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Conflict of Interest Statement

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“We don’t get a say in what food we get... ”: Students’ views on school food

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Introduction, objectives: The quality of food environments in Irish secondary schools vary related to socio-cultural, historical, and political factors¹. Funding for free hot school meals recently increased significantly, with phased implementation and priority for ‘disadvantaged’ status schools. National nutrition standards are available; however anecdotal reports suggest poor acceptance of healthy options and issues with waste and adherence to standards. Engagement with students, in the context of rapidly changing school food policies, is lacking. This study explored students views about the food environment in secondary schools in Ireland, and identified student priorities for policies to support healthy, sustainable food systems at school.

Methodology: This is a cross-sectional qualitative study design. Public secondary schools were recruited in 2023/2024. Fourth year students volunteered to participate in 1 Co-Create Dialogue Forum² per school on the idea: How to make our school food environment better for our health and the planet. Data were analysed using content analysis. The action scales model³ was applied to categorise students’ recommendations for a desired system.

Findings: 62 students (55% female) aged 15-17 years in 8 schools (including 4 schools designated ‘disadvantaged’ status) participated in dialogue forums. Dissatisfactions related to poor food quality, limited variety, long queuing times, and lack of dining spaces. Food and packaging waste and catering for diverse food cultures and health needs were students’ primary concerns from a sustainability perspective, with a small minority suggesting more plant-rich food options. Limited opportunities to influence school food were reported. In the desired system taste, choice, food and packaging waste, adequate spaces to eat and socialise, improved break-time logistics (e.g. time available, queue systems), and structures for participation and influence were priorities for students.

Conclusion: Students demonstrated critical analysis in considering a range of factors shaping their school food environment. Their proposed solutions can influence policy and practice at local and government levels.

Benefits of an on-campus interdisciplinary experiential health promotion learning initiative

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Introduction, objectives: Health promotion is recognised as a core component in the prevention and management of chronic diseases. Dietitians and Physiotherapists play a vital role by providing evidence based primary and secondary prevention programmes. With an ageing population and high levels of risk factors for chronic diseases, the need for physiotherapists and dietitians with skills in health promotion is increasing. However, securing experiential learning opportunities which enable students to achieve competence in is challenging, threatening workforce sustainability. To address this issue, the University College Dublin (UCD) Clinical Nutrition and Dietetics and Physiotherapy programmes, and Healthy UCD (health promoting initiative), collaborated to develop an on-campus experiential health promotion learning opportunity for physiotherapy and dietetics students.

Methodology: Design thinking methodology and processes underpinned the learning experience, which required students to collaboratively create user-centred health promotion initiatives for the university community. Students worked in mixed discipline groups over nine weeks and portfolios were used to assess their learning. Over a 2-year academic period n=92 students completed the learning experience.

Findings: All students demonstrated competence in health promotion by the end of the experience. Students created user centred solutions to barriers to healthy eating and active living e.g. An elective physical education module, nutritional signposting in student union shops and cheap healthy recipes via QR codes in student residences. In year 1 of the experience, a questionnaire to assess student satisfaction with the learning experience demonstrated students (n=46) perceived improvements in their health promotion skills (95%) and found the experience engaging (87%).

Conclusion: This learning initiative provided an on campus experiential interdisciplinary opportunity to achieve competence in health promotion for physiotherapy and dietetics students whilst contributing to the healthy campus programme. The experience was engaging, effective and produced innovative health promotion initiatives.

Private practice dietetics: Insights on workforce development

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Introduction, objectives: Private practice dietitians are vital for delivering personalised nutrition advice and driving behaviour change for clients in the community, in particular in the primary care setting. However, there's limited research exploring workforce development in the Australian private practice dietetics workforce. With over 50% of the Australian dietitians in private practice and 30-50% entering as graduates, the evolving demand presents challenges for workforce development, particularly concerning the perceived lack of preparation among new graduates. The aim of this study was to explore the perceptions and experiences of experienced private practice dietitians on workforce development of the private practice domain.

Methodology: Semi-structured interviews were conducted, with participants recruited via purposive sampling. Interviews were audio recorded and transcribed verbatim. Transcripts were analysed via thematic analysis using a workforce development framework.

Findings: Sixteen experienced private practice dietitians participated in this study. Twenty-seven themes were defined across seven workforce development constructs, including pathways and preparation for practice, competency development and requirements, placements and workforce challenges. Inadequate preparation and mentoring, neglected placements and structural and professional challenges in private practice were highlighted barriers to success. Participants outlined work related tasks across clinical and business management. Insights around competency requirements for successful private practice were defined as people skills, entrepreneurial mindset, clinical skills and business acumen.

Conclusion: A strategic approach to private practice workforce development is needed to ensure that dietitians are well prepared and supported to provide sustainable, evidenced-based services to the community it serves.

Development of online courses on nutrition and dietetics at Central Asian Universities

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Introduction: Central Asia faces significant nutritional challenges that are complex and multifaceted, including rising non-communicable diseases, directly impacting public health and necessitating initiatives. Nationwide evidence-based and evaluated classes for multipliers on nutrition and dietetics in Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan on a higher-education-institute level are lacking.

Objectives: Promotion of the use of innovative teaching techniques, implementation and optimisation of Moodle as an online learning management system (LMS) for universities, implementation of nutritional courses in line with Bologna principles and standards, as well as considering Guidelines for Quality Assurance in the European Higher Education Area.

Methodology: In a peer-to-peer process dietitians and Technology Enhanced Learning (TEL) professionals from Austria and Turkey worked with multipliers from 8 partner universities in 4 central-Asian countries in the development of different courses on nutritional topics, whereby great relevance was placed on the didactics and the variance of methods in online teaching and learning.

Findings: All partner institutions use Moodle as learning management system (LMS). Ten courses addressing a broad range of nutritional topics within 3 modules (Nutrition in diseases, Nutrition for the future and Nutrition for specific groups), with a total of 15 ECTS, were developed and authorized locally. They were then implemented in the existing curricula in educational programmes of e.g. Medicine, Nutritional Science and Public health. So far 119 students completed the courses and gave feedback through an online- questionnaire. On a scale from 1 (not at all) to 5 (very), participants rated their satisfaction with the course content at an average of 4.5, and the relevance and helpfulness for their future professional work at 4.6, indicating a high level of perceived quality and practical applicability.

Conclusion: Teaching multipliers in nutrition-relevant topics, in a modern and flexible learning environment, is highly relevant for improving global health challenges. Offering these opportunities to students is one step in the right direction.

European Federation of Associations of Dietitians (EFAD) Advanced Competences – where are we now?

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Introduction: The strategic plan of EFAD includes building a high-quality workforce. The professional development of entry level dietitians to advanced level requires a heightened knowledge and skillset, demanding more complex work, responsibility and professional judgment. Developing Lifelong Learning (LLL) competencies requires time, practical experience, and additional educational activities. The DIETS2 project issued a guideline document in 2012 on Advanced Practice and Competencies. These guidelines have subsequently been revised by the Education and Lifelong Learning Committee in 2024–2025. As partners of EFAD,

National Dietetic Association's (NDA) regularly provide intelligence regarding their current situation in relation to Registration, LLL and Advanced Practice.

Objectives: To collect data from NDA's to inform the Advanced Practice 2025 guidance.

Methodology: Survey questions were developed by the authors and distributed to all NDAs in 2024, as part of a broader survey conducted in partnership with the Professional Practice Committee. The results were analysed, and recommendations have been provided to EFAD's Executive Committee.

Findings: A total of nine NDAs responded. Conferences and courses emerged as the most common formal learning modes. Regarding the funding of LLL, responses included self-funded (18%), externally-funded (9%) and dependant on learning activity (55%). Some countries specify a minimum number of LLL hours for dietitians per year: 40h in Switzerland and 8 hours in Norway. The cost of a one day course was variable, with €100 the most frequently reported and some activities being multi-professional. EFAD Learning was positively received by 36% of respondents, suggesting a need for increased promotion. Although advanced practice is recognized as a critical area, only 18% of NDAs indicated plans to further develop this domain over the next five years, which may be considered unexpectedly low.

Conclusion: NDA's perspectives on Advanced Practice and their present models of LLL have provided valuable insights that informed the recent update of EFAD's Advanced Practice competencies.

The first years of freelancing - experiences of self-employed dietitians in Austria

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Introduction: In recent years, the number of people with obesity, diabetes and cardiovascular diseases has risen sharply. The trend continues to increase. Nutrition can have a decisive positive influence here, both preventatively and therapeutically. Dietitians can also carry out this nutritional therapy or knowledge transfer on a freelance basis, which has recently seen an upward trend. However, many surveys show major challenges that self-employed people have to face, especially in their early days, and many new businesses are no longer on the market after a few years. As part of this work, the following research question is investigated: "How do self-employed dietitians in Austria fare in the first years of their freelance work?"

Methodology: A qualitative approach was chosen as the data collection method. Using a semi-standardized interview guide, individual interviews were conducted with five freelance dietitians and the data were then evaluated using Mayring's qualitative content analysis.

Findings: The analysis of the interviews showed that the initial phase of acquiring customers was rather slow for most people, but that there was a steady and constant increase in the months that followed. As a result, some then took the step into exclusive self-employment and/or hired new employees. Only one person had to reduce the extent of their independence over time. Challenging topics included finding successful time management, creating an

appealing external appearance, the double burden of a part-time job and self-employment, and finally determining your own range of services. Setbacks – such as the Corona lockdowns – also had to be overcome. Many people have reached their limits when it comes to mental health, although strategies have been found to counteract this.

Conclusion: Despite an often slow starting phase and many challenges to overcome, all of the interviewees would dare to take the step into freelancing again. The advantages of being self-employed in dietetics (for example more individual therapy concepts, longer-term client care) would far outweigh the disadvantages. It is also important – in addition to courage, willingness to take risks and belief in yourself – to be able to rely on a useful and profitable network. The insights gained from this qualitative work could serve as the basis for a more extensive quantitative research project on this topic.

Views of Czech dietitians on expanding their scope of practice

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Introduction, objectives: In the Czech Republic, the scope of practice (SOP) of dietitians has evolved over time but still remains limited compared to international standards. Abroad, regularly updated systems and expanded SOP of dietitians contribute to increased quality and cost-effective nutrition care. Currently, a key topic in dietetics is the redefinition and expansion of SOP. While this would increase autonomy and professional prestige, it also brings greater responsibility. This study aims to explore dietitians' interest in expanded SOP, related aspects and their willingness to accept the associated responsibility.

Methodology: Data collection was conducted through an anonymous online questionnaire created using KoBoToolbox, and distributed via social media and communication channels of the Czech Association of Dietitians. The survey covered demographics, knowledge and personal attitudes, perceptions of decision-making by other healthcare professionals, and views on the expansion of SOP and the current situation in practice.

Findings: After publication, the questionnaire was accessible to several hundred dietitians, and by the end of the data collection period, we obtained 100 valid responses. The study revealed that 99% (99) of respondents showed interest in the expansion of SOP, specifically in the ability to prescribe ONS (91%; 91), change the diet order (81%; 81) and order laboratory tests (80%; 80). Regarding their motivation for the expansion, 99% (98) believed it would improve the effectiveness and accessibility of nutrition care, while 63% (62) felt it would give their work greater meaning. All respondents (99%; 99) who supported the SOP expansion also expressed willingness to take on increased responsibility.

Conclusion: Expanding the SOP of dietitians is an important step toward advancing the profession and improving healthcare overall. While greater autonomy entails increased responsibility, dietitians expressed a strong interest in assuming it. Since international studies have demonstrated that broader SOP leads to cost-effective nutrition care, similar benefits could be expected in our healthcare system.

Associations between food literacy, cooking skills and Mediterranean diet adherence in the Spanish population: Results from the Tool4MEDLife project

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Introduction, objectives: Even with solid proof of its benefits for heart health and metabolism, adherence to the Mediterranean Diet (MD) in Spain has noticeably declined in recent years. Urban growth, tight schedules, and the widespread marketing of ultra-processed foods have changed how people cook at home and share meals, especially among children and teenagers. The MD is more than just food; it is a cultural tradition, rich in cooking skills and food wisdom passed down over generations. When these skills fade, it affects both health and the environment, making it vital to strengthen support for food knowledge and cooking abilities. This study aimed to investigate the association between cooking skills, MD-related literacy, and adherence to the Mediterranean Diet across different developmental stages: childhood, adolescence, adulthood, and older adulthood. A secondary objective was to identify potential critical windows for intervention based on the strength of these associations.

Methodology: This cross-sectional study included 832 Spanish participants grouped by age: children (8–14, n=408), adolescents (15–17, n=136), and adults (18+, n=288). Cooking skills were assessed using CooC11 for children and FCSk for older groups. Adults also completed Lit_MEDiet to assess MD literacy. Adherence was measured with KIDMED (children/adolescents) and MEDAS (adults). Spearman correlations and standardized linear regressions were used.

Findings: In children (8–14 years), no significant association was found between cooking skills (CooC11) and KIDMED scores ($\beta=0.008$; $p=0.875$). Among adolescents (15–17), a strong positive association emerged between FCSk and KIDMED ($\beta=0.313$; $p<.001$; $p=0.371$), indicating a large standardized effect and suggesting this stage is particularly sensitive to food skills. In adults (18+), both cooking skills (FCSk) ($\beta=0.189$; $p=0.001$) and MD-related literacy (Lit_MEDiet) ($\beta=0.187$; $p=0.004$) were moderately associated with MEDAS scores. The adolescent effect ($\beta=0.313$) was nearly twice as strong as those observed in adults.

Conclusion: This study highlights a developmental pattern linking cooking skills, food literacy, and adherence to the Mediterranean Diet. No significant associations were found in children, but a strong effect emerged in adolescents (15–17), indicating a critical window for intervention ($\beta=0.313$). In adults, both cooking skills and MD-related literacy showed moderate effects on dietary quality. These findings suggest that mid-adolescence is the most impactful stage for promoting food skills, while adult programs should combine practical and educational components. Overall, the results support the need for age-tailored public health strategies, prioritizing food and cooking skills education during adolescence to improve long-term adherence to the Mediterranean Diet.

AI Applications in Sustainable Menu Planning: Nutrition and Carbon Footprint Assessment in Türkiye

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Introduction, objectives: Balancing sustainability and nutrient quality in food systems is a critical challenge in modern nutrition planning. While artificial intelligence (AI) offers new opportunities to address this challenge, it has not yet reached its full potential in meeting the multidimensional requirements of sustainable nutrition. In this context, the effectiveness of AI in menus incorporating culturally appropriate and seasonal products is being evaluated. In this study, a traditional university menu, a dietitian-designed menu, and an AI-supported sustainable menu were compared in terms of nutritional value and environmental impact to evaluate AI's current competence in sustainable menu planning.

Methodology: All three menus were analyzed over a five-day period for energy, protein, carbohydrate, fat, fiber, and carbon footprint measurements. The carbon footprint was calculated based on life cycle assessments of the products, and the AI-supported menu was designed considering the seasonal characteristics of May.

Findings: The dietitian-designed menu stood out with high nutritional quality and low carbon footprint, whereas the university menu exhibited a higher carbon footprint and lower fiber content. The AI-supported menu achieved nutritional balance but showed environmental impact values close to those of the university menu. This finding highlights the need for AI algorithms to more comprehensively integrate sustainability criteria.

Conclusion: The results demonstrate that AI has the potential to be a powerful tool in sustainable nutrition, while emphasizing the necessity for algorithmic improvements to ensure environmental sustainability. This study highlights, within the theme of "Rethink, Reform, Sustain," the importance of holistic evaluation of both nutritional values and environmental impacts in AI-supported menu planning.

From Concept to Action: Malawian Stakeholder Voices on Sustainable Food Systems for One Health

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Introduction, objectives: Food systems in Malawi face complex challenges at the intersection of environmental (soil, water, air), plant, animal, and human health, necessitating integrated approaches like the "Food Systems for One Health" (FS4OH) framework. This study investigates how Malawian food systems stakeholders conceptualize and apply FS4OH principles. It was conducted as part of the EU-Funded Food Systems Transformation in Southern Africa for One Health (FoSTA-Health) project. This study aimed to explore local understandings, practical uses, and

barriers to FS4OH among diverse food systems stakeholders, including nutritionists and dietitians.

Methodology: Qualitative data were collected through face-to-face interviews with 41 stakeholders from all parts of Malawi's food systems at national, district, and extension levels. Interviews were recorded and transcriptions analysed thematically to capture perspectives on FS4OH and its operationalization in policy and practice.

Findings: Most stakeholders had not heard of FS4OH but were familiar with food systems and could describe their main components; about two-thirds were unfamiliar with One Health, associating it mainly with human nutrition, while a third recognized broader connections to environmental, animal, and human health. Regardless of prior knowledge, participants saw more benefits than drawbacks to FS4OH, citing improved human and environmental health, increased food security, better educational outcomes, and advantages of cross-sector collaboration and resource sharing, though they noted coordination challenges. Practical application examples included nutrition programs, sustainable agriculture, and integrated policies addressing food safety and zoonotic diseases, with challenges like limited resources and policy fragmentation, but also opportunities for innovative partnerships and local solutions.

Conclusion: The study underscores FS4OH's value despite varying terms used to describe food systems that are healthy for people and the planet. Regular inclusive dialogue with diverse stakeholders could catalyse transformative food systems improving environmental, plant, animal, and human health.

Grain and legume consumption and risk of gastric cancer: Findings from a case-control study

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Introduction, objectives: Gastric cancer (GC) is a leading cause of cancer-related mortality worldwide, with dietary factors significantly influencing GC risk. However, research on the dietary influences of GC in Middle Eastern populations, particularly in Jordan, remains limited. This study aimed to assess the association between the consumption of grains and legumes and GC risk in a Jordanian population, hypothesizing that refined grains may increase GC risk, while whole grains and legumes may offer protective effects.

Methodology: A case-control study was conducted involving 173 newly diagnosed GC cases and 314 cancer-free controls recruited from major hospitals in Jordan. Data were collected through interview-based questionnaires. Consumption of grains and legumes was assessed using a validated Arabic food

frequency questionnaire tailored to Jordanian dietary habits. Statistical analyses were adjusted for key confounders to isolate the impact of dietary intake on GC risk.

