

CO1. WATER PROJECT: A ONE HEALTH ASSESSMENT OF UNTREATED WATER SOURCES IN RURAL NORTHERN PORTUGAL

Sandra Quinteira¹⁻³; Inês Rodrigues¹; Maria João Neuparth^{2,4,5}; Olga Maria Lage^{1,6}

¹ Department of Biology, Faculty of Sciences, University of Porto

² UCIBIO - Applied Molecular Biosciences Unit, University Institute of Health Sciences (IH-TOXRUN, IUCS-CESPU)

³ CIBIO - Research Center in Biodiversity and Genetic Resources, InBIO - Associate Laboratory, BIOPOLIS - Program in Genomics, Biodiversity and Land Planning, University of Porto

⁴ Research Center in Physical Activity, Health and Leisure (CIAFEL)-Faculty of Sports-University of Porto (FADEUP)

⁵ Laboratory for Integrative and Translational Research in Population Health (ITR)

⁶ CIMAR/CIIMAR - Interdisciplinary Centre for Marine and Environmental Research, University of Porto

INTRODUCTION: Private groundwater sources such as wells, boreholes and public fountains remain widely used in rural areas, even where public water supply is available. These sources are often unmonitored, potentially increasing exposure to microbiological and chemical contaminants. Understanding patterns of use is essential to properly assess health risks.

OBJECTIVES: The WATER project aims to evaluate the microbiological and physicochemical quality of untreated groundwater sources and to assess potential exposure risk based on household consumption patterns and sociodemographic characteristics.

METHODOLOGY: A cross-sectional study is being conducted across 10 parishes from Northern Portugal. Water samples from wells, boreholes and fountains are analysed according to national legislation (Decreto-Lei 69/2023) and ISO standards. *E. coli* isolates are being stored for further antimicrobial susceptibility and resistance gene analysis. Household questionnaires collect socio-demographic data, water consumption patterns, and risk perception.

RESULTS: Pilot results (n=40 samples; 4 parishes) revealed frequent microbiological contamination, particularly in shallow wells (<10 m), with multiple samples exceeding regulatory limits for *E. coli*, total coliforms and *Enterococcus spp.* *Clostridium perfringens* was detected in several locations, suggesting persistent fecal contamination. Nitrate concentrations exceeded 50 mg/L in multiple sources, reaching 212 mg/L, indicating significant agricultural influence. Although most households had access to public water supply and preferred bottled or network water for drinking, private sources were widely used for irrigation of household gardens, representing a potential indirect dietary exposure pathway. Notably, most users had never performed water quality testing, and 61% belonged to a vulnerable age group (>65 years).

CONCLUSIONS: Untreated private groundwater sources showed high rates of microbiological and chemical non-compliance. Indirect exposure through irrigation and limited risk awareness may represent underestimated public health and nutrition-related risks, particularly among older adults. Strengthened monitoring and community water-health literacy strategies are warranted.

CO2. MONITORIZAÇÃO DA INGESTÃO DE ADITIVOS ALIMENTARES EM PORTUGAL - 2024

Paulo Fernandes¹; Luísa Oliveira¹; Sidney Tomé¹; Elsa Vasco¹

¹ Unidade de Observação e Vigilância, Departamento de Alimentação e Nutrição, Instituto Nacional de Saúde Doutor Ricardo Jorge

Os aditivos alimentares (AA), substâncias adicionadas para cumprir funções tecnológicas, têm o uso controlado na União Europeia. A segurança é avaliada pela Autoridade Europeia para a Segurança dos Alimentos e apenas os considerados seguros são autorizados pela Comissão Europeia (CE), sendo definidas as condições de utilização (Dose Diária Admissível, DDA e Limites Máximos de Utilização nos alimentos, LMU).

Os Estados-Membros devem monitorizar regularmente a ingestão de AA pela população para garantir que esta se mantém em limites seguros. Portugal realiza a monitorização através do sistema MONITADITIVOS do Instituto Nacional de Saúde Doutor Ricardo Jorge.

Com o objetivo de avaliar a ingestão de AA em Portugal, usando uma abordagem de pior cenário, foi realizada a recolha de dados (sociodemográficos, antropométricos e de consumo alimentar), através de um questionário alimentar às 24 horas anteriores (QCAonline), aplicado em meio escolar, a estudantes dos 11 aos 17 anos. Estimou-se a ingestão diária de aditivos e identificaram-se aqueles com ingestão superior à DDA, através da plataforma PAIAA, criada para o efeito. Os dados foram tratados de forma anónima e confidencial.

Em 2024, participaram no estudo 748 indivíduos de 16 agrupamentos de escolas. Nos 24 alimentos, avaliados pelo QCAonline, identificaram-se 161 aditivos, dos quais 64 possuem DDA definida. A análise da ingestão revelou 12 aditivos com ingestões acima de 200% da DDA, 15 entre 100% e 200% e 27 abaixo dos 100%. Em 10 aditivos não foi possível calcular a ingestão por ausência de LMU nos alimentos do questionário.

A colaboração das escolas e dos pais/encarregados de educação foi fundamental para garantir a qualidade e o sucesso do estudo. A monitorização anual permite identificar os aditivos prioritários a reportar por Portugal à CE e a estudar no país com dados reais de utilização e/ou ocorrência, contribuindo para uma avaliação de risco mais representativa e rigorosa.

CO3: DA MONITORIZAÇÃO MICROBIOLÓGICA À GENÓMICA: DIVERSIDADE E TRANSMISSÃO DE ENTEROBACTERIACEAE EM SUPERFÍCIES DE UNIDADES DE RESTAURAÇÃO COLETIVA

Andreia Peixoto¹⁻³; Lúcia Nova^{2,3}; Joana Mourão⁴; Cátia Matos^{2,3}; Margarida Saraiva¹; Rita Batista¹; Luísa Peixe³; Carla Novais³; Patrícia Antunes^{2,3}

¹ Instituto Nacional de Saúde Doutor Ricardo Jorge

² Faculdade de Ciências da Nutrição e Alimentação, Universidade do Porto

³ UCIBIO/I4HB/ Laboratório de Microbiologia, Faculdade de Farmácia, Universidade do Porto

⁴ Universidade Técnica da Dinamarca (DTU), Instituto Nacional de Alimentação

INTRODUÇÃO: A contaminação de superfícies em ambientes de produção de refeições constitui um risco significativo para a segurança alimentar. A monitorização microbiológica tradicional baseia-se na enumeração de *Enterobacteriaceae* como indicadores de higiene, mas não permite compreender a origem, circulação ou persistência dessas bactérias.

OBJETIVOS: Caracterizar, por sequenciação total do genoma (WGS), *Enterobacteriaceae* isoladas de superfícies, avaliando a sua diversidade e identificando padrões de contaminação cruzada.

