria comprises review articles without outcome data, incorrect study type, studies with < 10 subjects, and studies with physical inactive subjects.

**Results:** An issue for dietitians and other sports medicine personnel is that all recommend that exercising athletes should avoid the use of caffeine because it is a diuretic, and that it may exacerbate dehydration and hyperthermia. Evidence indicates that consuming a moderate level of caffeine results in a mild increase of urine production. There is no evidence suggesting that moderate caffeine intake (<456 mg) induces chronic dehydration or negatively affects exercise performance. In addition, pre-exercise feeding may significantly affect plasma caffeine concentrations and the potential for caffeine to improve performance. On the other hand, recent studies suggest that caffeine might indeed have ergogenic potential in endurance events. Also, reports concerning caffeine’s effect on VO2 max and exercise performance during incremental exercise are not in agreement. However, few caffeine studies have been published to include cognitive and physiologic considerations for the athlete. Furthermore, the effects of different doses of caffeine play important role on endurance. In addition, exercise time to exhaustion seems to be different between users and nonusers with the ergogenic effect being greater and lasting longer in nonusers.

**Conclusion:** Caffeine consumption may enhance athletic endurance, based on strong evidence, but further research needs to be conducted. High caffeine doses than the optimal, 3-6 mg/kg, before exercise does not confer any additional improvement in athletic performance. Additional, higher caffeine doses may cause side effects in athletes.
PP110 - Identify the use of written information on nutrition given to patients with Diabetes Type 2 by the Non-Clinical Dietitians located in Nicosia, Cyprus.

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**Background:** The present study aimed to identify the use of written information on nutrition given to patients with Diabetes Type 2 by the Non-Clinical Dietitians located in Nicosia, Cyprus.

**Methods:** The project involved the administration of a questionnaire using Survey Monkey® (SurveyMonkey, 2015), which was sent to all potential participants. Before that, an information sheet to read about the study before agreeing that they are going to participate and written assurance of confidentiality and anonymity was given to all the participants. Then, every two weeks for one month a reminder call was performed to those who hadn’t completed the questionnaire up to that point, but were willing to complete it.

**Results:** A total of thirty three participants out of fifty three completed the questionnaire. The majority provide nutrition related written information to patients with diabetes type 2 (DT2) but prefer to provide them also with individualised diet plans. More than half, acknowledge the importance of providing written information leaflets and what to look on them but they are unaware of how important is to involve the patient in the creation, assessment and update of the written information. Opinions collide weather written information is best to be read in conjunction with the dietitian or not. 65% of the non-clinical dietitians do not suggest information regarding type 2 diabetes to other healthcare professionals.

**Principal conclusions:** Although non-clinical dietitians provide nutrition related written information leaflets about Diabetes type 2, the way that these leaflet are being used in conjunction Diabetes type 2 patients is not effective. Collaboration between non-clinical dietitians and doctors is insignificant but a call for more research on this topic is recommended.
PP111 - A comparison of the nutritional habits of young Cypriot soldiers with international guidelines for cancer prevention

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Introduction: Cancer is the second leading cause of death and it is more likely to appear in obese people. It was found that diet is involved in 30–35% of cancer deaths, which strongly suggests that daily diet modification can reduce the risk of cancer dramatically. In this study, we evaluated eating habits and general nutrition status amongst young soldiers, and we compared our findings against international guidelines for cancer prevention.

Methodology: Throughout anonymous questionnaires we analysed soldiers’ daily eating habits by assessing their food intake from different food categories and by collecting a 3-day 24h-recall. Then, we analysed the data in order to calculate the average daily nutritional intake of each soldier and compared it to international guidelines for cancer prevention.

Results: Most soldiers do not cover their needs in fruits and vegetables. Red meat and alcohol are between the recommended values compared to processed meat, which exceeds its recommended values. The majority has a low intake in dietary fibre, beta-carotene, vitamin E, selenium, calcium and folate, whereas vitamin C intake is generally high. Finally, total fat and saturated fat daily intake is above the recommended values and trans fat is within the recommended values.

Discussion: Fruits and vegetables reduce the risk of various types of cancers, instead of excessive intake of red meat, processed meat and alcohol. Dietary fibres, beta-carotene, vitamin C, vitamin E, folate, selenium and calcium help to prevent cancer. Total fat, saturated and trans fat directly and indirectly are related to cancer.
PP112 - THE EFFECTS OF THE MEDITERRANEAN DIET ON BREAST CANCER

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Introduction: Many studies have shown that Mediterranean diet (MD) has beneficial effects on several chronic diseases such as obesity, cardiovascular diseases, diabetes and certain types of cancer such as colon cancer, prostate cancer, gastric adenocarcinoma and breast cancer (BC). However, studies examining the effect of specific components of the MD on cancer and mainly, on breast cancer are limited and results of relative studies still remain controversial.