Findings: The findings indicate that a higher intake of refined grains, particularly white bread, is positively associated with an increased risk of GC, as shown by an odds ratio (OR) of 3.13 (confidence interval [CI]: 1.57 – 6.21, $p = 0.001$). In contrast, moderate rice consumption is linked to a reduced risk of GC (OR = 0.38, CI: 0.18 – 0.81). Legumes, including hummus (OR = 0.48, CI: 0.26 – 0.97) and cooked dried beans (OR = 0.40, CI: 0.20 – 0.81), were found to have protective associations with GC risk. However, the consumption of green peas was unexpectedly associated with an increased GC risk (OR = 2.19, CI: 1.24 – 3.88, $p = 0.004$), potentially due to preparation methods or consumption patterns.

Conclusion: This study provides evidence linking specific grains and legumes to GC risk in Jordan. Refined grains appear to increase GC risk, while legumes may offer protective benefits. These findings underscore the importance of public health interventions that encourage increased consumption of legumes and discourage refined grain intake to mitigate GC risk in similar populations.

Appetite Loss in Cancer Patients: Exploring the Influence of Contextual Cues and Eating Behaviors

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Introduction, objectives: Loss of appetite is a well-known issue for cancer patients and is associated with weight loss, poorer outcomes and lower quality of life. So far, effective medical aids are limited. This study aims to examine patterns of intensity, specificity, and eating behaviors in cancer patients' appetite experiences, identify psycho-social factors influencing appetite, and evaluate the effectiveness of behavioral strategies to support appetite in those experiencing appetite loss.

Methodology: This survey included 298 oncological and hematological patients (163 female, 135 male), aged 18–91. A questionnaire assessed appetite problems, appetite self-efficacy, contextual appetite cues, and eating patterns.

Findings: 29.9% of the patients reported experiencing severe appetite loss. Responsiveness to contextual appetite cues was interrelated ($p < 0.001$) and positively associated with higher appetite self-efficacy [NR1] ($p < 0.05$). Responsiveness to auditory or visual cues was associated with less weight loss ($p = 0.027$). Patients with appetite loss showed lower responsiveness to visual or auditory cues ($p = 0.002$) and time-based prompts ($p < 0.001$) compared to those without appetite loss. This group also reported higher levels of concerns ($p < 0.001$) and greater recent weight loss (-2.27 ± 4.00 vs. 0.51 ± 3.64 , $p < 0.001$). No differences were found related to appetite loss severity in appetite self-efficacy, specific eating behaviors (portion size, meal regularity, timing, or food type), or the cue of eating with others. However, patients with

severe appetite loss were more frequently reporting restricted eating patterns ($p < 0.001$).

Conclusion: Greater appetite loss severity was associated with more restricted eating and reduced response to visual, auditory, and time-based cues, while responsiveness to eating with others remain consistent across all levels of appetite. Appetite self-efficacy was unrelated to appetite severity, but positively associated with cue responsiveness. Enhancing responsiveness to contextual cues may be a behavioral intervention to improve appetite in cancer patients.

Optimisation of the more plant-based, protein-rich 2EAT dietary weight loss intervention in older adults

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Introduction, objectives: Protein-rich diets may help preserve muscle mass during weight loss in older adults. However, these diets are typically high in animal-based proteins and do not align with the transition towards more plant-based dietary patterns. The 2EAT intervention aims to implement 60% plant-based, protein-rich, energy-restricted diets for older adults with obesity. This pilot-study aims to refine the 2EAT intervention offering more plant-based, protein-rich and energy-restricted diets, using dietary intake data and practical feedback from experienced dietitians and participants.

Methodology: An 8-week pilot-study was performed by experienced dietitians to test the 2EAT dietary intervention. Nutritional intake data on calories, protein and plant-animal ratio protein were collected at baseline and post-intervention. Three focus groups (dietitians: $n=4$, $n=4$ and participants: $n=6$) were conducted after 8-weeks to examine the facilitators and barriers.

Findings: Ten participants (55-71 y, BMI 27-41 kg/m²) completed the 8-week 2EAT pilot-study. Despite a target protein intake of 1.2 g/kg/day, the average intake decreased from 0.95 to 0.87 g/kg/day, with plant-based protein increasing from 45% to 55% derived from plant-based sources. The focus groups revealed that both dietitians and participants found it challenging to increase protein intake within plant-based, energy-restricted diets. Dietitians valued the use of 24-hour recalls before consultations to provide tailored advice, while participants found that the recalls enhanced their nutritional awareness and motivation. Participants also appreciated the ability to make informed, independent choices with minimal dietitian support.

Conclusion: This pilot-study highlights the difficulty to achieve a more plant-based, protein-rich diet combined with energy-restriction in older adults with obesity. The 2EAT intervention was improved by placing greater emphasis on protein during counseling—to support the goal of achieving 1.2 g/kg/day, with a minimum intake of 0.8 g/kg/day and 60%

derived from plant-based sources—and by incorporating 24-hour recalls to enhance tailored dietary advice and participant motivation.

Assessing the diet of adults aged 65+ in Spain in the MyFOOD4Senior Project: baseline insights

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Introduction, objectives: Latest data from the United Nations (2024) indicate that the ageing of the population will continue to increase. According to this report, life expectancy in Spain is estimated to exceed 90 years by the year 2100. This trend poses challenges in terms of health and well-being, especially when it comes to nutritional status and possible efficient educational strategies. The main aim was to evaluate the baseline diet of Spanish adults aged 65 and older, assessing to what extent their diets align with current nutritional guidelines and recommendations.

Methodology: A total of 120 participants (average age 69.5 years, 72.5% female) completed a validated 3-day dietary record. Nutritional analysis was performed using the DIAL software (v3.4.0.9). Malnutrition risk was assessed with the Mini Nutritional Assessment (MNA) questionnaire, validated for older populations.

Findings: Both men and women showed an unbalanced macronutrient intake. Lipid consumption exceeded recommendations (higher in females: 39.7% of total energy (TE); males: 37.8% TE, $p < 0.05$), while carbohydrate intake was low. Protein intake was also elevated. Saturated fat intake was likewise high for both females (10.3% TE) and males (9.7% TE). Deficient intakes were observed for folate, zinc, and particularly vitamin D, with intakes reaching only 18.4% of Reference Intakes, regardless of sex. Despite these imbalances, MNA results indicated no malnutrition risk (female score: 13; male: 14, $p \leq 0.01$). Dietary quality was generally acceptable based on food group diversity, although meat consumption was excessive (2.7 servings/day in both sexes).

Conclusion: The diet of people aged 65+ showed significant nutritional imbalances and deficiencies, especially in key micronutrients, although no immediate malnutrition risk was identified. These findings highlight the vulnerability of this age group regarding nutritional health and provide valuable baseline data to inform future nutritional strategies aimed at promoting healthier, longer lives for current and future older adults in Spain.

The Impact of Media on the Eating Habits of X, Y, and Z Generations

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Introduction: Media exposure significantly influences individuals' health behaviors, including dietary habits. Different generations engage with various types of media, which shapes their food choices and nutrition literacy.

Objectives: To assess the influence of traditional and digital media on the eating behaviors of individuals from X, Y, and Z generations, and to examine how media exposure correlates with digital nutrition literacy.

Methodology: A cross-sectional survey was conducted in Ankara, Turkey, in October 2024. Data were collected from 632 participants equally representing the X, Y, and Z generations, using structured questionnaires. The study measured demographics, screen time, media influence, and dietary behaviors. The validated e-Healthy Diet Literacy (e-HDL) scale was used to assess digital nutrition literacy. Data were analyzed using IBM SPSS software (Chi-square, ANOVA, and correlation tests).

Findings: Generation Z demonstrated the highest social media use (92.5%), while 75% of non-users were from Generation X. Instagram was the most used platform (77.5%). A significant relationship existed between generation and social media use ($\chi^2 = 31.925$, $p < 0.001$). BMI was significantly associated with food ordering frequency ($p = 0.014$), where more frequent ordering correlated with slightly lower BMI. Digital nutrition literacy (DNL) differed significantly across generations ($p = 0.001$), with Generation Z scoring higher than X and Y. ANOVA results confirmed that Generation Z had significantly higher scores in e-HDL sub-dimensions (e.g., information-seeking, application) compared to X and Y (p -values ranging from .000 to .045). A weak but significant negative correlation was also found between screen time and BMI ($r = -0.103$, $p = 0.010$).

Conclusion: Generational differences in media usage significantly affect both food-related behaviors and levels of digital nutrition literacy. Generation Z is especially vulnerable to trends spread through social media, which may lead to both beneficial and harmful dietary changes. The study highlights an urgent need for public health strategies that not only enhance digital nutrition literacy but also regulate online nutritional content and empower individuals to make informed food choices. Tailored interventions, especially for younger generations, could be crucial in preventing misinformation, promoting healthier eating, and reducing nutrition-related health risks in the digital era.

Low- and No-Calorie Sweeteners in Snacks, Diet Products and Beverages in the Turkish Market

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Introduction, objectives: Low- and no-calorie sweeteners (LNCS) are increasingly used as sugar substitutes in processed foods and beverages to reduce the use and consumption of added sugars and the associated risk of non-communicable diseases. This study aimed to characterize the predominant use of sugar alcohols and no-calorie sweeteners in packaged food snacks, diet/diabetic products, and beverages available in the Turkish market.

Methodology: We examined 1454 snacks, diet/diabetic products and beverages from two major supermarkets in Türkiye. The food products were categorised according to their nutritional composition and intended dietary use. Information was collected from product packaging by photographing all sides of the packages in the supermarkets.

Findings: Sugar alcohols were used more commonly in snacks and diet/diabetic products, but less frequently in confectionery (19.6%) and snack bars (13.2%). Sorbitol (14.5%, $n=138$) was primarily present in cakes (84.4%) and gums (65%), while xylitol (52.5%) and maltitol (42.5%) were predominantly found in gums. In contrast, no-calorie sweeteners were most prevalent in beverages (13%, $n=65$), particularly in carbonated beverages (56.3%, $n=18$), energy and sport drinks (50%, $n=14$) and mineral waters (26.2%, $n=11$). Acesulfame K is the most commonly used no-calorie sweetener, found in up to 50% of carbonated beverages. Sucralose and aspartame are also commonly found in beverages, often in combination with other sweeteners. Gums in the snacks group mainly contain aspartame (60%), acesulfame K (57.5%), and sucralose (45%).

Conclusion: Given the many controversies surrounding the potential health benefits of using LNCS and differences in regulations and industrial and consumer preferences across the countries, our findings provide preliminary data on the use of low- and no-calorie sweeteners in the Turkish market.

The Social Impact Potential of Dietitians on Sustainable Food Systems

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Introduction: Transitions to healthy dietary patterns that support sustainable food systems have tremendous potential to contribute positively to a more sustainable human society. Following such a dietary pattern is only partially a matter of individual choice; dietary choices are also impacted by interconnected socio-ecological systems factors such as economic forces, food environments, and social networks.

Objectives: To understand the social impact potential of nutrition and dietetics professionals on sustainable dietary patterns, this research examined the state of practice and compared it to the state of the current science.

Methodology: A cross sectional, mixed methods survey design was used to examine the state of practice in the United Kingdom, Canada, Australia and the USA. Scoping review and narrative literature review methods were used to examine the state of the science.

Findings: Findings show that nutritionists and dietitians are working across socioecological systems and food systems to contribute to sustainable food systems. The greatest impact potential was found in physical environments such as hospitals and schools. This potential is strongest where there is policy infrastructure to support the work. There was also significant potential in increasing individual and public food literacy, but

perceived tensions with client-centred care and limitations in the use of powerful communications tools may limit impact. Archetypical qualities of high-impact practice included practitioners' ability to apply systems thinking to problem solving and the capacity to lead by example.

Conclusion: Dietitians and nutritionists have a high social impact potential to support transitions to more sustainable dietary patterns. The contributions of many across socioecological systems generates a cumulative effect. The state of the science is robust enough to guide many current activities toward higher impact. The most effective practitioners are applying systems thinking and possess leadership qualities to balance theoretical and practical evidence in the face of rapid change and uncertainty.

Reducing food waste in school catering through the use of detection tools of food waste

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Introduction: Food waste is a global issue with social, environmental, and economic impacts, occurring throughout the food chain.

Objectives: This study examines food waste percentages in school canteens and explores reduction strategies.

Methodology: Food waste percentage was analyzed in four primary school in Tuscany from October 2024 to January 2025, evaluating 600 lunches. The dietitian working for the collective catering company conducted a visual assessment during mealtime, recording data on specific forms. A dish was consumed if $\geq 50\%$ was eaten. Data, processed via software, was categorized by course, calculating average waste percentages.

Findings: The food waste analysis shows significant variation across categories. Vegetable side dishes have the highest waste percentage (63.19%) (Chart n. 3), followed by fruits and desserts (40.38%) (Chart n. 4). Second courses waste is lower (36.48%) (Chart n. 2), while first courses have the least waste (24.28%) (Chart n. 1). The highest waste recipes are peas (95.83%), julienned vegetables (92.31%), whole wheat bread (89.29%) (Chart n.5), green beans (86.67%), and spinach (86.67%), indicating major vegetable waste. The analysis led to strategies for reducing food waste through education, menu optimization, personalized portioning, food storage solutions, surplus donations, and composting, promoting sustainability and efficiency in school meal programs.

Conclusion: Visual assessments show vegetable side dishes as the most wasted. The dietitian plays a key role in overseeing

waste monitoring, optimizing meal services, supporting policy development, and promoting educational initiatives. Integrating data-driven insights, technological innovations, and targeted interventions can significantly reduce food waste, enhance meal quality, and encourage sustainable eating habits in schools.

Exploring the Impact of Educational Tools on Dietary Behaviors: A Scoping Review

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Introduction, objectives: Noncommunicable diseases (NCDs) account for 74% of global mortality, with unhealthy diets recognised as a leading modifiable risk factor. In light of this challenge, there is an urgent need for innovative strategies capable of overcoming individual and structural barriers to sustained dietary behaviour change, particularly in diverse and urbanising contexts. In this regard, educational toolkits, structured pedagogical resources delivered through digital, analogue, or hybrid formats, hold significant potential. By integrating elements such as gamification, experiential learning, and mobile technology, these toolkits aim to make nutrition education more engaging, practical, and scalable. To identify the resources available in the scientific literature and provide a reference point for future public health interventions, this scoping review maps the characteristics, implementation contexts, and outcomes of educational toolkits designed to promote healthy eating in high- and upper-middle-income countries. This study aims to: (1) map evidence on educational toolkits, structured, transferable pedagogical materials (digital, analogue, or hybrid), for nutrition education and behavior change across diverse populations in high- and upper-middle-income countries; (2) identify target populations and implementation contexts; and (3) pinpoint research gaps to guide future interventions.

Methodology: Following the Arksey and O'Malley framework and PRISMA-ScR guidelines, a search was conducted in PubMed to identify both primary studies and systematic-type reviews evaluating digital, analogue, or hybrid educational toolkits for nutrition education. Eligible records targeted high- and upper-middle-income countries and were published between 2014 and 2024. Data on format, population, setting, and outcomes were extracted and analysed thematically using the Population-Concept-Context framework.

Findings: Of 400 studies, 49 were included (33 primary, 16 reviews). Toolkits included digital (n=18, e.g., apps), analogue (n=7, e.g., board games), and hybrid (n=8, e.g., cooking workshops with digital aids). Most targeted children and adolescents in schools (n=24), while fewer focused on adults (n=11) or older adults (n=4). Digital tools faced engagement challenges, while analogue games thrived with facilitation. Hybrid models showed promise but were resource-intensive. Outcomes included improved dietary knowledge and short-term behaviour changes, with variable long-term effects.

Conclusion: Educational toolkits, particularly hybrid and facilitated analogue formats, have demonstrated effectiveness in promoting dietary change, especially in school-based settings. However, aspects for improvement include the scarcity of long-term outcome data, the underrepresentation of older adults, and limited cultural adaptation. Digital tools often face high dropout rates (40–60% within a month) and rarely report cost-effectiveness analyses. Issues of equity and scalability across diverse contexts also remain insufficiently addressed. Notably, board games, when integrated into educational settings with teacher or facilitator support, show high engagement and promising outcomes in both knowledge acquisition and behavioural change. Future research should prioritise longitudinal studies, inclusive interventions for older populations, and culturally tailored hybrid formats that combine digital innovation with the engaging power of game-based learning.

Preoperative malnutrition assessment using GLIM criteria predicts 6-month mortality after major abdominal surgery

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Introduction: Malnutrition is associated with increased morbidity and mortality in surgical patients. The Global Leadership Initiative on Malnutrition (GLIM) criteria offer a standardized approach to diagnosing malnutrition, but their predictive value for long-term outcomes after abdominal surgery remains under investigation.

Objectives: To evaluate whether preoperative nutritional status is associated with 6-month mortality in patients undergoing major abdominal surgery.

Methodology: This single center retrospective study included 411 patients undergoing abdominal procedures. Preoperative nutritional assessment involved GLIM criteria, the Nutritional Risk Index (NRI), mid-upper arm circumference (MUAC), handgrip strength, calf circumference, and laboratory values (albumin, CRP, total proteins). Patients were divided into two groups based on 6-month survival.

Findings: The non survivors group (n = 93) showed higher length of hospital stay, lower serum albumin levels, reduced total protein levels, elevated CRP values, and higher POSSUM scores (p < 0.001), all of which reflect poorer nutritional and inflammatory status. Multivariate logistic regression analysis showed that increasing age was significantly associated with decreased odds of survival (OR = 0.95, 95% CI: 0.93–0.97, p < 0.001), indicating that older patients had a higher risk of death within six months. Gender was not a significant predictor of mortality (p = 0.808). Patients who were not malnourished according to the GLIM criteria had 3.7 times higher odds of surviving at 6 months compared to malnourished patients (OR = 3.70, 95% CI: 2.15–6.36, p < 0.001). No significant differences were noted between the groups regarding MUAC, calf circumference, or handgrip strength.

Conclusion: Preoperative malnutrition, as defined by the GLIM criteria, is significantly associated with increased 6-month mortality in patients undergoing major abdominal surgery.