METODOLOGIA: Foram analisados 112 isolados de *Enterobacteriaceae* obtidos de esfregaços de mãos (n=45) e de equipamentos/utensílios (n=67) em 28 unidades de restauração coletiva em Portugal. Os isolados foram caracterizados

por WGS (Illumina) para identificação da espécie e análise das relações genéticas utilizando MLST, cgMLST e/ou SNPs.

RESULTADOS: Observou-se elevada diversidade de espécies e linhagens, incluindo *Escherichia coli* (n=16-12 STs), *Klebsiella pneumoniae species complex* (n=44 *K.pneumoniae*-33 STs; n=12 outras espécies-10 STs), *Enterobacter cloacae complex* (n=37-7 espécies, 31 STs), *Cronobacter sakazakii* (n=2-ST4/ST8) e *C.malonaticus* (n=1-ST7). Foram identificadas estirpes geneticamente relacionadas em mãos e utensílios dentro da mesma unidade (*E.asburiae* ST807, *E.cloacae* ST3009, *K.pneumoniae* ST133-KL24 e *K.variicola* ST1148-KL31), evidenciando contaminação cruzada após higienização. Observou-se que algumas linhagens estavam disseminadas entre diferentes unidades, sugerindo circulação mais ampla, incluindo clones previamente descritos em alimentos, ambiente e infeções humanas (*K.pneumoniae* ST34-KL15, *E.coli* ST607).

CONCLUSÕES: As superfícies de contacto alimentar podem atuar como veículos de múltiplas linhagens bacterianas, mesmo após higienização. A genómica permite identificar vias de transmissão e persistência não detetáveis pela monitorização convencional, contribuindo para melhorar estratégias de controlo e de higienização e investigação de contaminações em unidades de produção de refeições.

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CO4: ORGANIZATIONAL COMPLEXITY AS A PREDICTOR OF CONTINUOUS IMPROVEMENT AND SUSTAINABILITY IN FOOD SERVICES OF SOCIAL CARE INSTITUTIONS

Célia Monteiro¹⁻⁵; Vera Miguéis³; Ada Rocha^{1,4}; Cláudia Afonso^{1,5}

¹ Faculty of Nutrition and Food Sciences, University of Porto

² Faculty of Sciences, University of Porto

³ INESC TEC, Faculty of Engineering, University of Porto

⁴ GreenUPorto - Sustainable Agrifood Production Research Centre/Inov4Agro

⁵ EPIUnit ITR, Institute of Public Health of the University of Porto, University of Porto

INTRODUCTION: Food services in Social Care Institutions (IPSS) operate as a complex organisational system, in which management plays a strategic role in service quality. The integration of continuous improvement (CI) and sustainability practices, both recognised as effective in enhancing processes and multidimensional performance, can be examined through the lens of organisational complexity within these systems.

OBJECTIVES: To examine whether dimensions of organisational complexity are associated with different maturity profiles in CI and sustainability performance.

METHODOLOGY: A cross-sectional study was conducted with 238 IPSS in northern Portugal. Data were collected through a questionnaire structured into three sections: (1) organisational factors related with structure, human resources, operational characteristics, quality formalization, and external collaboration; (2) CI practices; and (3) sustainability practices. TwoStep cluster analysis identified three implementation levels (low, medium, high) for each CI and sustainability dimension. These were combined to generate five quadrants: Q1 – low CI/low sustainability (15.1%); Q2 – low CI/high sustainability (2.5%); Q3 – intermediate levels of CI and sustainability (64.3%); Q4 – high CI/low sustainability (4.2%); Q5 – high CI/high sustainability (13.9%). Multinomial logistic regression was applied to analyse the influence of organisational factors on the profiles.

RESULTS: Higher intermediate staffing levels (e.g. warehouse manager, procurement officers and sector supervisors) significantly associated with

increased the odds of belonging to higher-maturity profiles: Q4 (OR=1.49; p=0.013) and Q5 (OR=1.40; p=0.034). Provision of a night meal was significantly associated with profile differentiation (p=0.047). Marginal effects were observed for external collaborations (p=0.050) and diversity of the target population (p=0.056). The absence of more than two special diets increased the odds of belonging to Q4 (OR=27.75; p=0.008).

CONCLUSIONS: Structural and operational complexity indicators were associated with higher CI and sustainability maturity profiles, suggesting that certain dimensions of organisational complexity may differentiate more advanced management configurations in social sector food services.

CO5: EFICÁCIA E SUSTENTABILIDADE A LONGO PRAZO DE UMA INTERVENÇÃO PARA A REDUÇÃO DO TEOR DE SAL NA SOPA DO ALMOÇO ESCOLAR

Sofia Sousa Silva^{1,2}; Margarida Liz³⁻⁵

¹ Unidade Local de Saúde do Algarve

² GreenUPorto – Centro de investigação em Produção Agroalimentar Sustentável

³ Politécnico da Universidade de Coimbra

⁴ H&TRC - Centro de Investigação em Saúde e Tecnologia, Politécnico da Universidade de Coimbra

⁵ Centro de Investigação em Antropologia e Saúde, Universidade de Coimbra

INTRODUÇÃO: Em Portugal, o teor de sal das sopas escolares excede frequentemente 0,2g/100g, contribuindo para ingestões elevadas de sódio desde a infância. Intervenções estruturadas com monitorização contínua, reformulação gradual das preparações, capacitação dos manipuladores e educação alimentar são estratégias promissoras para promover reduções sustentadas do teor de sal nas refeições escolares.

OBJETIVOS: Avaliar a eficácia e a sustentabilidade a longo prazo de uma intervenção multifacetada para redução do teor de sal na sopa do almoço escolar.

METODOLOGIA: Estudo quase-experimental longitudinal realizado nos refeitórios de 3 escolas do 1.º Ciclo do Ensino Básico do município de Loulé. Foram avaliadas 14836 refeições. O teor de sal foi quantificado em 90 amostras de sopa diferentes (30/escola em dias não consecutivos) utilizando o equipamento LAQUAtwin SALT em: baseline (T0), pós-intervenção (T1) e follow-up 12 meses (T2). O Desperdício Alimentar (DA) foi avaliado por pesagem em T0 e T1. A intervenção incluiu redução gradual do sal adicionado durante sete semanas, reforço da utilização de ervas aromáticas, formação dos manipuladores de alimentos e ações de educação alimentar à comunidade educativa.

RESULTADOS: Após a intervenção (T1), observou-se uma redução significativa do teor médio de sal nas escolas 1 e 3 (p<0,001), com o DA médio total a reduzir de 50,9±7,8 para 43,1±7,0kg/dia (p<0,001) e per capita de 101,4g para 86,3g (p=0,032). Não se verificou uma correlação significativa entre o teor de sal e o valor médio do DA (R=0,018; p=0,960). No follow-up de 12 meses, o teor médio de sal reduziu de 0,52±0,09(T0) para 0,38±0,05/100g(T2), correspondendo a uma redução de 29,3%/dose (p<0,001), mantendo-se estável relativamente ao T1. A contribuição da sopa para a ingestão diária de sal diminuiu de 23,2% para 19,9%.