Aim of study: The main purpose of this review was to evaluate the effect of the MD on BC. Moreover, specific components of the MD such as cereals, vegetables -fruit, fish, dairy, meat, olive oil and alcohol were examined in order to show whether either one or all components may have protective effect on BC.

Method: PubMed and Ebsco were searched for articles published in English language from 2005 to 2015 using specific keywords. Studies included in the current analysis should be case control studies, cohort studies, cross-sectional studies. The population of the studies was healthy women of all ages (premenopausal, menopausal, postmenopausal) and also women diagnosed with BC.

Results: 25 articles were included of which 19 studies were control studies, 5 were cohort studies and 1 was a cross-sectional study. 4 out of 25 studies examined the effect of the MD as a whole and showed that MD is associated with a reduced risk of developing BC. The other studies (N=21) examined the effects of specific components such as whole grains (fiber) (N=3), fish (N=3), olive oil (N=3), meats (N=3), dairy products (N=4), alcohol (N=3) and fruits-vegetables (N=3) on BC. All studies that examined the effect of whole grains, fish and olive oil have shown a beneficial effect on BC. Indeed, results regarding the effect of dairy products and fruits-vegetables were more conflicting. In particular, 2 out of 3 studies (2 studies of dairy product and 2 of fruits-vegetables) have shown a reduced risk of developing BC. However, 1 study has shown an increased risk of BC after a high consumption of dairy products (>250 gr/day). Also, another study has showed that fruits mainly through beta-cryptoxanthin may increase the risk of BC in postmenopausal women. Moreover, 3 studies examining the effect of alcohol and another 3 studies examining the effect of processed meat have shown that both components were related with an increased risk of BC.

Conclusion: The MD has a beneficial effect on BC. Moderate consumption of specific foods included in the MD as grains, fruits-vegetables, fish, white meat, olive oil and moderate consumption of milk may have a protective role in the development of BC. In contrast, alcohol, processed meats and high consumption of dairy products are associated with an increased risk of developing BC. In conclusion, more studies and specifically more randomized control trials are required to further examine and justify the relationship between BC, MD and its components.
PP113- EFFECTS OF DIETARY FAT INTAKE ON BLOOD LIPID PROFILES

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Introduction: Cardiovascular disease rates are high in Cyprus. One of the reasons is related to dietary fat intake. Differences in dietary fatty acid structure induce marked differences in lipid and lipoprotein concentrations in plasma. We conducted a pilot study to investigate relationships between saturated and unsaturated dietary fat intakes and blood lipid parameters in university students.

Methods: Volunteers of 34 women students were recruited from Eastern Mediterranean University. Dietary intake, physical activity level, body composition, blood and fasting blood glucose and lipids were assessed. The correlation between the measured variables and their relationships were assessed by Pearson Correlation.

Results: Participants who had higher dietary saturated fatty acids tend to have higher total blood cholesterol levels. Beside there was a negative correlation between HDL cholesterol and dietary saturated fatty acids. Also, there was a strong positive relationship between dietary saturated fat intake and blood triglyceride levels. On the other hand, the participants who consumed higher unsaturated especially monounsaturated fatty acids were having lower total blood cholesterol levels. There was positive strong correlation dietary saturated fatty acids with blood triglycerides. The participants who consumed higher amounts of saturated fat tend to have higher blood triglyceride levels. Also, there was a strong relationship between higher physical activity and blood HDL cholesterol levels.

Figure 1: Showing the relationship between dietary fatty acids and blood lipid profiles.
Conclusion: These results suggest that dietary saturated fat intakes tend to increase blood lipid profiles while decreasing HDL cholesterol. On the other hand, unsaturated fatty acid intake and physical activity levels had strong negative relationship with blood lipid profiles. Apart from dietary fat intake the amount that are consumed is very important issue on blood lipid profiles, in the further researches the type of fat and also the amount of fat that is consumed needed to be investigated in terms of effect on blood lipid profiles. Further studies are recommended to determine the intake of dietary fatty acids and their health effects on Cypriot population.

Keywords: Blood lipid profile, saturated fatty acids, unsaturated fatty acids, cholesterol
The OP and PP from student dietitians will be evaluated by the scientific committee and symbolical prize will be given.

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