Enhancing clinical placement learning outcomes through student led project design

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Introduction: Students on the University College Dublin MSc in Clinical Nutrition and Dietetics programme need to demonstrate the attainment of competence as defined by the Irish healthcare professional regulator CORU, in food service provision for service users on special diets. Since 2016, 168 such placements have successfully been completed which meet the predefined regulatory requirements¹ but also result in a significant volume of nutrition assessment, monitoring and evaluation projects and outcomes.

Objectives: We wanted to capitalise on and maximise these findings by focusing on the quality and quantity of food service project outcomes moving forward, so students were required to suggest a follow-on project based on their current learning for subsequent students to develop and undertake.

Methodology: Students in 2024 undertook a 2-week food services placement which included a specific project focused on particular aspects of service users' requirement for therapeutic diets e.g. protein and energy enriched vegetarian menu design for an older patient cohort. At the end of placement, students were assessed in accordance with the learning outcomes and were required to identify a follow-on project relevant to the service user therapeutic dietary needs e.g. patient satisfaction survey and costing implications of the previous example.

Findings: Students from 2024 placements identified a realistic relevant follow-on project which addressed at least one learning outcome which 2025 students could address as their project focus.

Conclusion: Regulated healthcare programmes must be able to demonstrate that students have met defined learning outcomes. This often leaves little room for students to lead and influence their education and that of future students. Food services placement can facilitate students to meet learning outcomes specific to food services while also providing opportunities to demonstrate leadership, innovation, future planning and project development skills by identifying relevant learning for future students.

Plant protein, fibre and physical activity to address poor appetite and undernutrition in older adults

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Introduction: The APPETITE multi-country trial is part of the European APPETITE project, funded under the Horizon Joint Programming Initiative 'A Healthy Diet for a Healthy Life'. Reduced appetite with ageing may increase risk of undernutrition. Since protein and dietary fibre is often inadequate in older persons with poor appetite, supplementation may be beneficial. Plant proteins are more environmentally sustainable and affordable than animal proteins. Increasing physical activity may benefit appetite and energy intake.

Objectives: To determine the impact of innovative plant protein fibre (PPF) products within a personalised diet (PD), a physical activity (PA) programme, and their combination on appetite, and other nutritional, functional and clinical outcomes in community-dwelling older adults.

Methodology: One hundred and seventy-five community-dwelling adults in Germany, Ireland and Italy aged 65+ years participated in a 12-week, parallel-group, randomised controlled trial (RCT). Participants were randomised into one of four groups: i) PD (incorporating two PPF products); ii) PA; iii) PD & PA; and iv), no intervention (control). The primary outcome was appetite measured by visual analogue scales and energy intake from an ad libitum test meal. Secondary outcomes included fasting and postprandial appetite-related gut hormones, Simplified Nutritional Appetite Questionnaire score, body composition, cardiorespiratory fitness, muscle strength, physical function and PA, self-efficacy, cognitive status, dietary restraint, depressive symptoms and compliance and acceptability of the intervention

Findings: The findings of the APPETITE RCT include i) Acceptability of plant protein fibre products and their effects on usual dietary intake, ii) Effects of plant protein and fibre supplementation on appetite, nutritional status, metabolic, functional and clinical outcomes.

Conclusion: Results of the APPETITE trial increase our understanding of how a personalised diet (incorporating PPF products), PA and their combination influence appetite, nutritional status and related health outcomes in community-dwelling older adults and contribute to the prevention of undernutrition.

Published methods of subjective appetite assessment in older adults and their validity and reliability

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Introduction, objectives: A decline in appetite is associated with poor health in older adults (>65 years). Subjective methods of appetite assessment used in older adults living in the community have not previously been fully documented and their validity and reliability have not been evaluated and described. The aims of this scoping review were to identify methods used to assess self-reported/subjective appetite as a primary outcome in studies in older adults living in the community and community settings, and to establish which, and how methods were evaluated for validity and/or reliability.

Methodology: A scoping review of three online databases: CINAHL, PubMed and Embase was undertaken.

Findings: One-hundred and one articles were included, with 30 different types of appetite assessment methods identified and categorized into three groups: Likert-scales, visual analogue scales (VAS) and question-based methods. Likert-scales were used most frequently (61%), followed by VAS (23%) and question-based methods. Twenty-two studies evaluated the validity and/or reliability of 11 types of appetite assessment methods (Likert-scales, n=10, VAS, n=1). Thirty comparators were used to evaluate validity and reliability, with predictive validity and internal consistency reliability evaluated most frequently. Likert-scales were predominantly reported to predict health risks; however, have not been validated for appetite per se. In contrast, albeit limited, VAS have been validated against ad libitum test meal energy intake.

Conclusion: Agreement on best practice when evaluating the validity and reliability of assessment methods is required. Given the current evidence, a recommended method will likely depend on the context and goals of assessment.

Acceptability and feasibility of plant protein and fibre supplementation in older adults? The APPETITE RCT

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Introduction: Adequate protein and fibre intake are essential for healthy ageing but targets are often not met in European older adults.

Objectives: This analysis explores the feasibility of plant protein and fibre (PPF) supplementation in community-dwelling older adults.

Methodology: Data from participants randomised to the personalised diet (PD) (n=44), and PD and physical activity (PD+PA) (n=41) arms of the multi-centre APPETITE [2] project were included in analyses. Two PPF products were designed to be incorporated into the usual diet (recipe based), composed of a blend of plant protein sources and pea fibre. Participants were provided with 2 x 25 g sachets (15-17 g protein, 3.6 g dietary fibre each) to be consumed daily over 12 weeks. Compliance was defined as 10 out of 14 sachets per week for 75% of the intervention.

Findings: Four participants (n=2 in each group) reported stopping the intervention due to the PPF, and 14 due to reasons unrelated to the intervention. Sixty-two participants (n=27 PD, n=35 PD+PA) who completed the intervention had complete compliance information. Compliance was high (mean 91%) for both groups. Adverse effects on satiety/gastrointestinal effects were reported in a sub-sample (~16%), particularly in the first weeks. Participants reported integrating the PPFs into their diets in multiple ways, most commonly mixed into drinks, soups, porridge or muesli.

Conclusion: Daily supplementation with a PPF supplement was feasible and well-tolerated in older adults, with high compliance over 12 weeks. Mild gastrointestinal effects were reported initially but were generally temporary. Longer-term feasibility and acceptability warrant further investigation.

Shifts in lifestyle behaviour combinations and cardiovascular disease risk: the ATTICA study (2002-2022)

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Introduction, objectives: Despite the major health benefits of a healthy lifestyle, the effect of shifts in unhealthy lifestyle factors is not so well-elucidated, due to the limited number of studies with long-term follow-ups and multiple assessments. The aim of this study was to assess ameliorations in lifestyle factors (smoking, physical activity, diet quality and body weight), and their combinations, between 2002–2012, in relation to the 20-year cardiovascular disease (CVD) risk.

Methodology: The sample was participants from the 20-year follow-up of the ATTICA study (2002–2022), who were initially free-of-CVD (n=1,988). CVD evaluations were performed in 2002, 2006, 2012, and 2022 according to WHO-ICD-10. Multi-adjusted Cox proportional hazards models focused on participants who ameliorated their lifestyle habits in 2012 compared to those who

maintained unhealthy lifestyle habits during the whole 2002–2012 period.

Findings: During the 20-year follow-up, n=438 participants stopped smoking, n=180 went closer to the Mediterranean diet, n=191 became active, and n=391 acquired a normal weight. Improving smoking habits (i.e., quitting in 2012 vs. always smoking during 2002–2012) was associated with a 58% reduction in the 20-year CVD risk. Improving physical activity (starting physical activity vs. remaining inactive) was associated with a 64% reduction in CVD risk; this risk was modified based on the other habits. Specifically, starting physical activity was associated with a 69% and a 76% reduced CVD risk in participants who maintained a low diet quality, and those who maintained an increased weight, respectively. Improvements in diet quality or body weight status were not linked to CVD risk.

Conclusion: Our findings highlight that smoking cessation and physical activity initiation should be encouraged even later in life to reduce CVD risk. Healthy dietary behaviours and the acquisition and maintenance of a normal body weight should be introduced as early in life as possible.

An online blended learning physical assessment training programme improves malnutrition diagnosis in adults

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Introduction: Malnutrition affects a growing proportion of hospitalised adults in Ireland. Early identification through routine screening and comprehensive assessment is essential for timely diagnosis and intervention. To address this, the Irish Nutrition and Dietetic Institute (INDI) developed the Physical Assessment of Adults in Clinical Practice (PAACP) programme to integrate physical assessment (PA) into dietetic practice and enhance malnutrition diagnosis.

Objectives: To evaluate the effectiveness of the PAACP programme and its potential as a model for integrating PA and the diagnosis of malnutrition across Irish clinical dietetic care.

Methodology: Sixty-six registered dietitians practising in Ireland voluntarily enrolled in the programme completing surveys at three time points: pre-training (66), immediately post (43), and six months following training (41). A bespoke sixteen-item questionnaire assessed self-reported comfort, confidence, knowledge, skills, practices, and malnutrition diagnosis. Pearson's chi-square tests examined changes over time; significance was set at $p < 0.05$.

Findings: Reported confidence and comfort in performing physical assessment, as well as relevant knowledge and skills, improved significantly from pre- to post-training ($p < 0.001$) and remained better at six months. PA practices in assessing muscle mass and subcutaneous fat significantly increased ($p < 0.05$), and was sustained at 6 months. Barriers to PA, including lack of

training, knowledge, and skills, decreased significantly post-training ($p < 0.001$), though time constraints remained a challenge across timepoints. While malnutrition diagnosis rates improved pre- to six months post training, the change was not statistically significant. In contrast, the diagnosis of malnutrition severity increased significantly, with confidence in diagnosis also significantly increasing.

Conclusion: The PAACP programme improved dietitians' comfort, confidence, knowledge, skills, and practices in performing PA, and diagnosing malnutrition and its severity. There was a significant decrease in key barriers such as limited knowledge and skills. This evaluation has informed the implementation of the PAACP training programme across dietetic departments and teams in Ireland.

Swedish dietitians' use of the GLIM-criteria when diagnosing malnutrition in adults

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Introduction: Six years have elapsed since the first publication on the Global Leadership Initiative on Malnutrition (GLIM)-criteria for diagnosing malnutrition in adults. These international accepted criteria are an important step towards more sustainable nutritional care; if malnutrition is not properly diagnosed, and treated, its consequences will lead to increased disease burden and enhanced healthcare costs. In Sweden, dietitians are encouraged to use the GLIM-criteria. However, little is known about the use of the GLIM-criteria by Swedish dietitians, the operationalization of the different GLIM-criteria in clinical practice, and the support needed when implementing evidence-based recommendations into clinical practice.

Objectives: To investigate current practice of Swedish dietitians' use of the GLIM-criteria.

Methodology: A digital survey targeting dietitians will be launched in Sweden during May 2025. The survey encompasses a first section on current use of all five GLIM-criteria and a second section focusing explicitly on the measurement and assessment of the phenotypic criterion low muscle mass. In the forthcoming year, focus group interviews will be conducted to elaborate more on the deeper meaning of the findings from the survey. In a final step, data from the survey and focus group interviews will inform the development of an intervention to facilitate clinical dietitians' use of the GLIM-criteria. All steps of the research process will be

guided by the theoretical domains framework, a well-known theoretical framework within implementation research.

Findings: Preliminary results from the first section of the digital survey will be presented at the congress.

Conclusion: The present research study will explore current use of the GLIM-criteria among Swedish dietitians. Increased awareness and established routines for the identification and diagnosing of malnutrition are of utmost importance to enable appropriate nutrition interventions, reduce the consequences of malnutrition, and to secure that healthcare resources are used in a more sustainable and resource-efficient way.

Towards improved adherence to oral nutritional supplements – reducing wastage and optimizing medical nutrition therapy outcomes

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Introduction: Oral nutritional supplements (ONS) are commonly used to treat patients with malnutrition or those at risk when food-based strategies alone are inadequate. Ensuring adherence to ONS is necessary for improving medical nutrition therapy outcomes and reducing wastage. However, current guidelines on medical nutrition therapy lack detailed information for healthcare professionals on how to effectively prescribe ONS to enhance patient adherence.

Objectives: To develop a practice pattern on how to prescribe ONS to patients with malnutrition or those at risk, while simultaneously addressing barriers and facilitators to ONS adherence.

Methodology: We developed a six-step guide with evidence-based recommendations focusing on the interaction between the patient and the healthcare professional when ONS is prescribed. The practice pattern intertwines scientific evidence with the principles of person-centered care. The source of scientific evidence was mainly a mixed-methods systematic review previously conducted by our research team. We found 59 barriers and facilitators to adherence to ONS from 171 scientific papers published during the past 20 years.

Findings: Healthcare professionals are encouraged to adopt a holistic, person-centered approach when prescribing ONS. This includes discussing patient needs, expectations, and goals; making a shared decision to include ONS in the nutrition therapy; and ensuring that the ONS prescription is individually tailored and meets patient preferences.

Conclusion: Previous research highlights numerous factors that must be considered to improve adherence to ONS. Evidence-based practice patterns have the potential to bridge the gap between research and clinical practice by integrating scientific knowledge into healthcare delivery. Creating conditions for better adherence to ONS is crucial not only for individual patients but also for advancing towards more cost-effective and sustainable medical nutrition therapy.

Analysis of the Most Frequent Markers to Detect Food Ultra-processing: A German Food Market Analysis

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Introduction: The growing evidence of health risks associated with the consumption of ultra-processed foods (UPF) necessitates their reliable identification. However, identification of UPF remains a challenge, and even professionals struggle to categorize them correctly. This underlines the need for objective approaches to improve the identification of UPF.

Objectives: To evaluate the frequency of markers of ultra-processing (MUPs) in food items of the German food market and to elucidate which MUPs and their combinations are best suited to detect UPFs.

Methodology: Ingredient lists of a representative German food data base comprising 60,327 food items were analysed. According to the NOVA classification, 19 MUP categories with 113 specific MUPs were defined, and the ingredient lists were analysed concerning these MUPs.

Findings: A total of 29,298 products (48.6 % of total food items) contained at least one MUP and were, therefore, regarded as UPF. Mean (standard deviation) number of MUP categories within these 29,298 UPFs was 2.3 (1.5) with the maximum number of MUP categories per food item being 10. Frequency decreased from 11,794 food items with one MUP category to two food items with 10 MUP categories. The most frequent MUPs were flavour (16,469 items, 56.2 % of all UPF), emulsifier (9,309 items, 31.8 % of all UPF), and thickener (6,276 items, 21.4 % of all UPF). The combination of flavour and dextrose detected 68.4 % of all UPF and detection rate increased to 85.5 % of all UPF if ingredient lists were analysed concerning the two additional MUPs emulsifier and thickener.

Conclusion: Of the 19 MUP categories studied, up to ten were present in UPF in a representative German food market analysis. The four MUPs flavour, emulsifier, thickener, and dextrose allow the identification of more than 80 % of all UPF items offering a practical approach for simplified UPF detection.

Attitude and knowledge about women's health and microbiome: Insights of a Health Care Professional's survey

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Introduction, objectives: The gut-hormone axis and the estrobolome influences women's health during all life stages. Dutch healthcare professionals see female-specific health issues in their practise on a daily basis. The aim is to gain insight trough literature review on how the microbiome influences hormonal health across various phases of a woman's life. Secondly, we conducted a survey among Dutch healthcare professionals to understand the current attitude, knowledge and their need for information on women's health.

Methodology: A literature review was conducted, supplemented by a mixed-methods survey among Dutch healthcare professionals (dietitians, weight consultants, and lifestyle coaches). We focused on collecting information about practical experience, knowledge levels, information needs and their preferred type of information. A total of 228 healthcare professionals participated in the period between April - May 2025.

Findings: Hormone fluctuations can alter the diversity of the gut microbiota. From literature review it appears that gut microbiota interventions can support female health by reducing certain symptoms linked to the hormonal cycle.

Healthcare professionals encounter female-specific issues on a daily basis. The survey revealed a strong interest among healthcare professionals in the topic of female health, particularly in practical, applicable knowledge about the gut-hormone connection and the estrobolome. While many are familiar with the general link between the gut and hormones, awareness of the estrobolome is limited. 99.6% of the respondents indicated they need more information on this topic.

Conclusion: Women's health is an emerging topic in healthcare. Although healthcare professionals are aware of the gut-hormone axis, they experience a lack of knowledge and are in need of more scientific and practical information.

Exploring the Transition Toward Sustainable Diets: Insights from Spain and Germany

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Introduction: Reducing meat consumption and adopting sustainable protein alternatives are necessary both for human and planetary health.

Objectives: To analyse the knowledge and acceptance of various alternative protein sources by the adult population living in Spain and Germany, and their willingness to incorporate them into their regular diet.

Methodology: The study focuses on sustainable protein sources such as: plant-based meat substitutes, edible insects, microalgae and microbial fermentation products. A self-administered questionnaire was designed and distributed online. The link was shared through social networks and digital platforms to reach a diverse audience and increase the representativeness of the results.

Findings: 339 people responded to the questionnaire. Most participants showed no intention to include new protein sources in their diets. Seasonal vegetables and plant-based meat alternatives were more accepted. Participants said that lower prices could boost these habits, although they needed more scientific evidence to include consumption of microalgae, mycelium and insect protein.

Conclusion: Most participants were in the precontemplation stage, indicating low readiness for dietary change. Educational efforts are needed to improve acceptance of novel proteins by general population.

Gender Differences in Mediterranean Diet Adherence Among Adolescents with Type 1 Diabetes

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Introduction: The Mediterranean diet (MD) is associated with improved glycemic control and healthier weight among people with type 1 diabetes (T1D). However, despite clinical recommendations, dietary adherence in adolescents with T1D remains suboptimal, and gender differences are not well understood.

Objectives: To evaluate gender-based differences in MD adherence among adolescents with T1D and examine associations with metabolic outcomes.

Methodology: A cross-sectional study was conducted among 283 adolescents (45% female), aged 15-19 years, attending Schneider Children's Medical Center. Adherence to the MD was assessed using the KIDMED questionnaire (score range: -4 to 16). Clinical and demographic data were extracted from medical records. Statistical analyses included univariate tests and multivariate logistic regression, adjusted for age, diabetes duration, and HbA1c.