CONCLUSÕES: A intervenção demonstrou eficácia e evidenciou sustentabilidade a longo prazo, mantendo reduções significativas após 12 meses. A diminuição inicial do DA sugere boa aceitabilidade das reformulações.

CO6: THE TRAJECTORIES OF FREE SUGAR INTAKE AND ITS MAIN SOURCES DURING CHILDHOOD AND CARDIOMETABOLIC CLUSTERS AT 13 YEARS OF AGE

Sofia Sosa^{1,2}; Catarina Campos Silva²; Milton Severo^{1,3}; Carla Lopes^{1,2}

¹ EPIUnit ITR, Institute of Public Health of the University Porto, University of Porto

² Department of Public Health and Forensic Sciences, and Medical Education, Faculty of Medicine, University of Porto

³ Institute of Biomedical Science Abel Salazar, University of Porto

INTRODUCTION: Evidence on how early-life free sugar (FS) intake trajectories influence later cardiometabolic health is still limited.

OBJECTIVES: To evaluate the association of FS intake trajectories (both total FS and primary food sources) on cardiometabolic risk clusters from childhood into adolescence.

METHODOLOGY: Participants (n=3,616) from the Generation XXI birth-cohort were assessed at ages 4, 7, 10, and 13. FS intake was assessed using food-frequency questionnaires. Cardiometabolic outcomes (Body Mass Index (BMI), waist circumference, HOMA, lipids, blood pressure) were objectively measured. Gaussian mixture models were used to identify FS trajectories and cardiometabolic risk clusters at 13 years, and logistic regression models estimated their associations, adjusting for confounders and energy intake.

RESULTS: Six FS cluster trajectories were identified. Compared with the lowest trajectory, higher FS intake trajectories were positively associated with a less favorable cardiometabolic profile, although this association was attenuated after adjustment for energy intake. Children with the highest FS intake at 4 years had significantly increased odds of a less favorable profile (Cluster 1, OR=2.11, 95%CI: 1.04-4.22). The later the age reaches the maximum FS intake from sugar-sweetened beverages (SSBs), the lower the cardiometabolic risk (OR=0.94, 95%CI: 0.87-1.02). Among sweets, both a later trend reversal of minimum intake (OR=1.09, 95%CI: 1.00-1.18) and a higher minimum intake (OR=1.15, 95%CI: 1.05-1.25) were associated with a less favorable cardiometabolic profile, even after adjustments.

CONCLUSIONS: A high, early and persistent FS intake during childhood, especially from SSBs and sweets, is associated with a less favorable cardiometabolic profile in adolescence. This effect appears to be partially mediated by total energy intake.

CO7: DIETARY DIVERSITY IN CHILDHOOD AND ITS ASSOCIATION WITH ASTHMA: FINDINGS FROM A POPULATION-BASED BIRTH COHORT

Mónica Rodrigues^{1,2}; Susana Santos¹; André Moreira^{1,4}; Pedro Moreira^{1,3}

¹ EPIUnit ITR, Institute of Public Health of the University of Porto, University of Porto

² Basic and Clinical Immunology, Department of Pathology, Faculty of Medicine, University of Porto

³ Faculty of Nutrition and Food Sciences, University of Porto

⁴ Immuno-Allergy Department, University Hospital Center of São João

INTRODUCTION: Dietary diversity is recognised as an important component of diet in early childhood. However, more specific indicators of diversity, such as fruit and vegetable diversity, remain underexplored, particularly in relation to asthma.

OBJECTIVES: To characterise overall dietary diversity and fruit and vegetable diversity in early childhood in a population-based birth cohort and to examine their associations with asthma in adolescence.

METHODOLOGY: This study included children from the Portuguese Generation XXI birth cohort with 3-day food diaries data at 4 years of age (n=2493). Overall dietary diversity was assessed using a Minimum Dietary Diversity for Infants and Young Children (IYCF-based) score and the MDD-Women (MDD-W) score. Within-group fruit and vegetable diversity was defined as the number of different items consumed, considering a mean intake ≥ 15 g/day over 3 days. Correlations between intake quantity and within-group diversity were assessed using Spearman's correlation coefficients. Associations between dietary diversity indicators and self-reported physician-diagnosed asthma at 13 years of age were examined using logistic regression models (n=1804), providing crude and adjusted odds ratios (OR) and 95% confidence intervals (CI).

RESULTS: Children consumed on average 3 different fruits and 5 different vegetables. Intake quantity and within-group diversity were strongly correlated ($p > 0.711$). Higher MDD-W score was associated with lower odds of asthma (OR=0.77; 95%CI: 0.63-0.95). Intake of a higher number of dark green leafy vegetables was also inversely associated with asthma (aOR=0.54; 95%CI: 0.32-0.97), and this association remained even after adjustment for total fruit and vegetable intake. Other indicators of within-group fruit and vegetable diversity were not associated with asthma.

CONCLUSIONS: Higher overall dietary diversity and specific dark green leafy vegetables diversity at preschool age seems to be protective of asthma in adolescence. These findings suggest that overall dietary diversity as well as specific vegetable subgroups may be relevant factors of early diet for long-term respiratory health.

CO8: MEAL SETTING AND CONSUMPTION OF PROCESSED FOODS IN CHILDREN: INSIGHTS FROM THE BEE-SCHOOL PROJECT

Joana Azevedo Nunes¹; Raquel Viseu¹; Juliana Martins^{2,4}; Patrícia Padrão^{1,3,4}; Rafaela Rosário^{2,5-7}

¹ Faculty of Nutrition and Food Sciences, University of Porto

² University of Coimbra. Health Sciences Research Unit: Nursing (UICISA: E)

³ EPIUnit— Institute of Public Health, University of Porto

⁴ Laboratory for Integrative and Translational Research in Population Health (ITR)

⁵ School of nursing, University of Minho

⁶ CIEF: Center for Research in Nursing, University of Minho

⁷ CIEC: Child Studies Centre, University of Minho

INTRODUCTION: In recent years, children's eating patterns have changed, with an increase in the consumption of processed and ultra-processed foods and a reduction in the intake of minimally processed foods. In socioeconomically vulnerable family and school contexts, these changes may compromise diet quality and contribute to adverse health outcomes.

OBJECTIVES: This study analysed the association between meal setting (frequency, place and company of meals) and the consumption of processed and ultra processed foods in 735 primary school children from ten TEIP schools in Braga, Portugal, within the BeE-school project.

METHODOLOGY: Dietary data was collected using 24-hour food recall questionnaires, and foods were categorised according to the NOVA classification. Sociodemographic data (child's age and sex, parental education, occupation, household composition and income) were collected through a structured parental questionnaire. The percentage contribution of each group in the NOVA classification to total daily food consumption and per meal, was calculated, both by weight (grams) and by energy (kilocalories). Meal context was recorded for all the meals reported. Logistic regression models adjusted for child's age and sex and the mother's education level were applied.