Findings: Overall, MD adherence was moderate; however, females had significantly higher KIDMED scores than males (median 6.0 vs. 5.0; $p=0.022$), with more frequent vegetable intake both once daily (81.9% vs. 66.7%; $p=0.004$) and more than once daily (63.5% vs. 39.7%; $p<0.001$). They also reported greater use of olive oil (81.9% vs. 67.3%; $p=0.005$) and lower fast-food consumption (29.1% vs. 42.9%; $p=0.017$). Females had higher BMI z-scores (0.50 vs. 0.20; $p=0.030$) and a greater prevalence of overweight (23.6% vs. 10.7%; $p=0.025$). The multivariate analysis indicated that compared to males, females were more likely to consume vegetables more than once daily (OR 2.17, 95% CI 1.26–3.72; $p=0.005$), less likely to consume fast food frequently (OR 0.56, 95% CI 0.32–0.99; $p=0.047$), and had higher BMI z-scores (OR 1.49, 95% CI 1.12–1.98; $p=0.007$).

Conclusion: Although adolescent females with T1D demonstrated better adherence to the MD, they also exhibited

higher BMI, suggesting complex hormonal and metabolic influences beyond diet alone. These findings underscore the need for gender-sensitive and personalized nutritional strategies, along with broader interventions aimed at improving dietary adherence among adolescents with T1D.

Results from EFAD's recent Survey to NDA's regarding EFAD Learning and future lifelong learning developments

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Introduction, objectives: The EFAD Learning platform was launched in 2021 by the European Federation of the Associations of Dietitians to provide a high-quality, accessible digital learning environment. Initially developed modules focused on Gut Health, Digital Health Competencies, and Sustainability. The platform aims to promote transnational knowledge sharing, skill enhancement, and professional development among dietitians and students across Europe. This study aimed to evaluate platform reception, user engagement, and educational needs to inform future development of EFAD Learning and ensure its continued relevance and accessibility.

Methodology: A structured survey was distributed to National Dietetic Associations (NDAs) in 2024, developed in collaboration with EFAD's Education and Lifelong Learning and Professional Practice Committees. The survey captured both quantitative responses and qualitative topic suggestions. Concurrently, platform analytics were reviewed, including enrolment numbers, course preferences, user demographics, and country representation.

Findings: Survey responses indicated that 36% of NDAs reported positive national reception of EFAD Learning, 18% negative, and 45% selected "not applicable." Language barriers were a major limitation, with feedback noting that an English-only platform is inaccessible for many working dietitians. As of 2025, the platform has over 1,300 registered users and 3,835 course enrolments. The most popular course to date is Digital Nutrition Communication. Users primarily come from the UK, Netherlands, Germany, Poland, and Greece, and are largely based in clinical or private sector roles, with many students also represented. Future content priorities identified include: obesity, science communication, women's health, diabetes education, NCP training, food service management, oncology, telemedicine, gender nutrition, disabilities, leadership, outcomes management, and certification for Advanced Practice Dietitians. Multilingual content delivery was strongly recommended.

Conclusion: Survey and usage data have been submitted to EFAD's Executive Committee and Advisory Board to guide the 2025–2027 content strategy. Efforts will focus on improving accessibility, expanding clinical and leadership content, and responding to user needs across Europe.

Nutritional Status, Dysphagia, Oral Intake, Quality of Life, and Dietetic Referrals in Irish Patients attending Community FEES

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Introduction: An estimated 145,000 people are malnourished/at risk of malnutrition at any time in Ireland; dysphagia impacts 1 in 6 individuals globally. Research is lacking about the bidirectional relationship between nutritional status and dysphagia-related outcomes. Malnutrition reduces muscle strength and coordination, making swallowing difficult creating a debilitating cycle where decreased oral intake due to dysphagia worsens nutritional deficiencies, further impairing swallowing function.

Objectives: To explore the relationship between nutritional status, dysphagia severity, functional oral intake, quality of life, and onward referrals in patients referred to the Community Flexible Endoscopic Evaluation of Swallowing (FEES) service between April 2022 to March 2023 in HSE Midwest.

Methodology: Secondary analysis of a cohort study with 65 participants (mean age 73y). Nutritional status was assessed using MUST. Dysphagia outcomes, including QoL and oral intake, were evaluated at baseline and 180 days using validated tools. Data were descriptively and comparatively analysed, with clinical significance assessed through published clinical guidelines.

Findings: Among 55 participants screened, 23% were malnourished or at risk. FEES assessment revealed varying dysphagia severities: 2 severe, 4 moderately severe, 2 moderate, 8 mild to moderate, 13 mild, 23 with functional swallowing limitations, and 11 normal. No significant difference in dysphagia outcomes between visits. Clinically, 46% at risk were referred to dietetics, 53% improved QoL, and 25% declined QoL at follow-up.

Conclusion: Dysphagia severity, functional oral intake, quality of life, and onward referrals impact nutritional status in FEES patients. Higher malnutrition risk correlates with greater dysphagia severity and texture-modified diets. With the growing older adult population, improving malnutrition detection and treatment is crucial. A larger-scale longitudinal study with controlled follow-up and a qualitative study on patient experiences may further validate these findings.

Current Practices of Irish Dietitians Assessing and Monitoring Muscle Strength, Mass and Function: a cross-sectional survey

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Introduction, objectives: Measuring muscle strength, mass, and function is vital in nutritional assessment, offering valuable insights into overall health, including nutritional adequacy, metabolic function, and physical well-being. Nonetheless, the use of these measures for nutritional assessment and monitoring in dietetic practice are not widely implemented and gaps in care remain. This study aimed to explore Irish dietitians' current nutritional assessment practices related to muscle health.

Methodology: A cross-sectional descriptive 29-item online survey was adapted and distributed via link in email and social media to state-registered dietitians (N 1340) in Ireland between 21st September 2023 and 26th October 2023. Data were analysed descriptively.

Findings: The majority of dietitians (84/85) agreed that musculature was important in the assessment of nutritional status, with 80% (n=56/70) reporting integration of at least one assessment of muscle health into their clinical practice. Handgrip strength (HGS) was viewed as the most important (95.7%; n=67/70), frequently applied (64.3%; n=45/70), and most useful for monitoring muscle health (77.1%; n=54/70). Regardless, frequency of muscle health assessment in routine practice was low. The muscle health assessments that are routinely (>once/week) measured include body weight (82.9%; n =58/70), BMI (81.4%; n = 57/70), handgrip strength (25.7%; n=18/70), and the Timed Up & Go test, Chair Stand Test, or Short Physical Performance Battery (10%; n=7/70). The main barriers to muscle health assessment were "lack of training/application experience" (61.4%, n=43/70) and "lack of device availability" (58.5%, n=41/70).

Conclusion: This study provides insights into the application of muscle health assessments within nutritional assessment among Irish dietitians. Results indicate a gap between the recognised value of muscle health and its use in nutritional assessment. Despite an almost unanimous agreement on the importance of musculature, challenges such as insufficient training and lack of equipment hinder widespread implementation of muscle health assessment as a standard component of nutritional assessment. These findings emphasize the need for further practical education and measures to improve the availability of equipment to bridge this gap and optimize nutritional care.

Italian dietetic expertise and clinical application of ketogenic diet for Inherited Metabolic Disorders: a survey

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Introduction: Inherited Metabolic Disorders (IMDs) encompass a group of rare genetic disorders where defects in metabolic pathways impair the body's ability to process carbohydrates, fats, or proteins effectively. Clinical evidence supports the efficacy of ketogenic diet therapy (KDT) in improving various IMD outcomes but data on their application for IMDs are not available in Italy.

Objectives: To evaluate the expertise and clinical application of KDTs among Italian dietitians, with a specific focus on its use in IMDs.

Methodology: A 30-question multiple-choice survey was distributed to Italian dietitians and physicians (neurologists, pediatricians, endocrinologists) referring to the Italian Scientific Association on Nutrition and Dietetics (ASAND) and the Italian Society for the Study of Inherited Metabolic Diseases and Neonatal Screening (SIMMESN) in various clinical settings, including hospitals, private practices, and universities. The survey assessed professional experience, clinical application of KDT protocols, follow-up practices, and perceived barriers in KDT implementation for IMDs. Descriptive statistics were used to analyze the data.

Findings: A total of 175 answers were retrieved. The survey revealed significant variability in the expertise and use of KDT across different healthcare settings. Only 34.3% of respondents reported the presence of a dedicated KDT team. Most dietitians (66%) had less than five years of experience with KDT, and 74.3% dedicated less than 25% of their working time to its management. The most commonly applied protocol was Classical KDT (39.4%), with limited use of the Medium-Chain Triglyceride KDT. Identified barriers included lack of personnel (42.7%) and inadequate clinical settings (31.7%).

Conclusion: These findings suggest the necessity of expanding targeted educational programs, fostering multidisciplinary collaboration, and differentiating the expertise of dietitians who apply KDT for IMDs, considering the various protocols and underlying rationales.

aimed to determine the anthropometric status, maternal-infant feeding practices, and household food security levels of infants aged 0–2 years living in temporary shelters in Adiyaman, one of the most affected provinces after the 2023 Turkey Earthquake. This study aims to draw attention to the nutritional status of infants and young children, a vulnerable group, following the February 2023 earthquake. It seeks to contribute to the literature on infant and young child feeding in emergencies (IYCF-E) and provide valuable insights for the development of future intervention programs.

Methodology: The study is a descriptive, cross-sectional field study; it was conducted through household visits in districts with temporary accommodation centers in Adiyaman, including Merkez, Besni, Gölbaşı, and Kahta, during June–July 2024. A total of 294 participants were included in the study. The nutritional status of the infants and young children was assessed using anthropometric measurements and infant and young child feeding (IYCF) indicators from the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). Household food security was evaluated using the Household Food Security Survey Module- Short Form (HFSSM-SF).

Findings: According to the study results, 4.42% of the infants and young children are thin, 3.06% are underweight, and 3.40% are stunted. Among the infants and young children, 30.1% do not meet the minimum dietary diversity, 15.9% do not meet the minimum meal frequency, and 43.5% do not meet the minimum acceptable diet. Additionally, 38.1% of the participants have low food security, while 44.2% have very low food security. A significant negative correlation was found between the HFSSM-SF score and weight-for-age Z-score ($r=-0.116$, $p=0.047$); however, no significant relationship was found between HFSSM-SF categories and minimum dietary diversity, minimum meal frequency, or minimum acceptable diet ($p>0.05$). Furthermore, a significant positive correlation was found between the HFSSM-SF score and the number of the infants and young children siblings, the number of people living in the household, and the number of children in the household ($p<0.05$).

Conclusion: These findings highlight the urgent need for age-appropriate nutritional interventions to prevent chronic malnutrition and growth deficiencies among displaced infants in post-disaster settings.

2023 Türkiye Earthquake: Nutrition Status and Food Security of Infants and Young Children

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Introduction, objectives: In emergency and disaster situations, the nutritional status and growth-development of infants and young children aged 0–24 months are at serious risk. This study

Weight changes and knowledge of gestational weight gain in women with Gestational Diabetes Mellitus (GDM)

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Introduction, objectives: Gestational Diabetes Mellitus, a common complication of pregnancy carries long-term risks, with women having an 8-10-fold increased risk of developing Type 2 diabetes mellitus (T2DM) within 3-6 years post-pregnancy. Several factors are associated with a more rapid progression to T2DM include excessive gestational weight gain (GWG) and the inability

to lose weight post-delivery. However, women's understanding of GWG remains poor, with many unaware of the adverse effects associated with excessive GWG and the importance of returning to their pre-pregnancy BMI post-pregnancy to reduce the risk of developing T2DM. This study evaluated weight changes during pregnancy and explored knowledge on weight management in women with GDM to inform the development of an infographic.

Methodology: Pregnant women diagnosed with GDM aged 18-45 years and attending a hospital antenatal clinic were invited to participate. 123 women completed an anonymous questionnaire investigating their experiences of weight management during pregnancy. Of these, 97 women consented to having body weight recorded at 3 time-points: booking appointment (≤ 15 weeks), GDM diagnosis (around 28 weeks) and at term (36-40 weeks) by trained healthcare staff.

Findings: Weight data were available for 85.6% (n=83). Mean age 31.2 (SD 4.5), Mean BMI (< 15 weeks) 32.5 kg/m² (SD 6.7), mean gestational weeks at GDM diagnosis 29.1 (SD 3.5). Rate of weight gain per gestational week exceeded recommendations in healthy weight (n=11) (0.57 kg/wk) and overweight (n=16) (0.47 kg/wk) women but remained within range for those with obesity (n=56) (0.27 kg/wk). 17.9% correctly identified risks of excessive GWG, 5.7% recognising the link to long-term diabetes and 59.3% would like to be weighted throughout.

Conclusion: In summary, 85.5% of women with GDM had BMI > 25 kg/m², over half of women wanted to be informed if they were gaining excessive or inadequate weight which informed the development of an infographic to raise awareness.

Development and implementation of a plant-based nutritional therapy for patients with knee osteoarthritis

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Introduction, objectives: Inflammation plays a key role in knee osteoarthritis (KOA). Therefore, anti-inflammatory nutritional therapy should be part of 'first-line' interventions. Generally, nutritional therapy focuses on health aspects and less on ecological issues, although food has a major environmental impact. The NUMOQUA study (Nutrition and Movement to Improve Quality of Life in Patients with Knee Osteoarthritis) developed the plant-based "Austrian Osteoarthritis Cuisine" (AOC) as core element of interdisciplinary KOA-therapy. The AOC aims to improve outcomes in KOA-patients in terms of changed nutritional and inflammatory status, reduction of symptoms and increased joint function resulting in improved quality of life; reduce environmental impact by emphasizing a plant-based diet, seasonal, organic, and locally produced foods.

Methodology: The AOC was developed based on the New Nordic Diet combined with the Austrian food-based dietary guidelines, the guidelines for KOA, the Austrian food culture, and the principles of a sustainable diet. It was implemented in the randomized controlled trial NUMOQUA, where participants took part in a physiotherapy program for KOA. The intervention group received nutritional therapy, including the AOC. The control group received general information about a healthy lifestyle. Five measurements collected nutritional, inflammatory, oxidative stress, anthropometric, and behavioral parameters as well as clinical data. Focus groups were conducted to analyze acceptance, barriers, and supportive factors related to AOC.

Findings: The development of the AOC in accordance with the predefined criteria was successfully achieved. However, meeting the recommended intake levels of omega-3 fatty acids proved unfeasible without the inclusion of imported marine fish. Overall, the AOC was well accepted by participants, who demonstrated high adherence to it.

Conclusion: Ensuring adequate intake of omega-3 fatty acids remains a particular challenge for an ecological nutrition therapy in KOA. The AOC meets the needs of Austrian OA-patients and can be used as a best-practice example for sustainable nutritional therapy.

Exploring goal-setting practices in dietitians nutrition counselling with patients with cancer and risk of malnutrition

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Introduction: Malnutrition is often prevalent among patients with cancer, yet remains underdiagnosed and undertreated. Although nutrition guidelines recommend therapy by specialized dietitians, little is known about the content of nutrition counselling in cancer care. Goal-setting, a potentially valuable but underutilized component of the nutrition care process in malnutrition, warrants further exploration.

Objectives: To explore how goals with the nutrition therapy is addressed in dietitian-patient conversations within cancer care.

Methodology: Audio recordings from 13 conversations between dietitians and patients with cancer and malnutrition or risk thereof, conducted from August to November 2024 at several hospitals in Sweden, were preliminarily analysed using thematic analysis.

Findings: One overarching theme, "Dietitian-defined nutrition therapy goals", and three subthemes were identified. The main theme reflected that nutrition goals were predominately set and communicated from the dietitian's perspective. While diagnosis and medical treatment were commonly considered, the patient's individual preferences or priorities were not often explicitly incorporated. The first subtheme, "Advice with unspoken goals",

describe how dietitians embedded implicit goals in their dietary advice, such as recommending adding fat to meals without explaining the rationale. The second, "Dietary and nutrition-related goals," captured instances where the dietitians provided a clearer rationale, such as specifying food quantities or oral nutritional supplements to increase energy or protein intake or to reduce nutrition impact symptoms. The final subtheme, "Goals supporting treatment and recovery," referred to advice aimed at optimizing the patient's physical condition prior to treatment. In these cases, dietitians linked their guidance to broader health outcomes and treatment readiness.

Conclusion: In these conversations, nutrition therapy goals were shaped primarily by the dietitian and communicated both implicitly and explicitly. Explicit goals primarily concerned nutritional intake and the support of treatment and recovery. Further research is warranted to identify best practices for integrating shared goal-setting into nutrition therapy within cancer care.

VULCANO: A Blended Approach to Rethinking Interprofessional Health Promotion for Vulnerable Populations

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Introduction: Confronting the challenges resulting from globalization, demographic changes, and technological advancements requires an interprofessional approach. The Blended Intensive Program (BIP) VULCANO ("Vulnerable Group's Critical Appraised Needs and Opportunities") cultivates intercultural and interprofessional competences among students, empowering them to tackle future challenges. This is particularly crucial in health and social care, where interprofessional collaboration can significantly impact client health outcomes, especially for vulnerable groups facing heightened health risks.

Objectives: To develop generic and specific competences through international and interprofessional collaboration, raising awareness of vulnerable population groups and deepening understanding of their life contexts, focusing on sustainable development goals.

Methodology: The BIP engaged students from dietetics, occupational therapy, social work and health management disciplines across five European universities in collaborative small-group projects, combining in-person and virtual interactions. Facilitated by educators from Higher Education Institutions (HEIs), students were challenged to develop an interprofessional health promoting project. Societal, planetary and global health and managerial challenges were addressed and discussed internationally with regards to the national differences. The BIP started with an attendance learning week, followed by an online phase of an

independent work, in which students demonstrated what they had learned in person, by organizing future collaboration on their own. An e-tutoring program for an effective transition was provided.