RESULTS: On average, 48.5 % of daily energy came from foods in the NOVA 1 and NOVA 2 groups, 14.8 % from the NOVA 3 and 36.7 % from the NOVA 4. Lunch and dinner showed higher presence of NOVA 1 and NOVA 2 foods, while snacks concentrated a higher contribution from NOVA 4. Eating lunch outside of school and with people other than peers significantly increased the likelihood of consuming NOVA 4 foods (OR=4.678; 95%CI: 2.157-10.143; $p < 0.001$), while reducing the odds of NOVA 1 and NOVA 2 foods (OR=0.434; 95%CI: 0.198-0.951; $p = 0.037$).

CONCLUSIONS: These results highlight the protective role of the school environment and reinforce the importance of structured and supportive home settings in promoting healthier dietary patterns.

CO9: PARTICIPAÇÃO DAS CRIANÇAS NO PLANEAMENTO DAS REFEIÇÕES E DIMENSÕES DA PUBLICIDADE ALIMENTAR NO CONTEXTO FAMILIAR – PROGRAMA MUN-SI

Maria de Fátima Martins¹; Matilde Vicente¹; Ana Santos¹; Raquel Henriques¹; Ana Rito^{1,2}

¹ Centro de Estudos e Investigação em Dinâmicas Sociais e Saúde

² Centro Colaborativo da OMS para a Nutrição e Obesidade Infantil - DAN/INSA

INTRODUÇÃO: A infância é um período vulnerável à influência do *marketing* alimentar, com impacto nas preferências e padrões de consumo. O envolvimento da criança no planeamento das refeições familiares pode promover competências alimentares e autonomia. Explorar esta relação pode contribuir para estratégias de promoção da literacia alimentar, enquadradas no programa MUN-SI, desenvolvido anualmente no município de Cascais com crianças do 1.º ciclo, que promove a saúde infantil através da educação alimentar.

OBJETIVOS: Analisar a relação entre o grau de participação das crianças no planeamento de refeições e dimensões da publicidade alimentar no contexto familiar.

METODOLOGIA: Aplicou-se um questionário aos Encarregados de Educação (EE) para avaliar a participação das crianças no planeamento e compra de alimentos/refeições (escala 0–10) e a perceção de influência e pedidos de compra de alimentos visualizados na televisão ou internet (Sim/Não). A análise estatística foi realizada no SPSS, incluindo estatística descritiva e inferencial. A participação no planeamento das refeições foi comparada entre grupos através do teste de *Mann-Whitney* ($p < 0,05$).

RESULTADOS: De 113 respostas válidas, 51,1% reportaram pedidos de alimentos vistos na televisão e 43,7% vistos na internet. A influência publicitária nos pedidos de compra foi reportada por 53,3% (televisão) e 48,5% (internet). A mediana de participação das crianças no planeamento das refeições foi de 5,00 (média=5,33; DP=3,40). Verificaram-se diferenças estatisticamente significativas na participação entre os grupos definidos pela influência da publicidade televisiva ($Z = -2,225$; $p = 0,026$) e pelos pedidos de alimentos anunciados na televisão ($Z = -2,746$; $p = 0,006$), observando-se valores superiores nos grupos com menor influência/pedido. Não se observaram diferenças estatisticamente significativas relativamente à influência percecionada do *marketing* digital nem aos pedidos associados.

CONCLUSÕES: O envolvimento da criança nas decisões alimentares familiares poderá estar relacionado com menor suscetibilidade ao *marketing* televisivo. Estes resultados reforçam a relevância de intervenções que promovam autonomia e literacia alimentar no contexto familiar.

CO10: DETERMINANTES DA LITERACIA ALIMENTAR E NUTRICIONAL E DA ADESÃO AO PADRÃO ALIMENTAR MEDITERRÂNICO EM CRIANÇAS EM IDADE ESCOLAR

Maria João Batalha^{1,2}; Neuza Barros¹; Rita Novo¹; Sara Simões Dias^{1,3}

¹ ciTechCare – Centro de Inovação em Tecnologias e Cuidados de Saúde, Politécnico de Leiria

² ENSP-NOVA – Escola Nacional de Saúde Pública, Universidade Nova de Lisboa

³ ESSLei – Escola Superior de Saúde, Politécnico de Leiria

INTRODUÇÃO: Literacia alimentar e nutricional (LAN) e adesão ao padrão alimentar mediterrânico (PAM) são determinantes fundamentais na prevenção de doenças crónicas e na promoção de hábitos alimentares equilibrados. A sua avaliação é essencial para orientar políticas educativas e intervenções promotoras de estilos de vida saudáveis.

OBJETIVOS: Caracterizar o nível de LAN e a adesão ao PAM em crianças dos 10 aos 13 anos, analisando a sua relação com sexo, atividade física (AF), escolaridade dos pais e rendimento familiar.

METODOLOGIA: A LAN e a adesão ao PAM foram avaliadas pela Escala de Literacia da Alimentação e Nutrição (E-LAN) e pelo índice KIDMED. Calcularam-se médias e categorias, analisando associações com sexo, atividade física, escolaridade parental e rendimento familiar através de testes *t* de *Student*, ANOVA e correlação de *Spearman* ($p < 0,05$).

RESULTADOS: A análise da E-LAN evidenciou predominância de nível moderado de LAN (60,0%), seguido de elevado (34,7%) e baixo (5,3%). As raparigas obtiveram pontuação média significativamente superior aos rapazes ($71,7 \pm 9,9$ vs. $67,0 \pm 10,2$; $p < 0,001$), e a prática de AF associou-se a maior LAN ($70,7 \pm 9,1$ vs. $65,6 \pm 10,8$; $p = 0,002$). Observou-se ainda uma correlação positiva, embora fraca, entre a escolaridade paterna e a LAN ($r_s = 0,11$; $p = 0,039$), enquanto a escolaridade materna e o rendimento familiar não se mostraram significativos. No índice KIDMED, a maioria apresentou alta adesão ao PAM (57,9%), seguida de adesão intermédia (37,6%) e fraca (4,6%). Não se verificaram diferenças significativas entre sexos ($p = 0,27$), mas os alunos com AF extracurricular apresentaram pontuações significativamente superiores ($8,1 \pm 2,2$ vs. $7,4 \pm 2,2$; $p = 0,001$). A escolaridade paterna associou-se de forma significativa a uma maior adesão ao PAM ($p = 0,018$; $r_s = 0,13$; $p = 0,011$).

CONCLUSÕES: A maioria das crianças apresenta nível moderado de LAN e alta adesão ao PAM. Este estudo evidenciou a necessidade de intervenções educativas direcionadas a grupos com menor literacia ou menor envolvimento em AF extracurricular.

CO11: IMPACTO DA INTERVENÇÃO DE EDUCAÇÃO ALIMENTAR ‘SABORES DO MEDITERRÂNEO’ NA ADESÃO À DIETA MEDITERRÂNICA E NO CONSUMO DE ALIMENTOS ULTRAPROCESSADOS EM CRIANÇAS DOS 6 AOS 12 ANOS E SEUS ENCARREGADOS DE EDUCAÇÃO

Mariana Martins¹; João PM Lima^{1,4}

¹ Instituto Politécnico de Coimbra, Escola Superior de Tecnologia da Saúde de Coimbra

² H&TRC – Centro de Investigação em Saúde e Tecnologia, Escola Superior de Tecnologia da Saúde de Coimbra, Instituto Politécnico de Coimbra

³ SUScita – Núcleo de Investigação e Desenvolvimento em Sustentabilidade, Cidades e Inteligência Urbana, Instituto Politécnico de Coimbra

⁴ CERNAS – Centro de Investigação de Recursos Naturais, Ambiente e Sociedade

INTRODUÇÃO: Apesar dos reconhecidos benefícios para a saúde, a adesão à Dieta Mediterrânica (DM) tem vindo a diminuir nas últimas décadas. Paralelamente, observa-se um aumento do consumo de Alimentos Ultraprocessados (AUP), particularmente em populações pediátricas. Esta tendência constitui um desafio relevante para a saúde pública, reforçando a necessidade de intervenções de educação alimentar dirigidas às crianças e às suas famílias.

OBJETIVOS: Avaliar o impacto de uma intervenção de educação alimentar, intitulada “Sabores do Mediterrâneo”, na adesão à DM e no consumo de AUP em crianças dos 6 aos 12 anos e respetivos encarregados de educação.

METODOLOGIA: Estudo quase-experimental, longitudinal, realizado com 55 crianças e respetivos encarregados de educação de um Centro de Atividades de Tempos Livres (CATL) no distrito de Aveiro. Foram aplicados questionários antes e após uma intervenção composta por quatro sessões de educação alimentar. A adesão à DM e o consumo de AUP foram avaliados através do Índice KIDMED, do questionário MEDAS e do NOVA *Screeners*.

RESULTADOS: Após a intervenção, verificou-se uma redução significativa no consumo de AUP pelas crianças ($p < 0,001$). Embora não se tenham observado alterações estatisticamente significativas na adesão global à DM, registaram-se melhorias em comportamentos alimentares específicos, nomeadamente na diminuição da frequência de consumo de doces e de *fast food*. Nos encarregados de educação não se observaram alterações relevantes nos indicadores avaliados.

CONCLUSÕES: A intervenção contribuiu para a redução do consumo de AUP nas crianças e para melhorias pontuais em comportamentos alimentares associados à DM. Estes resultados reforçam a importância de intervenções de educação alimentar mais prolongadas e com maior envolvimento familiar para promover padrões alimentares saudáveis e sustentáveis.

CO12: CHILDHOOD NUTRITION AND OTHER LIFESTYLE BEHAVIOURS AS MODIFIABLE PREDICTORS OF PUBERTAL TIMING: FINDINGS FROM THE GENERATION XXI BIRTH COHORT

Marta Pinto da Costa^{1,2}; Milton Severo^{1,3}; Vânia Magalhães^{1,4}; Carla Lopes^{1,2}; Joana Araújo^{1,2}; Sofia Vilela¹

¹ EPIUnit ITR, Institute of Public Health of the University of Porto, University of Porto

² Department of Public Health and Forensic Sciences, and Medical Education, Faculty of Medicine, University of Porto

³ School of Medicine and Biomedical Sciences, University of Porto

⁴ Santo António University Hospital Center, Santo António Local Health Unit

INTRODUCTION: While nutrition is recognised as a non-genetic determinant of pubertal timing, most studies have focused on single foods or nutrients and primarily on girls. Evidence addressing overall diet quality and other lifestyle behaviours remains limited.

OBJECTIVES: To explore the prospective associations of dietary intake, diet quality, ultra-processed food (UPF) consumption, sleep duration, physical activity and sedentary behaviour with pubertal timing.

METHODOLOGY: The sample included 4174 children evaluated at age 4 and 4522 at age 7 from the population-based birth cohort Generation XXI. Dietary intake was assessed using a validated food frequency questionnaire, and information on sleep duration, physical activity and sedentary behaviour was collected at ages 4 and 7. Weight and height were objectively measured, and pubertal development was assessed at age 10 using Tanner stages. A Puberty score based on genital and pubic hair Tanner stages (range: 2-10) was derived. Ordinal logistic regression models estimated associations with Puberty score at 10 years and age at menarche.

RESULTS: Higher diet quality at age 4 was associated with a less advanced Puberty score in girls (OR=0.976; 95%CI:0.955;0.997) and later age at menarche (OR=1.031; 95%CI:1.004;1.059), although the latter was attenuated after adjustment for maternal characteristics. Higher consumption of energy-dense foods and UPF at age 4 was linked to earlier age at menarche (OR=0.947; 95%CI:0.902;0.994). A significant interaction with Body mass index categories was observed for UPF consumption, with associations evident among girls with normal weight. Associations between the 'Fish and eggs' group, fatty acids and some micronutrients with Puberty score were observed, particularly among boys. No consistent associations were found for physical activity, sleep duration or sedentary behaviour.

CONCLUSIONS: Early childhood dietary exposures are associated with pubertal timing in both boys and girls, highlighting early childhood as potentially modifiable window for influencing pubertal timing.

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CO13: PERCEIVED POSITIVE PARENTING AND DIETARY INTAKE IN CHILDREN: THE BEE-SCHOOL PROJECT

Raquel Viseu^{1,2}; Joana Azevedo Nunes¹; Juliana Martins^{3,5}; Patrícia Padrão^{1,3,4}; Rafaela Rosário⁵⁻⁸

¹ Faculty of Nutrition and Food Sciences, University of Porto

² Local Health Unit of Algarve (ULS Algarve)

³ EPIUnit – Institute of Public Health, University of Porto

⁴ Laboratory for Integrative and Translational Research in Population Health (ITR)

⁵ University of Coimbra. Health Sciences Research Unit: Nursing (UICISA: E)

⁶ School for Nursing, University of Minho

⁷ CIEnf: Center of Research in Nursing, University of Minho

⁸ CIEC: Child Studies Centre, University of Minho

INTRODUCTION: Chronic noncommunicable diseases (NCD's) are increasingly prevalent worldwide and affect all age groups. Poor diet, particularly low fruit and vegetables (FV) intake, is a major modifiable risk factor and a priority for early intervention. Both the quantity and diversity of FV consumed are indicators of food quality. Children's eating behaviors are shaped by environmental and behavioral determinants and parenting practices, including home food availability and environment, socioeconomic status (SES) and support networks.