Findings: Evaluation of the BIP's impact, using the Inter-professional Education Collaborative Competency Set (IPECC-Set 9), revealed increased levels in self-efficacy of participants in the core competences - Roles/Responsibilities (+12 points), Interprofessional Communication (+11,1 points in average) and Teams and Teamwork (+9,2 points in average).

Conclusion: This collaborative model, bolstered by HEI and regional partnerships, has made it possible to create a high-quality educational offering for local and international students, enhancing development of the core competences necessary for successful work in the interprofessional healthcare teams.

Nutrition in Latvia during Soviet regime as a referent for the development of dietary habits

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Introduction: Transgenerational transmission of eating habits is mediated by the interaction of genetic and environmental factors. Therefore, it is important to explore the development of dietary habits in a population over time. They are also closely related to the recently topical concepts as nutrition literacy and sustainability. It is important to consider that healthy and sustainable diets are also culturally diverse, influenced by individual preferences, household budgets, local products and traditional cuisine. This emphasizes the need for a territorial approach to align recommended diets with actual consumption, traditions and food availability.

Findings: In 1960, the Nutrition Laboratory of the Latvian Institute of Experimental and Clinical Medicine began organizing expeditions to various regions of Latvia to investigate dietary habits and health status of the population. Medical examination was carried out and comprehensive medical and dietary history was collected. The expeditions continued until 1993, covering most of the country's 26 districts and more than 20,000 people. The research took place under specific circumstances – mostly in the period when Latvia was under the Soviet regime, characterized by limited food diversity availability. Unfortunately, the most of the gathered data have been lost. The rest is currently in the sorting process and the total number of questionnaires reaches 10,000.

Conclusion: The dietary habits research data from the 1970s and 1980s will serve as a reference point to identify how modern eating habits have been shaped by various circumstances and to assess how different socio-economic, environmental, and food availability factors affect the population's diet. Data will also be analyzed in the context of sustainability and nutrition literacy. This already raises an intriguing question – could the 'imposed diet' 50 years ago be more sustainable than the actual one, taking into account the situation where people should rely mostly on the local production, self-grown fruit and vegetables, and traditionally used to do foraging?

How patients with type 2 diabetes mellitus perceive their dietitian?

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Introduction, objectives: Adherence to treatment, especially Medical Nutrition Therapy, plays a crucial role in diabetes management, with the dietitian's communication skills being a key factor. This study explored the motivation and perceived competence of people with type 2 diabetes in eating healthily, and whether these relate to their perception of the dietitian's approach and their autonomous motivation to maintain a healthy diet.

Methodology: Participants included adults with type 2 diabetes (aged 18 and over) who had seen a dietitian at least once. The study used three validated 7-point scales - the Treatment Self-Regulation Questionnaire (TSRQ), the Perceived Competence Scale (PCS), and the Health Care Climate Questionnaire (HCCQ) - compiled into a single questionnaire along with basic anthropometric data. Data were collected through an online survey distributed via social media platforms targeting groups of individuals with type 2 diabetes. Data collection was conducted from February 2024 to March 2024.

Findings: The study included 55 participants with type 2 diabetes (age 52.4±14.1 years; BMI 33.0±5.6). Measured by the TSRQ scale 1-7, persons with diabetes scored rather low in the level of extrinsic motivation (3.27, SD 1.149) and high (6.09, SD 1.128) in the autonomous motivation. Persons with diabetes felt rather competent to adopt a healthy eating pattern (5.02, SD 1.521) measured by PCS. Further analysis showed a significant positive association between the autonomous motivation score of a person and its perceived competence score ($p < 0.001$) where the level of support from the dietitian significantly affects the level of autonomous motivation of patients to eat healthily.

Conclusion: Improving communication skills may help overcome barriers to patient responsibility. This study enhances understanding of factors influencing dietitian-patient collaboration in diabetes care.

Developing a Snack of the Future to Make Pulses Attractive for Children

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Introduction, objectives: Most snack products specifically promoted for children are of poor nutritional quality and not recommended for a balanced diet. Pulses belong to healthy and sustainable diets and are a good source of plant protein. However, they are not always accepted by children. In the frame of the master program "Food Chain Environments" we conducted an interdisciplinary project with the aim of developing a healthy and protein-rich vegan snack product. We wanted to create a snack that not only has a good nutritional profile but is also attractive for children aged three to six years.

Methodology: We used the project management method "Design Thinking" to gain insights into the special needs of the potential users of our future product. Therefore, we visited two kindergartens in Neubrandenburg, Germany. We determined snacking preferences of children using a board game and different observation and idea generation methods according to Design Thinking. We interviewed educators on site using a semi structured approach and surveyed parents using an online questionnaire. During our second visit in kindergartens, we conducted a sensory test.

Findings: We found out that children need a new favourite snack that tastes good, is varied, low in sugar, filling, visually appealing and easy to handle to eat healthily between main meals. Based on this we created a prototype of the vegan snack which was then tested and well approved by children and educators in kindergartens. This resulted in a hearty cracker based on flours of pulses such as field beans, lentils and peas, and whole spelt flour.

Conclusion: It was possible to create a health promoting and protein-rich vegan snack that is accepted by children. Pulses can be an attractive food source for children when put in the right format to promote healthy and sustainable snacking.

Dietitians as the leaders of change: school meals reform in Czech Republic

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Introduction, objectives: School meal guidelines in the Czech Republic have not been revised since 1993. As nutrition science has evolved and childhood obesity rates continue to rise, there is a pressing need to update the guidelines to reflect current evidence, including aspects of sustainability such as environmental impact and food waste. The Ministry of Health established an Interdepartmental Working Group for Institutional Catering (IWGIC), involving the Czech Association of Dietitians, which is why dietitians are now leading this reform. The reform aims to align school meal standards with current dietary guidelines by increasing fruit, vegetables, legumes, whole grains, and fish; offering more meat-free meals; and restricting sweetened beverages and ultra-processed foods high in sugar and salt. The goal is to support child health, reduce inequalities, and improve sustainability.

Methodology: Following a 2020 analysis of the Czech school catering system, IWGIC formed a core team of three dietitians and a nutrition epidemiologist to develop the draft. Drawing on recent international guidelines (EFSA, NNR 2023, DGA 2020–2025), the team prepared a proposal which was reviewed through structured stakeholder consultations, piloted in selected school canteens, and submitted to the interministerial comment procedure.

Findings: The pilot revealed key implementation barriers, including low nutrition literacy among canteen staff and limited training opportunities. Resistance, partly fuelled by misinformation

from industry groups, also exposed poor understanding of nutrition among some decision-makers. The final version of the decree has been submitted for ministerial approval, with implementation expected by September 2025.

Conclusion: Dietitians play a critical role beyond individual care, shaping public food environments. This reform highlights their leadership in driving systemic change to promote children's health and sustainability. The same team is now preparing national training and communication efforts targeting all school canteens.

Hydration Diet Recommender: Integrating AI and mHealth for Precision Hydration

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Introduction: Accurate and personalized hydration recommendations are essential for preventing dehydration and reducing the risk of related chronic diseases. Traditional population-level dietary guidelines often fail to address individual variability. Recent advances in precision nutrition, artificial intelligence (AI), and mobile health (mHealth) technologies offer new opportunities to deliver personalized guidance on both food and fluid intake. These innovations can enhance diet quality, support optimal hydration, and help mitigate the burden of non-communicable chronic diseases (NCDs).

Objectives: This narrative review aims to explore the potential of AI and mHealth technologies in developing a personalised hydration diet recommender. The specific objectives are to evaluate current AI-driven mHealth tools for hydration and nutrition management; understand how these tools utilize real-time individual and environmental data; examine the impact of social, psychological, and environmental factors on dietary behavior; identify key challenges to integrating precision nutrition tools into public health systems.

Methodology: This review synthesizes existing literature on AI-based mHealth applications designed to monitor and guide hydration and nutrition. It assesses how these tools function, the technologies involved, and their ability to personalize recommendations. Emphasis is placed on systems that adapt to user-specific variables such as age, weight, physical activity, and climate. The review also explores how socio-behavioral factors are—or should be—incorporated for greater effectiveness.

Findings: AI and mHealth tools can deliver tailored hydration recommendations using dynamic, real-time inputs. Integrating social, psychological, and environmental aspects enhances user engagement and tool effectiveness. Implementation within public health systems faces challenges related to equity, accessibility, and scalability.

Conclusion: AI and mHealth technologies offer promising solutions for personalized hydration management. To ensure their effectiveness and broad impact, social determinants of health must be considered, and inclusive policies must support their integration into public health systems.

Dietary Supplement Consumption Patterns and Associated Factors in Pregnant Women: A Cross-Sectional Study

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Introduction, objectives: Appropriate nutrition during pregnancy, including adequate supplement use and hydration, is essential for optimizing maternal and fetal health outcomes. Understanding pregnant women's consumption patterns, knowledge of nutritional guidelines, and related demographic factors can inform the development of targeted interventions and public health recommendations. This study aimed to assess dietary supplement use and water intake knowledge among pregnant women, examining adherence to evidence-based recommendations and exploring associations with demographic and educational variables.

Methodology: A cross-sectional study was conducted with 135 pregnant women across all trimesters (mean age 32.3±5.0 years). Data collected included supplement consumption, water intake knowledge and behaviors, demographic information, education level, and pregnancy stage. Knowledge of the European Food Safety Authority (EFSA) water intake guidelines was evaluated. Chi-square tests analyzed associations between variables.

Findings: Supplement use was reported by 46.7% (n=63) of participants, while 53.3% did not use any supplements. Iron (24.4%), calcium and magnesium (19.3% each), folic acid (12.6%), and multivitamins (8.9%) were the most common supplements. Notably, only 12.6% used folic acid despite its critical role in preventing neural tube defects. Education level was not significantly related to supplement use ($\chi^2=5.745$, $p=0.33$). Mean daily water intake was 2.0±0.82 liters. Knowledge gaps were evident: 35.3% correctly identified general women's water needs (2.0L), and only 13.4% knew pregnancy-specific recommendations (2.3L). Overall EFSA compliance was 23.6%. Pregnancy-specific water knowledge significantly correlated with adequate intake ($\chi^2=8.6065$, $p=0.003$), unlike general knowledge ($\chi^2=0.854$, $p=0.36$). Education level showed no association with adequate intake or knowledge.

Conclusion: The study reveals substantial nutritional knowledge gaps and suboptimal behaviors among pregnant women, particularly concerning folic acid use and hydration. The absence of correlation with education level suggests that factors beyond formal education influence these behaviors. Enhanced prenatal counseling and tailored interventions are urgently needed to improve adherence to evidence-based nutritional practices during pregnancy.

Consumption of fiber-enriched bread and its acute impact on satiety: a randomized controlled trial in healthy adults

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Introduction, objectives: The prevalence of chronic diseases is increasing globally, highlighting the need for adopting innovative strategies in public health. Improving the quality of nutrition is critical for enhancing public health, as there is substantial evidence suggesting that healthy dietary patterns reduce the risk of major diet-related chronic diseases. Bread is an important staple food worldwide. Its nutrient composition can vary significantly depending on the grain type and the bread-making practices. The purpose of this randomized cross-over study was to determine the satiating effects of a high-fiber bread in healthy volunteers.

Methodology: Thirty adults (25 female, 5 male) with mean age 33.5 years and mean BMI 23.1 Kg/m² were recruited. The volunteers completed questionnaires using a 10-point visual analogue scale (VAS) to assess feelings of hunger, satiety, and desire to eat. The questionnaires were filled out before the consumption of each bread and at 0, 30, 60, and 120 minutes after bread consumption. The fiber-enriched bread contained 2.5 times more fiber compared to the reference bread.

Findings: Consumption of the high-fiber bread resulted in a greater reduction in the feeling of hunger at 30 and 60 minutes compared to reference bread and contributed to a prolonged feeling of satiety. Comparison of the incremental area under the curve (iAUC^{120min}) indicated that the feeling of hunger (2.2%), feeling of fullness (2.2%) and the desire to eat (3.5%) were not significantly different between the two types of bread.

Conclusion: In summary, the study showed that fiber-enrichment of bread had no significant effect on the outcomes of satiety when compared with the isocaloric reference bread. Future research should focus on appropriate experimental designs to examine different bread formulations including varying types of fiber and levels of fiber enrichment.

Dietary Habits and Health-Related Quality of Life in Patients with Hashimoto's Thyroiditis

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Introduction, objectives: Hashimoto's Thyroiditis (HT) is an autoimmune disease in which the immune system primarily targets the thyroid gland, leading to chronic inflammation and often resulting in a decline in thyroid hormone production. The disease is characterized by a wide range of symptoms, and patients frequently experience impaired quality of life. The aim of the present study was to examine the relationship between symptom frequency, dietary habits, and quality of life in individuals with HT.

Methodology: The study used online surveys including a Food Frequency Questionnaire (FFQ), the SF-36 health-related quality of life (HRQoL) questionnaire, and a Symptom Frequency Assessment to evaluate patients with HT.

Findings: The sample included 103 patients (15 men, 88 women) with a mean age of 36.2 ± 11.0 years. Patients reported significantly lower scores across nearly all HRQoL dimensions compared to the general Greek population. Higher symptom frequency was associated with lower HRQoL. Fatigue showed the strongest negative correlations, particularly with vitality ($r = -0.62$, $p < .001$), mental health ($r = -0.53$, $p < .001$), and general health ($r = -0.49$, $p < .001$). HRQoL was also closely linked to dietary patterns. Higher intake of olive oil ($r = 0.26$, $p = .009$) and vegetables ($r = 0.21$, $p = .036$) was positively associated with better general health, while processed meat consumption was negatively associated with mental health ($r = -0.30$, $p = .002$) and general health ($r = -0.32$, $p = .001$).

Conclusion: HT has a substantial impact on patients' quality of life, which is closely linked to symptom frequency and dietary habits. These findings support the integration of dietary guidance as part of a holistic approach to disease management in this patient population.

Glycemic Variability in Patients with Cardiovascular Disease with at Least One Risk Factor for the Development of Diabetes Mellitus: The Impact of Dietary Carbohydrates

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Introduction, objectives: The increasing incidence of diabetes mellitus and its strong correlation with cardiovascular diseases is well-known. High glycemic variability represents one of the main indicators of poor glycemic homeostasis control, and blood glucose fluctuations are predictive of the onset of major cardiovascular complications. The main objective of this study is to compare glycemic variability in non-diabetic subjects with cardiovascular disease to that of healthy individuals. Glycemic variability will be assessed after the consumption of different types of food. Furthermore, the study aims to identify whether there is an association between post-prandial glycemic excursions and cardiovascular disease.

Methodology: The study included 18 subjects with at least one diabetes risk factor, recruited from the diabetology department at Niguarda hospital. Participants followed different diets, with a focus on carbohydrate distribution and quality. Glycemic variability was tracked using continuous glucose monitoring (CGM) and capillary self-monitoring. Anthropometric, hematochemical, and clinical parameters were also analyzed. Statistical analysis identified significant correlations and differences between groups.

Findings: Preliminary findings showed distinct glycemic value differences between the two groups. Cardiovascular disease patients exhibited a statistically significant increase in both mean glucose and Glucose Management Indicator (GMI) values. Statistically significant differences (p -value < 0.05) in minimum,

maximum, and Area Under the Curve (AUC) glucose values were observed specifically for breakfast. Higher values across all tested breakfasts were consistently found in the cardiovascular disease group.

Conclusion: This research underscores the importance of dietary management, particularly carbohydrate intake, in managing glycemic variability for patients with cardiovascular disease and diabetes risk. Dietary strategies aimed at minimizing glycemic fluctuations could be an effective intervention to improve cardiovascular outcomes in this population, paving the way for new clinical practices and future research directions.

Comparison between indirect calorimetry and the Harris-Benedict formula for calculating resting metabolic rate - a pilot test

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Introduction, objectives: Resting energy expenditure (REE) is part of the energy requirement and therefore relevant for dietetic counseling, e.g. for weight management. REE can be measured, e.g. through indirect calorimetry (IK) by measuring oxygen consumption using the intake and exhalation of air, or it can be calculated using predictive equations. Often used is the Harris-Benedict equation, which includes height, weight, biological sex and age, but not muscle or fat percentage. As described in bachelor thesis 1 (BAC1) - "Comparison between indirect calorimetry and the Harris-Benedict equation for calculating resting energy expenditure as a pilot study using individuals of the same gender but different body compositions" (Daser, 2023) - based on six men, the formula-calculated REE deviates from the measured REE in many cases; and: the equation generally shows a lower result than the measurement. (Measured REE is up to +14.23 % higher than the calculated.) Bachelor thesis 2 examines six women. The research questions are: "By what percentage do IK and the Harris-Benedict equation deviate in determining REE measured in kcal?" and "To what extent do the data of the measurement results of the female subjects differ from to the data of the male subjects regarding the correlation with body composition?"

Methodology: IK is performed on six women; additionally, their REE is calculated using the Harris-Benedict equation. The results of IK and the equation are compared. Body composition is used for interpretation, which is determined by Bioelectrical Impedance Analysis (BIA). In a further step, the results are compared with those from BAC1.

Findings: IK and the equation deviate from each other in determining REE in the female subjects by -0.88 % to +21.07 %. In half of the cases, IK results in a significantly higher REE than the Harris-Benedict equation (more than five percent deviation). A comparison of the data from both pilot studies shows: In both groups, the deviation tends to be higher as the percentage of muscle mass in the subjects increases.

Conclusion: REE is much more individual than the Harris-Benedict equation can reflect; it seems to be more suitable for individuals with a higher fat percentage, and calculating energy needs is less precise for those with a high muscle percentage.

Awareness of the inaccuracy should be incorporated into practice to avoid over- or under-nourishment of patients, especially when IK is not available.

How well informed are Austrian general practitioners about disease-associated nutritional issues? - A cross-sectional study

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Introduction, objectives: In Austria, family doctors occupy a pivotal position in the healthcare sector, acting as a primary source of information regarding nutrition and lifestyle. They frequently serve as the initial point of contact within the broader health system, encompassing a range of responsibilities beyond medical care. These include preventive health advice, weight management, screening for malnutrition, nutritional guidance for various illnesses, and the treatment of nutrition-related health conditions. The level of nutritional knowledge possessed by an individual can vary considerably, with factors such as medical training, personal interests and beliefs, and willingness to undergo further training all playing a role in determining this.

Methodology: A quantitative empirical study was selected as the methodological approach for this Bachelor's thesis. The data collection instrument is an electronic questionnaire, which was created in Bachelor's thesis one by the author of the same name and was validated for objectivity and reliability. The sample focuses on Austrian family doctors who were contacted via a snowball procedure.

Findings: A notable disparity in knowledge was observed with regard to the various clinical presentations. Among the respondents, 37.9% demonstrated an ability to respond correctly to the knowledge question pertaining to obesity. In the case of hyperuricemia, this figure was 55.8%, while for hypertension it was just over half, and for type 2 diabetes mellitus it was almost 80%. Family doctors demonstrated a high level of knowledge regarding nutrition, with 92% and 71.5% of respondents correctly answering questions about hypertriglyceridemia and hypercholesterolemia.

Conclusion: The sociodemographic analysis indicates a notable prevalence of older participants in this study, which could potentially compromise the study's representativeness. Approximately a quarter of the participants have undergone additional training, although no further detailed information is available. The study reveals significant differences in nutritional knowledge contingent on distinct clinical scenarios. In addition to a lack of knowledge, a complex question or a lack of practical applicability in medical practice could also influence the outcome.

Overweight and obesity in childhood and adolescence - Effects of the weight reduction programme 'Down & Up'

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Introduction, objectives: The weight reduction programme "Down & Up" in Carinthia (Austria) offers overweight and obese children and adolescents the opportunity to achieve weight normalization through an interdisciplinary approach. The aim of this bachelor thesis is to evaluate the effectiveness of the "Down & Up" programme and to answer the following research questions: How did the "Down & Up" programme affect the body composition of the children and adolescents who participated in the 2022/23 cycle? Could the body composition of program graduates be significantly improved after programme completion?

Methodology: A quantitative approach in the form of a retrospective data analysis was chosen as the research design. The BIA measurement results of the children and adolescents who participated in the program in the 2022/23 cycle were evaluated using the SPSS statistical program. Descriptive procedures were used for data analysis to describe the data based on their means and dispersion and inferential statistics were applied to check the measurement results for statistical significance.

Findings: The data analysis revealed that the "Down & Up" programme had positive effects on the body composition of the participants. The before-and-after comparison of the measurement results showed that the overall sample was able to improve all five main target variables (z-score, FM, FFM, BCM, and ECM), although the programme success of individual participants varied. Of the 27 subjects, six achieved great success, eleven achieved moderate success, and nine participants did not achieve any programme success. Significant improvements in body composition were particularly evident in male subjects, in the age group of ten to twelve-year-olds, and in those participants who started the programme with a low z-score.

Conclusion: The results show a high variance in the programme success of individual participants. However, the results suggest that targeted intervention and support can lead to positive changes in body composition. Further research and optimizing the effectiveness of the program is essential to ensure long-term health benefits for all individuals involved in the programme.

Vegan nutrition in running and its effect on the gastrointestinal tract in training and competition

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Introduction, objectives: Based on the results of the author's first research paper on the topic of vegan nutrition in endurance sports, the author decided to further deepen the research. In this

paper the author explores the experiences of female runners with digestive complaints due to a vegan diet. Specifically, the impact of an increased fibre intake through a vegan diet during running were investigated. The research focus is on insights into personal experiences with digestive complaints and effective measures for alleviating them.

Methodology: A qualitative research design was chosen for this study. To collect data, individual Interviews were conducted with five female runners, selected based on predetermined inclusion criteria. The subsequent analysis was carried out using Mayring's qualitative content analysis, employing both deductive and inductive categorization approaches.

Conclusion: Digestive issues in running can present a wide range of challenges, impacting training outcomes, performance and both physical and mental health. Based on the results, it became clear that a vegan diet can be considered as one of the main causes of gastrointestinal complaints. The findings from the initial and current research emphasize the significant role of dietetics experts in supporting athletes and addressing their nutritional supply and gastrointestinal health.

Do Dietitians Require Tailored ESPEN Guidelines? Findings from a European Survey

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Introduction, objectives: The European Society for Clinical Nutrition and Metabolism (ESPEN) provides comprehensive, evidence-based guidelines for clinical nutrition. However, the translation of these guidelines into routine dietetic practice can be challenging. An addendum specifically tailored to the needs of dietitians may help bridge the gap between guideline recommendations and practical implementation in clinical settings. The European Federation of the Associations of Dietitians (EFAD) conducted a survey to evaluate the perceived need for a supplementary addendum that would support the practical application of ESPEN guidelines in daily dietetic practice.

Methodology: A cross-sectional survey of European dietitians was conducted between June and September 2024 using snowball sampling to ensure diversity in geographic representation, areas of clinical practice, and educational background.

Findings: A total of 432 respondents from 29 countries completed the survey. Most participants were employed in public healthcare settings, with many working across multiple clinical areas. The age range of respondents was 25–64 years; 14% held a doctoral degree, 50% a master's degree, and 35% a bachelor's degree. The most frequently reported areas of clinical practice

were obesity and weight management (48%), oncology (42%), and gastroenterology (41%). All respondents reported using ESPEN guidelines, with the most frequently used being those on clinical nutrition in cancer (54%), hospital nutrition (50%), and clinical nutrition in inflammatory bowel disease (46%). Among the 432 respondents who answered the question on the need for an addendum, 94% expressed support for the development of a practical supplement to the existing ESPEN guidelines.

Conclusion: The results demonstrate strong support among European dietitians for the development of a tailored addendum to the ESPEN guidelines. Such a resource could enhance the usability, clinical relevance, and impact of the guidelines in dietetic practice, potentially contributing to improved patient outcomes and broader engagement with ESPEN recommendations within the dietetic profession.

Enhancing lifestyle-based diabetes interventions with CGM: findings from the Polish cohort of the C4D study

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Introduction: Type 2 diabetes requires ongoing self-management, which can be supported by structured education combined with digital tools such as continuous glucose monitoring (CGM) to improve metabolic outcomes. The CARE4DIABETES (C4D) study, part of an EU4Health Joint Action across 12 European countries, integrates hybrid group education, e-learning, digital tracking, and multidisciplinary support, with CGM offered to selected participants.

Objectives: To evaluate the impact of CGM on lifestyle intervention outcomes.

Methodology: C4D is a 12-month, quasi-experimental study with a 6-month intensive lifestyle phase and a 6-month digital aftercare phase. The intervention targets nutrition, physical activity, sleep, and stress. In the Polish cohort ($n = 38$), participants were assigned to CGM ($n = 21$) or non-CGM ($n = 17$) groups. Eligibility included age 20–80, T2DM duration 1–10 years, BMI 25–40 kg/m² and pharmacological treatment. Data from 31 who completed the 6-month phase (CGM: $n = 17$; non-CGM: $n = 14$) were analysed. Paired t-tests assessed within-group changes; independent t-tests and Cohen's d compared group differences.

Findings: After 6 months, both groups improved, but effects were greater in CGM users. BMI decreased by -2.79 kg/m² (-8.0%) in the CGM group vs. -1.36 kg/m² (-4.6%) in the non-CGM group ($p = 0.022$). Body weight dropped by -8.04 kg (-8.0%) vs. -3.76 kg (-4.6%); waist circumference by -7.27 cm vs. -6.00 cm. HbA1c declined by -0.96% (-11.1%) with CGM vs. -0.56% (-7.1%) without CGM ($p = 0.296$). Visceral fat decreased by -1.27 units (-8.5%) vs. -0.57 units (-4.1%) ($p = 0.190$), and triglycerides by -25.5 mg/dL (-20.3%) vs. -14.6 mg/dL (-10.8%). Effect sizes were moderate to large, particularly in the CGM group.

Conclusion: Adding CGM to a lifestyle-based intervention may enhance clinical outcomes in people with T2DM.

Dietary Patterns and Phase Angle in Crohn's Disease: The Role of DASH and Mediterranean Diets

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Introduction, objectives: Crohn's disease (CD) is a chronic inflammatory bowel disease linked to malnutrition and altered body composition, including reduced phase angle (PhA). PhA is a non-invasive marker of cellular health and membrane integrity, increasingly recognized as a sensitive indicator of nutritional status and disease severity in CD. Thus, identifying modifiable dietary factors associated with PhA may offer actionable insights for clinical nutrition. While dietary patterns such as the DASH and Mediterranean diets (MD) are associated with metabolic benefits, their impact on cellular health in CD remains unclear. The aim was to investigate the relationship between the adherence to DASH and MD patterns and PhA in patients with CD.

Methodology: This cross-sectional study included adult CD patients from Theagenio Hospital in Thessaloniki. Body composition was assessed by bioelectrical impedance analysis (BIA; Bodystat 1500) to determine PhA. The adherence to the DASH and Mediterranean Diet (MedDietScore) was evaluated. Linear regression analysis was applied with PhA as a dependent variable and dietary patterns along with other covariates as independent ones.

Findings: Fifty-three patients with CD were included (mean age: 38.2 ± 10.9 years; 27 men and 26 women). The median PhA was 5.70° (IQR: 5.15–6.65). In multivariate linear regression analyses, greater adherence to the DASH diet was independently associated with higher PhA ($B = 0.043$, $p = 0.003$). This association was particularly evident for the DASH saturated fat component ($B = 0.102$, $p = 0.021$). Among the MedDietScore components, higher full fat dairy intake was consistently associated with lower PhA ($B = -0.122$, $p < 0.001$). All models were adjusted for sex, age, and BMI.

Conclusion: In CD patients greater adherence to the DASH diet along with lower saturated fat consumption were positively associated with PhA while higher full fat dairy score in the MedDietScore was negatively associated with PhA. These associations imply that specific dietary components in these patterns, such as saturated fat, may influence cellular health and nutritional status in CD.

Phase Angle as a Predictor of Obesity and Metabolic Health in Adolescents: A Cross-Sectional Study

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Introduction, objectives: Childhood and adolescent obesity constitutes a major public health challenge, being associated with increased metabolic risk and cardiovascular disease in adulthood. The need for early, reliable indicators of body composition has led to growing interest in the use of phase angle (PhA) as a marker of cellular integrity and metabolic status. The aim was to investigate the association of PhA with body composition and metabolic status indicators in children and adolescents, and to assess its predictive ability for obesity.

Methodology: In this cross-sectional study, 338 adolescents (36.09% boys, 63.91% girls) aged 14–18 years (mean age 16.1 ± 1.1 years) from Thessaloniki were assessed. Body composition was measured using bioelectrical impedance analysis (BIA; Bodystat 1500), and PhA was recorded. Systolic and diastolic blood pressure were measured in a seated position using an automated digital sphygmomanometer. Multiple linear regression analysis was used to examine the independent associations between PhA and anthropometric/metabolic parameters, adjusting for potential confounders. A Receiver Operating Characteristic (ROC) analysis was conducted to identify the optimal PhA cut-off for predicting obesity, reporting the area under the curve (AUC), sensitivity, and specificity.

Findings: The mean PhA was 5.93° ± 0.66. Boys exhibited higher PhA values than girls (6.44 ± 0.61 vs. 5.65 ± 0.50, p<0.001). ROC analysis identified a PhA cut-off of 5.75° (AUC=0.586, p=0.019) with 66.3% sensitivity and 44.3% specificity. Lower PhA was associated with increased obesity risk (OR=2.17, 95% CI: 1.29–3.67, p=0.004). Regression analysis showed that PhA was positively associated with BMI (B=0.084, 95% CI: 0.048–0.121, p<0.001) and systolic blood pressure (B=0.007, 95% CI: 0.001–0.014, p=0.025), and negatively associated with body fat percentage (B=-0.051, 95% CI: -0.074 to -0.028, p<0.001).

Conclusion: PhA emerges as a simple, non-invasive, and reliable indicator of body composition and metabolic status in adolescents, with significant potential for clinical application in the prevention of obesity and associated with metabolic disorders.

A Gamification Platform for Promoting Sustainable Healthy Diets in School-based Interventions

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Introduction, objectives: School-based interventions promoting sustainable healthy diets (SHDs) demonstrate a narrow focus on limited sustainability indicators and heterogeneous measuring methods. Meanwhile, applications supporting nutrition and physical activity behavior change, suffer from poor user engagement. Gamification can effectively increase children's engagement in educational settings. We propose a gamification platform that combines food items ontology, based on datasets with sustainability metadata (e.g., carbon footprint, GHGE), while offering an engaging and adaptable educational tool. This study aimed to develop and technically validate a no-code, gamified, web-based application that: (1) integrates annotated nutrition and sustainability data; (2) communicates SHD indicators through interactive, gamified modules; and (3) aligns game-based challenges with learning goals for primary school children.

Methodology: A functional prototype was developed using Bubble, a no-code development platform. The application's backend integrates sustainability-annotated food items with food group classifications aligned with the "Healthy Eating Plate" principles. These components are embedded into a scoring system that enables game modules, using food group equivalence as a learning foundation, layering in sustainability parameters. Gamification elements including challenges, scoring, and feedback are aligned with learning objectives (e.g., reducing a meal's carbon footprint), enhancing engagement and educational impact.

Findings: Initial technical development demonstrates the feasibility of integrating structured nutrition and sustainability data into a functional, gamified application. Prototype testing confirmed successful integration of annotated nutrition and sustainability data, game logic execution, and scoring functionality. Ongoing usability testing will evaluate interface responsiveness and alignment with learning objectives.

Conclusion: A gamified application can integrate SHD indicators with nutrition information for educational purposes, leveraging no-code tools to prototype, test, and tailor digital health education platforms. Future work can expand on the content of such applications, refine game dynamics, and assess engagement and behavior change.

DietWise: Building Systemic Solutions to Enhance Healthy and Sustainable Food Provision and Cooking at Home

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Introduction, objectives: DietWise is an EU HORIZON research project with a mission to tackle the pressing challenges of unhealthy and unsustainable eating habits by empowering individuals to make informed, healthier, and environmentally conscious food choices. DietWise aims to address unhealthy and unsustainable food consumption by developing innovative approaches that streamline existing tools and applications. The project seeks to enhance the uptake of beneficial ICT tools and applications, improve food literacy, promote healthy and sustainable diets as well as develop policy recommendations and integrity guidelines for the industry. Key innovations include the Responsible Cooking Alliance (RCA), a voluntary reporting system for influencers and food environment actors, and RecipeWatch, an AI-powered app that suggests personalized corrections to online recipes to align with nutrition guidelines.

Methodology: The project employs a mixed methods approach, combining qualitative and quantitative research methods, including surveys, interviews, and experiments, to understand food environments and citizen needs. It also harnesses Artificial Intelligence (AI) algorithms with deep learning techniques to analyze big online data and integrate scientific and empirical findings into AI-powered social innovations. These tools and interventions are co-created with stakeholders across pilot groups, with a focus on inclusion.

Findings: We present the project methodology and planned activities (including pilots) for 2025-2027 as well as preliminary findings on citizen surveys and interviews with public health experts and influencers.

Conclusion: DietWise is an EU research project which is building innovative ICT tools and methods that will provide a deeper understanding of how various external system-level environmental factors shape attitudes and beliefs towards healthy and sustainable food provision and cooking. Its findings will provide critical information on how to motivate consumers to follow nutrition guidelines, how to include the ones who are in greatest need, and how to help citizens shape the digital food environment.

Analysis of Diet-Related Infodemic in Social Media Posts with Detox-Related Hashtags and 100K+ Views

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Introduction, objectives: Diet-related infodemic is an increasing threat where the commercial determinants have the potential risk to fascilitate. Among various infodemic sources, detoxing, detox diets, and cleansing products have gained significant popularity across social media, especially on Instagram[®]. While these posts often promise rapid weight loss, improved digestion, and overall wellness, many of the claims lack scientific evidence and pose health risks. The aim of this study was to analyze the content of popular Instagram[®] posts with over 100,000 views that used detox-related hashtags, in order to identify the prevalence of infodemic with its components, evaluate the types of health claims made, emotional appeals, use of evidence, potential health risks, and assess the credibility of the individuals or entities sharing such content between May 2024 and May 2025.

Methodology: A coding sheet was developed based on a review of relevant literature and international guidelines, including definitions from the World Health Organization (WHO). The coding sheet included variables related to post type, main health claims, emotional appeal, use of evidence, potential health risks, and ethical concerns. Between May 1st and May 30th, 2025, a total of 200 Instagram posts using detox-related hashtags were selected for analysis. These posts, published between May 2024 and May 2025, each had over 100,000 views and originated from various countries. The posts were coded using the predefined coding sheet. Each post was individually reviewed and evaluated by the researcher, and the coding decisions were made based on the definitions provided in the coding framework and established literature. All data collection and coding procedures were conducted by the researcher.

Findings: Overall, 200 Instagram posts were analyzed. Only 0.5% cited scientific evidence, while 90.5% contained misinformation and 27% included disinformation. The majority of posts (87%) were partially accurate, and 93.5% were associated with potential health risks. The most common ethical concerns were unrealistic promises (80.5%), misuse of scientific terms (54%), and body shaming (13%). Women were the primary target audience (66.5%), followed by the general public (65%) and men (49.5%). Dietitians authored only 13.5% of posts, while over half (52.5%) came from unknown sources without any credentials. Most posts featured educational-looking content (82.5%), often making claims about weight loss (57%), general wellbeing (44%), and detoxification (43.5%). Motivation (91.5%) and hope (72%) were the most commonly used emotional appeals to capture audience attention.

Conclusion: Most detox-related information on Instagram contains unsubstantiated health claims, posing substantial risks for social media users especially those vulnerable to misinformation. The majority of this content is misleading and shared by individuals without professional health credentials. However, since social media is a widely used platform for obtaining health information, it holds great potential and if managed properly and supported by clear regulations, Instagram could serve as a powerful tool for promoting evidence-based health information and advancing public health globally.

“But that’s what we pay for!” The significance of healthcare as “customer” and hospital foodservice as “service-provider”

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Introduction: Public organisations in Sweden have adopted organisational models with internal buyer-supplier roles to achieve operational efficiency since the early 21st century. This way of structuring public services is now the norm, including healthcare, schools and elderly care, and follows market logic. In relation to hospital meals, this most often means that healthcare takes on the role of customer who then orders, and pays, for meals from the hospital foodservice as a service provider. The significance of this buyer-supplier role distribution driven by market logic can and should be examined, as well as other institutional logics it competes and combines with. Institutional logics are a useful analytical lens for analysing norms, values, assumptions, beliefs underpinning both the strategic and operational level of foodservice and healthcare practice. Organisational culture is known to be meaningful for hospital foodservice.