OBJECTIVES: As part of the BeE-school Project, this study analyzed the association between perceived positive parenting and FV consumption among 735 children from 10 primary schools in vulnerable socioeconomic contexts in Northern Portugal.

METHODOLOGY: Dietary intake was assessed using a 24-hour recall, and FV diversity was calculated as the number of different FV consumed. Perceived positive parenting was measured by integrating perceived SES, instrumental social support and positive parenting perceptions. Associations between parental education and FV consumption were examined using Generalized Linear Models and Binary Logistic Regression was applied to assess FV diversity, with both analyses stratified by instrumental social support.

RESULTS: Among participants with high instrumental support, lower parental education was significantly associated with lower consumption of FV in children, independent of confounders. Children of parents with lower education consumed 65.1 g fewer FV (95% CI -116.3; -13.9, p<0.05). Similar associations were observed when considering only mother's or father's education (-58.2 g, 95% CI -109.7; -6.7, p<0.05 vs. -91.2 g, 95% CI -147.4; -34.9, p<0.05). Regarding fruit diversity, children with less educated fathers consume less diverse fruits (OR = 0.6, 95% CI 0.3-1.0, p<0.05).

CONCLUSIONS: Parental education, perceived positive perceptions, and instrumental social support are key determinants of children's FV consumption. Public health strategies should include nutrition education for parents, particularly those with lower education levels, and community-based interventions that strengthen support networks.

CO14: ASSOCIATION OF FAT MASS ASSESSED BY DUAL ENERGY X-RAY ABSORPTIOMETRY WITH HANDGRIP STRENGTH – RESULTS FROM THE NUTRIFUNCTION PROJECT

Bárbara Martins¹; Joana Mendes^{2,3}; Ana Sofia Sousa^{2,4}; Rita S Guerra^{2,3,5}; Cláudia Silva^{2,3}; Rui Valdivieso⁶⁻⁸; Micaela Cunha Rodrigues^{5,6}; Ana Rita Sousa-Santos⁹⁻¹⁰; Alejandro Santos⁶; Nuno Borges^{6,7}; Andreia Amante-da-Rosa-Cardoso⁶; Teresa F Amaral^{5,6}

*These authors contributed equally

¹ Faculty of Health Sciences, Fernando Pessoa University

² FP-13ID, FP-BHS, Faculty of Health Sciences, Fernando Pessoa University

³ RISE-Health, Fernando Pessoa University, Fernando Pessoa Teaching and Culture Foundation

⁴ Center for Innovative Care and Health Technology (ciTechcare), Polytechnic of Leiria

⁵ INEGI – Institute of Science and Innovation in Mechanical and Industrial Engineering, LAETA - Associate Laboratory for Energy, Transports and Aerospace

⁶ Faculty of Nutrition and Food Sciences, University of Porto

⁷ RISE-Health, Faculty of Nutrition and Food Sciences, University of Porto

⁸ University Institute of Health Sciences (IUCS - CESPU)

⁹ Associate Laboratory i4HB - Institute for Health and Bioeconomy, University Institute of Health Sciences – CESPU

¹⁰ UCIBIO - Applied Molecular Biosciences Unit, Forensics and Biomedical Sciences Research Laboratory, University Institute of Health Sciences (1H-TOXRUN, IUCS-CESPU)

INTRODUCTION: Improvements in muscle and bone mass increase muscle strength, but the effect of fat mass (FM) is still unclear. Additional factors, such as lipid deposition in the muscle, could be responsible for a decline in muscle strength rather than only a decrease in muscle mass. However, studies on the association between FM and muscle strength are scarce, particularly among healthy individuals.

OBJECTIVES: To explore the association between FM and handgrip strength (HGS) in a sample of healthy adults.

METHODOLOGY: A cross-sectional study was carried-out in a sample of community-dwelling adults. HGS was measured with a Gripwise® dynamometer. FM and appendicular lean soft tissue mass (ALST) were estimated through Dual Energy X-Ray Absorptiometry. Data on sex, age, education, and presence of osteoarthritis was collected through a structured questionnaire. Physical activity level was assessed by the International Physical Activity Questionnaire. Multinomial regression models were performed regarding the association of proportion of FM and HGS tertiles (reference: 3rd tertile, higher), stratified by sex.

RESULTS: A total of 776 participants (67.1% women), aged from 18 to 85 years (median: 41.6, interquartile range (IQR): 27-54 years) were enrolled in the study. Women presented higher proportion of FM (33.1%) than men (22.3%), $p < 0.001$. Women presented a median HGS of 23, IQR: 19.7-26.2 kgf; and men presented a median HGS of 38.9, IQR: 33.5-44.9 kgf; $p < 0.001$. The increase of FM proportion was associated with lower HGS values (1st and 2nd tertiles), independently of age, education, physical activity, presence of osteoarthritis, stature and ALST, in women [adjusted odds ratio (OR) for 1st HGS tertile: 1.10; 95% confidence interval (CI): 1.05-1.14] and in men [adjusted OR for 1st HGS tertile: 1.08; 95% CI: 1.01-1.16].

CONCLUSIONS: Higher FM was independently associated with lower HGS values in both sexes, suggesting that the excessive accumulation of fat may compromise strength and functionality.

CO15: SARCOPENIA IN A HOSPITALIZED PSYCHIATRIC POPULATION: AN UNDERESTIMATED PROBLEM?

Miguel Santos^{1,2}; Nuno Borges²; Mónica Rodrigues³; Ana Filipa Mendes⁴

¹ Conde de Ferreira Hospital Center

² Faculty of Nutrition and Food Sciences, University of Porto

³ Faculty of Medicine, University of Porto

⁴ Faculty of Medicine, University of Minho

INTRODUCTION: Sarcopenia is a progressive, multifactorial muscle disease associated with disability, falls, and poorer prognosis. In long-term psychiatric inpatient care, physical inactivity, multimorbidity, and potential adverse effects of psychotropic medication may accelerate neuromuscular decline, making systematic assessment particularly relevant. The EWGSOP2 algorithm prioritises muscle strength as the entry criterion and recommends confirmation by low muscle quantity/quality, allowing alternative measures when body-composition methods (DXA/BIA) are not available.

OBJECTIVES: To estimate the prevalence of confirmed sarcopenia in an institutionalised psychiatric population according to EWGSOP2, and to compare SARC-F screening with an objective, measurement-based diagnosis.

METHODOLOGY: Observational cross-sectional study (baseline assessment)

conducted in a psychiatric hospital in Porto, Portugal. Adult patients in prolonged inpatient care were included ($n=193$; 66.8% men; mean age 61 ± 12.7 years). Muscle strength was assessed using handgrip dynamometry (American Society of Hand Therapists protocol; mean of three trials), with low strength defined as <27 kgf (men) and <16 kgf (women). Muscle mass was estimated using calf circumference, measured according to ISAK standards, using <31 cm as a proxy for low muscle mass. Confirmed sarcopenia was defined as the coexistence of low handgrip strength and calf circumference <31 cm. SARC-F was applied as a screening tool.