Objectives: To present and discuss preliminary findings of a sub-study included in a PhD-thesis exploring organizational reform of hospital meals based on a single hospital case-study in Sweden, and benefit from the EFAD conference attendees’ experience and knowledge to gain input in the analysis process. Based on interview data, this sub-study explores institutional logics and governance.

Methodology: Reflexive thematic analysis according to Braun and Clarke (2022), of interview data with in-organisation stakeholders.

Findings: Preliminary findings indicate that the within-organisation division into buyers and suppliers shaped power-dynamics and operational realities (eg. because of budget constraints), and has to be navigated by both parties for successful co-operation. Market logic, professional logic, and bureaucratic logic constitute salient institutional logics in this setting. There was interaction and tensions between enactments of the different logics, e.g. adopting a market-oriented language to legitimise decisions driven by professional logic.

Conclusion: Acknowledging that power-dynamics might exist between different internal units, eg. healthcare and foodservice, facilitates constructive dialogue for successful co-operation.

Clinical Nutrition in Refsum Disease: Managing Pyruvate Recovery, Dysbiosis, and Chronic Fatigue

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Introduction, objectives: Refsum disease is a rare, inherited metabolic disorder characterized by the accumulation of phytanic acid, due to mutations affecting peroxisomal function. Symptoms include retinitis pigmentosa, peripheral neuropathy, ataxia, dermatological changes, and cardiomyopathy. Since phytanic acid is derived primarily from dietary sources, nutritional intervention plays a central role in disease management. This case study evaluated the impact of a clinical nutrition intervention targeting chronic fatigue, pyruvate metabolism, and gut dysbiosis in a 55-year-old female patient diagnosed with Refsum disease. The focus was on a phytanic acid-restricted, functional food-based dietary plan aimed at improving mitochondrial function (via serum pyruvate), reducing fatigue (via the FACIT-Fatigue scale), and rebalancing intestinal microbiota with prebiotic and probiotic strategies.

Methodology: The patient was monitored over six months while following a diet structured according to DARE guidelines. Monthly food journals and body composition (BIA, BMI) were tracked. The FACIT-Fatigue scale was administered monthly. Laboratory testing was performed pre- and post-intervention at GanzImmun Diagnostics (Germany), including serum phytanic acid, pyruvate, fecal dysbiosis profiles, and other biochemical markers. Interventions included antioxidant and mitochondrial-targeted supplementation, probiotics, and nutritional counseling.

Findings: Results showed a reduction in phytanic acid levels from 111 mg/L to 44 mg/L and an increase in pyruvate levels improved from 4.02 µmol/L to 6.69 µmol/L. The FACIT-Fatigue score improved from 42 to 10, reflecting partial fatigue remission. Dysbiosis testing indicated partial rebalancing of microbiota, particularly LPS-producing and beneficial strains. Vitamin D3 levels improved from 12 to 34 ng/mL. Triglycerides decreased from 185 to 134 mg/dL, with normal liver markers maintained.

Conclusion: This case demonstrates the impact of a multi-disciplinary, diet-centered approach in improving clinical outcomes in Refsum disease. Tailored nutrition, microbiota management, and supplementation of micronutrients such as vitamin D3, coenzyme Q10, and D-ribose significantly improved metabolic and clinical parameters.

Development of Master of Science competencies in Nutrition and Dietetics in Switzerland

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Introduction: The term competence is described as ‘the demonstrated ability to use knowledge, skills and personal, social and methodological abilities in work or learning situations and for professional and/or personal development.’. It includes the

assumption of responsibility and independence. Competency frameworks form the basis for the development of curricula and define uniform, harmonised requirements for training and the independent professional practice of healthcare professionals.

Objectives: This work describes main differences between Bachelor of Science (BSc) and Master of Science (MSc) competencies for dietitians in Switzerland.

Methodology: The profession-specific competences were developed by the Professional Conference Nutrition and Dietetics (the committee of study program leads of nutrition and dietetics at the Universities of Applied Sciences in Switzerland and the professional association of Swiss dietitians). The Canadian reference model CanMEDS served as the basis. The bachelor's competences in nutrition and dietetics are part of the Ordinance on Occupational Competences for Healthcare Professions in an abridged form. They came into force in 2020. The Master's competences in nutrition and dietetics were adopted by the Professional Conference in May 2024 and published in February 2025.

Findings: Bachelor's and Master's final competences differ significantly in several domains. Dietitians with a MSc degree demonstrate a higher degree of autonomy, engage more actively in advancing the evidence base through profession-specific research, and play a central role in supervising professionals and transferring knowledge. They are also strategically involved e.g. in shaping organisational framework conditions for successful interprofessional collaboration and in identifying, evaluating and incorporating systemic, social, and ecological challenges as well as in the development of leadership skills.

Conclusion: Further development of roles and career models for MSc-level dietitians is ongoing. The inclusion of Master's and APD levels in the law and the corresponding remuneration would be desirable.

Parallel food worlds: Perspectives on school meals among students diagnosed with Autism Spectrum Condition or ADHD

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Introduction, objectives: Food-related challenges are common among children diagnosed with Autism Spectrum Condition (ASC) or ADHD. Difficulties often stem from sensory processing issues, such as sensitivity to textures, tastes, and inflexibility with foods. In Sweden, free school meals are provided to all children in compulsory school. In recent years, there has been increasing attention to the need for food adjustments, especially among students with ASC or ADHD. The aim of this study was to explore how students with ASC or ADHD experience the school meal, and to examine what occurs in the interplay between their eating practices and the societal and cultural structures framing the school meal.

Methodology: The study was based on five months of participant observations in four Swedish schools, including informal conversations and structured interviews with five 12-year-old boys diagnosed with ASC or ADHD, and their mothers.

Findings: The participants experienced tensions when navigating between the familiar, often meat-based meals at home, and school meals that were frequently plant-based or semi-plant-based, shaped by sustainability goals. These dishes often included blended-in ingredients like legumes or vegetables, which altered the food's sensory characteristics and made them more challenging to eat. Unfamiliar components also disrupted routines and reduced the predictability of meals. The visibility of eating difficulties varied depending on the setting. At home, where minor adaptations could be made, challenges were often less noticeable. In contrast, the limited flexibility of the school meal system, along with prevailing normative ideas about what a meal should include, tended to make these difficulties more apparent. Also, among staff, dietary adjustments for students with these diagnoses were also perceived as less legitimate than, for example, adjustments related to celiac disease.

Conclusion: The school meal may challenge students with ASC or ADHD, due to the shift toward more sustainable food and limited structural flexibility.

Exploring the experiences of women living with PCOS within the healthcare sector

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Introduction: Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder affecting 5 to 18% of reproductive-age women worldwide, with 50% of them undiagnosed or experiencing delayed diagnosis. It causes physical symptoms, mental health challenges, and long-term complications such as obesity. Research shows there is a stigma associated with obesity, which can also be an issue for PCOS patients, affecting confidence and potentially leading to increased mortality rates.

Objectives: Given these multiple challenges women living with PCOS can face, the study aims to investigate their experiences within the healthcare sector and whether it affects their healthcare-seeking behaviour.

Methodology: The study collected data using a qualitative approach with semi-structured interviews. Eight adult participants, meeting the inclusion criteria were included. Ethical standards were strictly upheld, and participation was voluntary. The data collection involved both online and in-person audio-recorded interviews. Data analysis was conducted using thematic analysis.

Findings: Five main themes emerged from the interviews: diagnosis, interactions with healthcare professionals, stigma, support from sources outside the healthcare sector, and further concerns. Most participants described a lengthy diagnosis process and a lack of support from healthcare professionals. Stigma was a significant issue, and participants relied on support from social circles and social media. Concerns for long-term health conditions and fertility were also prevalent.

Conclusion: Participants had dissatisfying experiences within the healthcare sector, partly due to healthcare professionals following a weight-centered approach. Weight bias and lack of support can cause women to avoid returning to the same healthcare professional, leading them to seek support from potentially

unqualified individuals. This bias can also result in misdiagnosis of health conditions and potentially higher future mortality rates. The authors recommend documenting and explaining the diagnosis and treatment plan, providing psychological support, screening for potential risks, and introducing a multidisciplinary approach to improve patient experiences. Further research to develop guidelines and specific training to address PCOS is suggested.

A paradox of health: Disordered eating risk among mediterranean Diet-adherent adolescent dancers

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Introduction: Adolescence is a critical period when inadequate nutrition can adversely affect current and future health. Classical-style dancers (CSD) and modern-style dancers (MSD), particularly the former, often face pressure to maintain a very lean physique, increasing the risk of disordered eating behaviors (DEB). Body image perception (BIP) is shaped by ongoing supervision and critical evaluation by instructors. The Mediterranean Diet (MD) may offer protective effects against DEB; however, it remains unclear to what extent adolescent dancers adhere to MD and how this relates to both BIP and DEB.

Objectives: To assess MD adherence among adolescent dancers, examine correlations between BMI, body image, and DEB, and explore the potential association between MD adherence and DEB.

Methodology: 100 adolescent girls (mean age:15.5± 1.7 years), 50 CSD and 50 MSD, were interviewed. Demographic and anthropometric data were collected, and MD adherence (KidMed), DEB (EAT-26), and BIP (Stunkard scale) were assessed.

Findings: CSD demonstrated significantly higher MD adherence than MSD (KidMed: 11.16 ±2.4 vs 9.52 ±2.5, p<0.001). A positive BIP was more prevalent in both groups (96% in CSD vs. 82% in MSD, p=0.025). EAT-26 scores were above 20 in both groups (p = 0.652). BMI was higher in MSD than in CSD (23.1 ± 3.4 vs 20.4 ± 2.8 kg/m², p<0.001). BMI was positively correlated with a positive BIP ($r_{\text{CSD}}=0.589$, $r_{\text{MSD}}=0.801$, p<0.001) and negatively with KidMed ($r=-0.313$, p=0.027) for CSD, and negatively with EAT-26 ($r=-0.314$, p=0.026) for MSD. Across all dancers, EAT-26 positively correlated with KidMed ($r=0.248$, p=0.013), more strongly in MSD ($r=0.393$, p=0.005). Additionally, KidMed was negatively correlated with BIP in the total sample ($r=-0.237$, p=0.018), but not within subgroups.

Conclusion: Despite high MD adherence and mostly positive BIP, adolescent dancers remain at high risk for DEB. The paradoxical MD-DEB and MD-BIP associations highlight the need for integrated nutritional and psychological support in this vulnerable population.

Effects of a Lifestyle Program in Routine Care for Adults at Cardiometabolic Risk

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Introduction: Unhealthy lifestyle habits cause metabolic changes such as obesity and contribute significantly to disease burden in Sweden and globally. Although lifestyle intervention studies show promise there is a need for scalable programs that are accessible and effective in routine care.

Objectives: 1. To evaluate whether a short-term lifestyle program in routine care can improve lifestyle habits and promote weight loss in adults at cardiometabolic risk. 2. To disentangle the program components that may drive weight loss (analysis pending).

Methodology: This register-based cohort study included adults at cardiometabolic risk who completed a 5-month digital group-based lifestyle program between Aug 1, 2022-Jan 15, 2024, at the Behavioral Medicine Clinic, University Hospital of Umeå, Sweden (n=251; mean age=54.1 years (SD 11.0); 70.9% women; mean BMI=34.9 (SD 6.4). Lifestyle changes were assessed at baseline and program completion using questionnaires from the Swedish national care program. Changes were evaluated with Wilcoxon signed-rank tests and McNemar's tests.

Findings: Mean dietary index increased from 5.9 (SD 2.2) to 7.1 (SD 2.0) on a 0–12 scale, and physical activity from 192 (SD 127) to 224 (SD 126) minutes per week. The proportion with unhealthy eating (index 0–4) declined from 26% to 11%, and those with insufficient activity (<150 minutes/week) from 42% to 32%. Among participants skipping breakfast at baseline, about half reported eating it post-program. The proportion of tobacco users decreased from 21% to 18%, and at-risk alcohol consumers from 22% to 15%. Mean weight change was -2.2 kg (SD 4.2); 20% achieved ≥5% weight loss. All results were statistically significant (p<0.05).

Conclusion: This study suggests that a short-term digital lifestyle program in routine care may improve lifestyle habits and weight among adults at cardiometabolic risk. The findings support the potential of scalable clinical programs to promote behavior change and prevent chronic disease.

The potential for patient-centred dietetic interventions in the context of health literacy

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Introduction, objectives: In 2024, non-communicable diseases (NCDs) accounted for 74% of global deaths, with over 41 million people dying. Cardiovascular diseases, cancers, respiratory diseases, and diabetes were the leading causes. The WHO has identified reducing behavioral and metabolic risk factors as a

priority intervention. In modern healthcare, patient-centered care plays a key role by addressing individual needs, lifestyles, and motivations, thereby enhancing the effectiveness of prevention and behavior change. Food-Based Dietary Guidelines (FBDG), such as Hungary's OKOSTÁNYÉR®, are vital in prevention and dietotherapy. However, the effectiveness of such dietary interventions largely depends on individuals' health literacy. Our study aimed to explore the relationship between health literacy, dieting habits, dietary counseling, and awareness of the OKOSTÁNYÉR® recommendations.

Methodology: This cross-sectional study was conducted in February 2023 on a representative sample (N=500) of the adult Hungarian population, using the CAWI method. Data were collected with the validated HLS-EU 47-item questionnaire and additional custom items on health status, dieting, and OKOSTÁNYÉR® awareness. Health literacy indexes were calculated using validated thresholds. Descriptive statistics, chi-square tests, ANOVA, and multivariate regression analyses ($p < 0.05$).

Findings: A total of 77.4% of respondents had low (inadequate or problematic) health literacy. Higher education levels and younger age were significantly associated with better health literacy. Chronic diseases were more prevalent in low health literacy groups. About 32.4% of respondents followed a medically indicated diet, and 36.8% had received dietary counseling. Awareness of the OKOSTÁNYÉR® guidelines was relatively low (20.8%), particularly among men and those with lower education.

Conclusion: Our findings highlight that low health literacy in the Hungarian population poses a major challenge to the success of dietary interventions. Targeted health communication strategies and tailored dietetic support are essential to improve the effectiveness of personalized nutrition care, particularly among vulnerable groups with limited health literacy.

Perspectives of lung cancer patients on nutritional information received and desired: a qualitative study

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Introduction: Nutritional care in lung cancer can support treatment tolerance and quality of life, but little is known about how these patients experience and evaluate the nutrition advice they receive during oncology care.

Objectives: To explore the experiences of people with lung cancer regarding the nutritional information and support they received and to identify preferences and desired in receiving nutrition advice.

Methodology: Semi-structured interviews were conducted with 22 individuals diagnosed with lung cancer who had received treatment in the UK within the past five years. A framework analysis was conducted using an inductive coding approach.

Findings: Three key themes were identified: (1) Nutrition as a way to contribute actively to one's own health; (2) The emotional

and physical effects of weight changes post-diagnosis; and (3) The need for tailored, holistic nutrition support. Many participants reported that the nutritional advice received was overly general, poorly timed or not aligned with their lifestyle or goals. Several expressed frustration with the absence of guidance on maintaining strength, fitness or symptom management through diet.

Conclusion: People living with lung cancer seek timely, personalised nutritional advice that reflects their lived experience and treatment goals. Findings highlight the need for more person-centred nutrition support across the lung cancer care pathway.

Association of Fast-Food Consumption and HbA1c Status in Patients With Diabetes: Findings from QBB Data

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Introduction, objectives: Across numerous studies, fast food consumption—including items such as shawarma, burgers, pizza, and fries—has consistently shown a significant negative association with category membership, particularly indicating that older individuals tend to consume these foods less frequently. This study aimed to investigate the associations between various health variables and HbA1c categories, with particular attention to patterns of fast food consumption, gender differences, and age-related trends.

Methodology: Quantitative data were obtained from the Qatar Biobank via a formal access request through Qatar University. The dataset included detailed health metrics, anthropometric measurements, biomarkers, and fast food consumption data from 13,099 volunteer participants aged 35 to 75 years.

Findings: The analysis revealed no significant differences in most health indicators (BMI, waist-to-hip ratio, visceral fat) across HbA1c categories for both genders. However, fat-free mass exhibited a borderline significant difference among males, and age was significantly associated with HbA1c categories in females. Regarding fast food intake, older individuals were significantly less likely to consume items such as shawarma, burgers, pizza, and fries frequently. Conversely, females were more likely to report higher frequencies of fast food consumption (4–6 times per week, once daily, or more than twice daily). Notably, HbA1c levels were not significantly or consistently associated with fast food consumption, indicating no clear link between frequent intake of these items and abnormal HbA1c values, regardless of diabetes status.

Conclusion: The findings underscore that gender and age are key determinants of fast food consumption patterns, with females more likely than males to be in higher consumption categories, and older individuals less likely to consume fast food frequently. However, HbA1c status does not appear to be associated with fast food intake, suggesting that other lifestyle or metabolic factors may play a more critical role in influencing glycemic control.

Red Meat Consumption, Iron Status, and Cardiometabolic Risk in Qatari Adults: A Cross-Sectional Gender-Stratified Analysis from the QPHI-QBB Data in Qatar

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Introduction, objectives: Red meat is a primary source of heme iron and may impact iron status and metabolic health. In Qatar, where red meat consumption is relatively high, understanding these associations is essential for addressing iron deficiency and cardiovascular risk. This study aimed to examine the relationship between red meat intake, iron biomarkers, and metabolic health indicators, with attention to gender-specific patterns.

Methodology: A cross-sectional analysis was conducted using data from 13,778 Qatari adults enrolled in the Qatar Biobank (5,770 men; 8,008 women). Red meat intake was assessed via a Food Frequency Questionnaire and categorized as low (≤ 1 /month), moderate (2–4/month), or high (≥ 5 /month). Hematological and metabolic biomarkers were analyzed. Two-sample t-tests assessed gender differences, and multiple linear regression evaluated associations between meat intake and iron-related biomarkers, adjusting for key covariates.