RESULTS: The prevalence of confirmed sarcopenia was 31.3% (58/193), indicating a high burden in this population. SARC-F was positive in 26.9% (52/193), identifying fewer patients than the EWGSOP2-based diagnosis and suggesting under-detection when relying on questionnaire-based screening alone in long-term inpatient settings.

CONCLUSIONS: Approximately one third of institutionalised psychiatric inpatients had confirmed sarcopenia. A pragmatic EWGSOP2 operationalisation using handgrip dynamometry and calf circumference proved feasible, low-cost, and suitable for routine assessment at admission and periodic follow-up, supporting early nutrition and exercise interventions and longitudinal monitoring of muscle health. In real-world settings, this approach complements screening and helps reduce clinically relevant underdiagnosis.

CO16: REMISSÃO METABÓLICA PÓS-CIRURGIA BARIÁTRICA: EVOLUÇÃO DO PERFIL LIPÍDICO E DA HbA1c NUM CENTRO DE REFERÊNCIA – ANÁLISE LONGITUDINAL A 12 MESES

Mara Gonçalves¹; Rita Matos¹; Mariana Santos Silva^{2,3}; Fábio Cardoso^{3,4}; Cristina Teixeira^{2,5}; Equipa CRI-O²

¹ Faculdade de Ciências da Nutrição e Alimentação da Universidade do Porto

² Centro de Responsabilidade Integrado de Obesidade da Unidade Local de Saúde São João

³ Serviço de Nutrição da Unidade Local de Saúde São João

⁴ Faculdade de Medicina da Universidade do Porto

⁵ Escola Superior de Biotecnologia da Universidade Católica Portuguesa

INTRODUÇÃO: A obesidade representa um problema de saúde pública, estando associada a doenças crónicas e a maior morbimortalidade. A cirurgia bariátrica e metabólica (CBM) é o tratamento mais eficaz para a obesidade grave, com impacto na remissão de comorbilidades como a diabetes *mellitus* tipo 2 e a dislipidemia. A evolução longitudinal do perfil lipídico completo e da HbA1c revela-se importante para optimização da terapêutica médica e suporte nutricional instituídos.

OBJETIVOS: Avaliar a evolução do perfil lipídico (Colesterol Total, C-HDL, C-LDL e Triglicérides) e da HbA1c em doentes submetidos a CBM, em três momentos: pré-operatório, 6 meses (6M) e 12 meses pós-cirurgia (12M).

METODOLOGIA: Estudo observacional retrospectivo, realizado no CRI-Obesidade da ULS-S.João (dezembro/2024-fevereiro/2025). Foram utilizados testes estatísticos não paramétricos, considerando-se significância estatística quando $p < 0,05$.

RESULTADOS: Avaliaram-se 158 doentes com idade média de 48 ± 10 anos (71,5% mulheres) e índice de massa corporal (IMC) médio $42,67 \text{ kg/m}^2$, submetidos a *Bypass* Gástrico (62%) ou *Sleeve* Gástrico (38%). Verificou-se uma redução significativa dos valores medianos de Colesterol Total entre o pré-operatório e os 6M (185 vs. 154mg/dL; $p < 0,001$), ocorrendo uma estabilização dos valores após este período (157mg/dL). Relativamente às componentes do perfil lipídico, constatou-se que o C-HDL aumentou do pré-operatório até aos 12M (50mg/dL vs. 55mg/dL; $p < 0,001$); o C-LDL reduziu progressivamente em todos os momentos de avaliação (106 vs. 89 vs. 82mg/dL; $p < 0,001$), bem como os triglicérides (128 vs. 78 vs. 74mg/dL; $p < 0,05$). Verificou-se ainda um efeito significativo do tempo na HbA1c, indicando uma redução ao longo do

período de avaliação (5,6 vs. 5,3 vs. 5,2%; $p < 0,001$); porém não se verificou uma interação significativa entre o tempo e o tipo de cirurgia ($p = 0,17$), sugerindo uma evolução semelhante entre grupos.

CONCLUSÕES: A otimização dos valores de HbA1c, bem como a melhoria do perfil lipídico dos doentes avaliados pós CBM, enfatiza a sua importância na redução das comorbidades associadas à obesidade grave.

CO17: NUTRITIONAL STATUS, VITAMIN D DEFICIENCY AND RISK OF FALLS IN COMMUNITY-DWELLING OLDER ADULTS

Ana Júlia Orosco¹; Thalles Andrade Marques Pereira²; Daniela Braga Lima²; Carlos Ferreira-Martins³; Sara Varandas-Saraiva¹; Margarida Liz Martins^{1,4,5}; Tábata Renata Pereira de Brito²; Guilherme Eustáquio Furtado^{1,6}

¹ Polytechnic University of Coimbra

² Faculty of Nutrition, Federal University of Alenas (UNIFAL-MG)

³ University of Coimbra, Faculty of Sport Science and Physical Education

⁴ H&TRC - Health & Technology Research Center, Coimbra Health School, Polytechnic University of Coimbra

⁵ Research Centre for Anthropology and Health, University of Coimbra

⁶ SPRINT – Research and Innovation Center in Sport and Physical Activity and Health

INTRODUCTION: Increased life expectancy poses significant challenges for health systems, particularly regarding the nutritional status of older adults. Age-related physiological changes, reduced energy intake, and alterations in body composition increase the risk of malnutrition and micronutrient deficiencies, particularly vitamins D and B12. These conditions are associated with adverse clinical outcomes, including increased morbidity and mortality, prolonged hospitalisation, and a higher risk of falls.

OBJECTIVES: To analyse the association between nutritional status, vitamin insufficiency, and risk of falls among community-dwelling older adults.

METHODOLOGY: A cross-sectional study was conducted using a household survey with a sample of 373 community-dwelling older adults living in a municipality in southeastern Brazil. Data collection was performed in two stages: a face-to-face interview to obtain sociodemographic and health-related information, followed by blood sample collection. Serum levels of vitamins D and B12 were determined through laboratory analysis. Nutritional status was assessed using the Mini Nutritional Assessment (MNA), and risk of falls was evaluated using the Short Physical Performance Battery (SPPB). Multiple logistic regression was applied to examine associations between variables.

RESULTS: The sample consisted predominantly of women and individuals aged 60–69 years. The prevalence of risk of malnutrition and risk of falls was 31.6% and 66.8%, respectively. Vitamin D and B12 deficiencies were observed in 63.0% and 19.5% of participants. Risk of malnutrition was significantly associated with moderate (OR = 2.06; 95% CI: 1.12–3.77) and high risk of falls (OR = 3.78; 95% CI: 1.75–8.15). Vitamin D deficiency was also associated with increased odds of high risk of falls (OR = 3.02; 95% CI: 1.36–6.68).