Findings: High red meat intake was significantly associated with elevated ferritin (Coef = 134.69, $p < 0.001$) and hemoglobin levels (Coef = 0.92, $p = 0.017$). Males had higher hemoglobin (14.8–14.9 vs. 12.4–12.5 g/dL, $p < 0.0001$) and total cholesterol (5.17 ± 1.10 vs. 5.02 ± 1.01 mmol/L, $p = 0.0125$) compared to females. Total iron-binding capacity (TIBC) did not differ significantly by gender but varied significantly across meat intake categories within each gender ($p < 0.0001$).

Conclusion: Higher red meat consumption is positively associated with improved iron status, particularly ferritin. Hemoglobin and cholesterol levels show gender-specific responses. Moderate red meat intake may benefit iron levels without adversely affecting lipid profiles.

Feeding and Fathering: A Qualitative Study with First-Time Dads in Sweden

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Introduction: Despite the increased involvement of fathers in caregiving, they remain heavily underrepresented in studies about feeding and young children's eating.

Objectives: To explore how fathers experience feeding and mealtime situations with their child (age 10–24 months)

Methodology: Semi-structured interviews were conducted in Sweden with 21 first-time fathers (95 % university degree, 19 % foreign background) of children aged 10–24 months (mean age 15 months). Transcribed interviews were analyzed thematically.

Findings: Two themes were identified: Between uncertainty and reassurance and Balancing responsiveness and control. The fathers could find it challenging to handle feeding and mealtime situations, express uncertainty regarding how to act, and worry about their child's food intake. Others were reassured in feeding situations and about the child's health and growth. They could also experience insufficient and conflicting information about food and nutrition, and felt that this information was mostly targeted at mothers. The fathers also struggled to balance the introduction and exposure of new foods with ensuring adequate food intake, particularly when the child showed signs of pickiness or low interest in food.

Conclusion: Swedish first-time fathers may experience meal-times as challenging, alternate between responsive and controlling feeding practices, and experience a lack of clear guidance and support. Our findings show that men care for and may struggle with the feeding of their children, suggesting that child health care services need to strengthen food-related support towards fathers.

Validation of a new tool for Fermented Food Intake Mapping Across four European regions

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Introduction, objectives: Fermented foods are produced by naturally present or added microorganisms under suitable conditions. The potential health benefits of fermented foods are of growing interest, although the type of food and the amount consumed vary and remain understudied. Consumption data are essential for understanding their role in health, but validated tools that specifically evaluate the consumption of fermented food groups are lacking. This study, conducted under the COST PIMENTO action (CA20128), aimed to validate the repeatability and relative validity of the fermented food frequency questionnaire (3FQ) developed to assess the usual intake in terms of frequency and quantity of fermented foods across European regions.

Methodology: To assess repeatability, adults ($n=1,248$) >18 years from North, South, West, Central-East European regions, who had given consent to be recontacted completed the 3FQ twice. Regarding validation, interviewed 24-hour recalls were conducted in 8 different countries. Spearman's rank correlations, cross-classification, weighted kappa, and Bland-Altman plots were used to assess agreement between the 3FQ and 24-hour recalls. Subgroup analyses explored differences in validity across regions, age, gender, and dietary habits.

Findings: The 3FQ shows very high repeatability, as confirmed by the Spearman coefficient values (from 0.523 to 0.877). The Cohen's kappa coefficient shows significant and absolute agreement ($k > 0.61$) in most foods except for tea/meat and/or fish fermentation products which show moderate agreement ($k < 0.61$). All the above correlations were significant at the $p = 0.01$ level. The mean intake agreement (Bland-Altman analysis) between 3FQ and 24-h recall was 93.95% and ranged from 88.89% to 100% for the major food groups.

Conclusion: The 3FQ tool represents the first validated instrument for the quantitative assessment of fermented food consumption within the European population, an essential first step for addressing their potential effects on health.

The Foodture Project: Advancing Sustainability Competencies in Dietetic Education

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Introduction: Nutrition and Dietetics studies should equip students to guide clients in choosing foods that reduce environmental impact while ensuring nutritional adequacy and safety. Yet, teaching sustainable food systems (SFS) remains unfinished business in Human Nutrition and Dietetics curricula.

Objectives: To describe sustainability competencies in European Nutrition and Dietetic students using the EU developed competency framework GreenComp.

Methodology: The Foodture is an international learning initiative with participants from a various background and cultures. It consists of a series of online sessions (the Foodture Academy), and a physical exchange week (the Foodture Meets). The overall Blended Intensive Programme is funded by Erasmus+ and acknowledged for 3 ECTS. All sessions address competencies of GreenComp. To acknowledge the effectiveness of the programme, we evaluated the initial situation. Participating students (school year 2024-2025) completed a specific questionnaire designed to find out their interest in food sustainability, how sustainable food systems are addressed in their curricula, and how proficient they felt in 12 competencies described in the GreenComp document.

Findings: 139 students (86% female) answered the baseline survey; The three competencies that were most frequently present in their curricula were: "Critical thinking" (71%); "How to act for change in collaboration with others" (63%) and "Valuing sustainability" while the 3 least frequently worked on (not covered at all) were: "Political Agency" (40%); "Promoting nature" (41%) and "Supporting fairness" (32%). When asked to score how competent they felt, in the 12 aspects assessed, from 0 (not

being competent) to 5 (very competent), average scores were below 2 (= 'somewhat competent') and only slightly exceeded this figure in: Critical thinking (2.27±1.08); Individual initiative (2.10±1.13) and Collective action (2.06±1.16).

Conclusion: Nutrition and Dietetics programs still lack comprehensive coverage of sustainability-related competencies. Self-assessed proficiency levels were generally low, highlighting the need for targeted educational interventions to enhance competencies in SFS.

Comparison of Essential and Toxic Element Levels in Home-grown and Store-bought Vegetables

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Introduction, objectives: Home gardening with vegetable cultivation is a widespread activity, often motivated by the perceived better taste and health benefits compared to store-bought produce. However, home-grown vegetables are not subject to food safety monitoring, which raises concerns about potential contamination. Their perceived nutritional superiority is also not well supported by scientific evidence. This study aimed to compare levels of essential and toxic elements in commonly consumed home-grown and store-bought vegetables, to assess the nutritional value of these vegetables based on their essential element content, and to evaluate potential health risks associated with toxic element exposure.

Methodology: A total of 205 vegetable samples (carrots, lettuce, onions, and potatoes), collected from urban home gardens and supermarkets in the Czech Republic, were analyzed for seven essential (Ca, Fe, K, Mg, P, Se, Zn) and four toxic (As, Cd, Ni, Pb) elements using ICPMS after microwave-assisted acid digestion. The data were statistically analyzed and compared with nutrient reference values (NRVs), legislative limits, and health-based guidance values.

Findings: No consistent differences in elemental composition were observed between home-grown and store-bought vegetables. In some cases, variability was greater between vegetable species than between cultivation methods. Potassium was the most nutritionally significant element, covering 10–21% (onions–potatoes) of the NRV per 100g. Other essential elements contributed only a few percent of the NRVs. Levels of toxic elements remained within EU legislative limits in all samples. Estimated dietary exposures were generally low. Only potato consumption contributed to a higher cadmium intake; the highest estimated exposure reached 71% of the tolerable weekly intake in children with high consumption of store-bought samples.

Conclusion: Vegetables from urban home gardens without major pollution sources appear safe. The findings highlight the importance of diverse vegetable intake and suggest that the commonly perceived nutritional superiority of home-grown produce may be overestimated.

Omega-3 Fatty Acids in Migraine Therapy: Evidence-Based Insights for Dietetic Practice

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Introduction, objectives: Migraine is one of the most common neurological disorders worldwide and has a significant impact on women of working age in particular. Although specific drug treatment options are increasingly available, the non-drug form of therapy has so far received insufficient attention. Specific nutrients are becoming increasingly relevant in tertiary prophylaxis. In this context, long-chain omega-3 fatty acids are of particular interest in current research due to their inflammation-modulating effect. The aim of this bachelor thesis is to determine whether supplementation and / or dietary optimisation of omega-3 fatty acid intake can significantly reduce the frequency and intensity of migraine attacks in affected patients.

Methodology: To identify suitable references, a systematic literature search was conducted in the online databases PubMed, ScienceDirect, Cochrane Library and Thieme. The research question was operationalised using the PICO model. After applying clearly defined inclusion and exclusion criteria as well as critical quality and evidence assessment, five randomised controlled trials were included in the analysis.

Findings: Four out of five RCTs showed a significant reduction in migraine frequency and/or pain intensity after taking omega-3 fatty acids containing EPA compared to placebo. One study did not achieve the omega-3 dose through supplements, but through a specifically selected diet, which also included a reduced intake of linoleic acid. In the only study with a low dosage (460 mg EPA / day), however, no significant effects were observed. The studies with a positive effect resulted in an average EPA value of approximately 1,600 mg / day, which could be associated with a potential efficacy in migraine. In addition, improvements in quality of life and a reduction in the use of painkillers were also observed in individual studies.

Conclusion: The results indicate a significant potential of omega-3 fatty acids in the therapy and tertiary prophylaxis of migraine. Targeted supplementation, especially in combination with dietary optimisation, could prove to be an effective therapeutic approach with few side effects, which strengthens the self-efficacy of those affected and can be used in dietetic practice. Further research is needed to refine dosage recommendations, taking into account age, culture and region.

Nutritional challenges after metabolic and bariatric surgery – what is the role of the dietitian?

Anna Laurenus

Over 600,000 operations are performed annually in the world, of which 180,000 in Europe and 5,000 in Sweden. Gastric bypass has once again become the most common procedure in Sweden, while sleeve gastrectomy now accounts for about 20%.

For dietitians, understanding the mechanisms that influence appetite, satiety, and eating behavior after surgery is essential. The effects are mainly due to altered hormonal signals and impacts on the brain's reward system—rather than restriction or malabsorption.

After surgery, patients eat less, but their diet composition changes only partly. Portion sizes decrease initially but later increase. Energy intake drops but not to preoperative levels, while food weight increases over time and is not significantly lower two years postoperatively. However, food becomes less energy-dense, with lower fat and higher fruit and vegetable intake. Despite recommendations, protein intake increases only marginally.

Evidence for specific dietary advice remains limited, but support for vitamin- and mineral supplementation is stronger—although only 40–60% of patients adhere to recommendations.

Dumping syndrome is divided into early and late symptoms. Early symptoms (tiredness and nausea) are often perceived positively, as they help limit energy intake. Late dumping is more serious, with hypoglycemia and risk of loss of consciousness. After gastric bypass surgery, glucose variability increases—blood glucose may rise to 10–20 mmol/L and then drop to 2-3 mmol/L.

Treatment focuses on reducing rapidly absorbed carbohydrates, increasing protein and fat relative to carbohydrates, and spreading meals throughout the day. If diet therapy is insufficient, GLP-1 analogues can be used to stabilize glucose levels.

Patients with therapy-resistant late dumping often have chronic problems with hypoglycemia, abdominal pain or discomfort, intestinal obstruction, and sometimes weight gain. Abdominal pain, nausea, vomiting and difficulty eating should not be seen as normal after bariatric surgery, they are almost always due to a surgical complication that requires action.

Weight regain is related to both genetic and physiological causes; patients with significant weight loss have twice as high postprandial satiety hormone levels compared to patients with more modest weight loss.

The dietitian's role is to confirm correct behaviors, monitor lab results, support adherence to supplementation, and identify patients needing extra attention—such as young adults, individuals with social or cognitive vulnerability, neuropsychiatric conditions, or postoperative complications.

Medical nutrition therapy (MNT) in combination with obesity management medications (OMMs)

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Introduction, objectives: Obesity is a chronic disease with a rising prevalence across Europe. In recent years, treatment options have expanded to include effective obesity management medications, such as liraglutide, semaglutide and tirzepatide. There is a need to explore how medical nutrition therapy and obesity management medications can work together to optimize treatment outcomes. This presentation provides an overview of obesity management medications, focusing on their effect on weight and related health outcomes. It highlights both the benefits and challenges of treatment, emphasizing the critical role of medical nutrition therapy provided by Registered Dietitians as an integral component of comprehensive obesity care.

Methodology: This review provides an overview of obesity and its treatment, focusing on current approaches to medical nutrition therapy and obesity management medications. The findings will be presented at the 15th European Federation of the Associations of Dietitians (EFAD) Congress in Malmö, Sweden, on October 24, 2025.

Findings: Obesity is a multifactorial disease. Dysregulated appetite plays a key role in its development and persistence. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs), such as liraglutide and semaglutide, and dual agonists targeting both GLP-1 and glucose-dependent insulinotropic polypeptide receptors (GIP RAs), such as tirzepatide, are effective in appetite suppression. Many patients report a reduction in the so-called “food noise” while using these medications, leading to decreased energy intake. Clinical trials have demonstrated weight loss of up to 15–22% weight loss after 68–72 weeks of treatment. Medical Nutrition Therapy (MNT) provided by Registered Dietitians is essential for supporting patients manage potential side effects, establish healthy eating patterns, ensure adequate nutrient intake, and improve overall treatment outcomes.

Conclusion: Obesity management medications are highly effective treatments, particularly for addressing dysregulated appetite. Medical nutrition therapy plays a vital role in supporting patients by managing side effects, ensuring adequate nutrient intake and improving long-term treatment outcomes.

Nutritional aspects to consider before, during and after treatment with obesity management medication

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Introduction: Obesity is a complex condition that frequently coexists with malnutrition, particularly micronutrient deficiencies, creating a significant clinical paradox. The use of Obesity Management Medications (OMMs), especially GLP-1 receptor agonists, introduces unique nutritional challenges that must be addressed to ensure patient safety and long-term success.

Objectives: To propose a comprehensive nutritional framework for patients undergoing OMM treatment. The goal is to guide Registered Dietitians in minimizing malnutrition risks, managing medication-related side effects, preserving muscle mass, and supporting sustainable weight maintenance.

Methodology: This framework synthesizes current clinical literature and evidence-based guidelines. It emphasizes a multidisciplinary approach and highlights the key role of the Registered Dietitian in delivering Medical Nutrition Therapy (MNT). The methodology spans three key phases: pre-treatment assessment, active treatment monitoring, and post-treatment maintenance.

Findings: Before initiating OMM therapy, patients should be screened for micronutrient deficiencies, disordered eating, and health literacy. During treatment, MNT should focus on adequate protein intake and nutrient density rather than caloric restriction, while proactively managing gastrointestinal side effects through adjustments in fluids, fiber, and dietary fats. Physical activity, particularly resistance training, is essential to preserve lean body mass. After active weight loss, long-term success depends on continued nutritional follow-up, psychological support, and regular monitoring to prevent weight regain and cycling.

Conclusion: OMMs are effective therapeutic tools but not stand-alone solutions. Their long-term success relies on integration within a multidisciplinary approach that includes proactive nutritional assessment and individualized MNT delivered by a Registered Dietitian.

A case study: experiences from primary care regarding MNT combined with anti-obesity drugs

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Introduction: Anti-obesity drugs are widely used in the Netherlands. The role of the dietitian, and attention for nutritional problems receive less attention.

Objectives: To map experiences and practical problems that dietitians in primary care encounter, as well as patient perspective when treating people with obesity with these drugs.

Methodology: We sent out a questionnaire to 150 dietitians specialised in obesity in primary care.

Findings: Survey: 150 obesity dietitians; ten percent of dietitians responded.

Patients with very high BMI and complex profile are often treated by lifestylecoaches with no paramedical training and not referred to the dietitian, therefore attention for comorbidities and sophisticated counseling techniques is limited, thus leaving persons with a complex profile insufficiently treated.

After certain patients receive medication, they drop out of the GLI. Drop out rates can be as high as 45% per group. These participants have a low motivation. Within the GLI for certain participants the only reason to attend is the perspective of getting medication.

Weight loss in those that are successful on obesity medication can be 7-15 kg.

Prescription of medication is often not assessed with the primary care dietitian (PCD), even though they may know the patient closely for a long time. Once patients have a steady relationship with their dietitian, they are very compliant.

Conclusion: Obesity management in primary care is TEAMWORK and tailor-made (not: one size fits all). Primary care physicians, PAs, dietitians, physiotherapists and pharmacists should work closely together. For some people living with obesity an early start with medication would be beneficial to get the best results. This can be best decided by a team: PCP, PA, and Primary Care Dietitian (PCD) and pharmacist. People living with obesity must be enabled to get MNT from a highly trained and experienced dietitian specialised in obesity management.

Dietitians are essential members of PC teams to ensure that people receive nutrition care, from promotion and prevention to treatment, rehabilitation and palliative care, as close as possible to their daily environment. In addition, they are agents of systemic change, participating in the construction of health policies, community programs, and sustainable food strategies. So, the integration of dietitians in PC is essential to respond to the current challenges of health systems.

Nutrition integration in Primary Care: why Dietitians matter

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The growing pressure on health systems due to an aging population, increasing prevalence of non-communicable diseases (NCDs), associated with limited health care budgets and shortage of health professionals, implies the need to find models with better cost-effectiveness. The OECD PaRIS report reveals that certain countries achieve better health outcomes while maintaining lower spending levels. Traditional models of Primary Care (PC) reveal limitations, keeping the focus on a reactive rather than preventive approach. Radical policy changes are necessary to ensure that high-quality care is accessible to all, while maintaining sustainable levels of expenditure. Changes in health systems require more integrated and preventive models. Adapting to rapidly transforming societies will require models of care that make the best use of human teams and AI to provide continuity, comprehensiveness, coordination, and person-centeredness.

The increase in the prevalence of malnutrition and diet-related NCDs has a strong economic impact. About one in five deaths globally is attributable to poor diets. This finding highlights the urgent need for coordinated global efforts to improve the quality of the human diet. Given the complexity of dietary behaviors and the wide range of influences on diet, improving diet requires active collaboration of a variety of actors throughout the food system, along with policies targeting multiple sectors of the food system. Scientific evidence demonstrates that food has a central role in the prevention and management of these conditions, so it is a public health imperative to ensure that all citizens have access to specialized nutritional care.