CONCLUSIONS: Risk of malnutrition and vitamin D deficiency were associated with an increased risk of falls among community-dwelling older adults. These findings highlight the importance of early nutritional assessment and targeted interventions to prevent falls and promote healthy ageing.

CO18: ASSOCIATION OF ADDUCTOR POLLICIS MUSCLE WITH MUSCLE MASS ASSESSED BY DUAL-ENERGY X-RAY ABSORPTIOMETRY – RESULTS FROM THE NUTRIFUNCTION PROJECT

Joana Moreira¹; Ana Sofia Sousa^{2,4}; Joana Mendes^{2,3}; Rita S Guerra^{2,3,5};

Cláudia Silva^{2,3}; Rui Valdivieso⁶⁻⁸; Micaela Cunha Rodrigues^{5,6}; Ana Rita Sousa-Santos⁹⁻¹⁰; Alejandro Santos⁹; Nuno Borges^{6,7}; Andreia Amante-da-Rosa-Cardoso⁶; Teresa F Amaral^{5,6}

*These authors contributed equally

¹ Faculty of Health Sciences, Fernando Pessoa University

² FP-I3ID, FP-BHS, Faculty of Health Sciences, Fernando Pessoa University

³ RISE-Health, Fernando Pessoa University, Fernando Pessoa Teaching and Culture Foundation

⁴ Center for Innovative Care and Health Technology (ciTechcare), Polytechnic of Leiria

⁵ INEGI – Institute of Science and Innovation in Mechanical and Industrial Engineering, LAETA - Associate Laboratory for Energy, Transports and Aerospace

⁶ Faculty of Nutrition and Food Sciences, University of Porto

⁷ RISE-Health, Faculty of Nutrition and Food Sciences, University of Porto

⁸ University Institute of Health Sciences (IUCS - CESPU)

⁹ Associate Laboratory i4HB - Institute for Health and Bioeconomy, University Institute of Health Sciences – CESPU

¹⁰ UCIBIO - Applied Molecular Biosciences Unit, Forensics and Biomedical Sciences Research Laboratory, University Institute of Health Sciences (1H-TOXRUN, IUCS-CESPU)

INTRODUCTION: Muscle mass plays a key role in overall health and functional performance, and its reduction has been linked to adverse clinical outcomes, highlighting the importance of simple and accessible assessment strategies. Dual-energy X-ray absorptiometry (DXA) is widely accepted as a reference technique for evaluating body composition, however its application in routine settings is often constrained by cost and technical demands, which increases interest in anthropometric approaches. The adductor pollicis muscle thickness (APMT) has been suggested as a practical marker of muscle mass, although evidence regarding its association with DXA-derived muscle mass remains limited, particularly in healthy individuals.

OBJECTIVES: To explore the association between APMT and muscle mass assessed by DXA.

METHODOLOGY: A cross-sectional study was carried out in a sample of community-dwelling adults. APMT was measured with a calibrated skinfold caliper. Whole-body composition (fat mass and appendicular lean soft tissue mass - ALST) was estimated through DXA. ALST was used as an estimation proxy of muscle mass. Multinomial regression models were performed regarding the association between APMT and ALST tertiles (reference: 1st tertile).

RESULTS: A total of 778 participants (67.2% women), aged from 18 to 85 years (median: 40 years, interquartile range: 27–54 years) were enrolled in the study. APMT and ALST were lower in women than in men ($p < 0.001$). Otherwise, women presented higher values of fat mass than men ($p < 0.001$). After adjusting for age (years), stature (cm) and total fat mass (g), higher APMT was associated with the highest values of ALST (3rd tertile) both in women (Odds Ratio=1.18; 95% Confidence Interval: 1.08–1.30) and in men (Odds Ratio=1.16; 95% Confidence Interval: 1.04–1.29).

CONCLUSIONS: Higher APMT was independently associated with higher ALST values in both women and men, supporting APMT as a potentially useful indicator of muscle mass.

CO19: HANDGRIP STRENGTH AND FORCE-TIME CURVE INDICATORS: EXPLORATORY ASSOCIATIONS WITH APPENDICULAR LEAN SOFT TISSUE ACCORDING TO ADIPOSITY LEVELS IN COMMUNITY-DWELLING ADULTS FROM THE NUTRIFUNCTION PROJECT

Micaela Cunha Rodrigues^{1,2}; Rita S Guerra^{2,4}; Rui Valdivieso^{1,5,6}; Filipe Martins⁷; Andreia Amante-da-Rosa-Cardoso¹; Ana Sofia Sousa^{3,4,8}; Joana

Mendes^{3,4}; Ana Rita Sousa-Santos^{6,9,10}; Cláudia Silva^{3,4}; Nuno Borges^{1,5}; Teresa F Amaral^{1,2}

¹ Faculty of Nutrition and Food Sciences, University of Porto

² INEGI – Institute of Science and Innovation in Mechanical and Industrial Engineering, LAETA - Associate Laboratory for Energy, Transports and Aerospace

³ FP-I3ID, FP-BHS, Faculty of Health Sciences, Fernando Pessoa University

⁴ RISE-Health, Fernando Pessoa University, Fernando Pessoa Teaching and Culture Foundation

⁵ RISE-Health, Faculty of Nutrition and Food Sciences of the University of Porto

⁶ University Institute of Health Sciences (IUCS - CESPU)

⁷ University of Coimbra, CeBER, Faculty of Economics

⁸ Center for Innovative Care and Health Technology (ciTechcare), Polytechnic of Leiria

⁹ Associate Laboratory i4HB - Institute for Health and Bioeconomy, University Institute of Health Sciences – CESPU

¹⁰ UCIBIO - Applied Molecular Biosciences Unit, Forensics and Biomedical Sciences Research Laboratory, University Institute of Health Sciences (IH-TOXRUN, IUCS-CESPU)

INTRODUCTION: Maximal handgrip strength (mHGS) is a recognised indicator of muscle function and a predictor of health outcomes. While its association with lean mass is documented, less is known about the association of force-time curve characteristics with appendicular lean soft tissue (ALST), particularly across adiposity levels.

OBJECTIVES: To investigate the associations of mHGS and force-time curve indicators with ALST across adiposity levels in community-dwelling adults.

METHODOLOGY: This cross-sectional study included 795 adults (66.1% women, mean age 41±16 years) from the NutrFunction Project. ALST and body fat were assessed by dual-energy X-ray absorptiometry. Bilateral mHGS and derived indicators were measured using a digital dynamometer with continuous force-time recording, and included $\Delta F_{max}-F_{min}$ and total, pre-peak and post-peak areas under the curve (AUC). Multiple linear regression models stratified by sex and adjusted for age and physical activity examined associations with ALST across body fat quartiles (Q1=lowest; Q4=highest adiposity). Results are presented as adjusted R^2 and standardised coefficients with 95% confidence intervals [R^2 ; β (95% CI)].

RESULTS: For women, mHGS and total AUC were associated with ALST across all four quartiles ($0.09 \leq R^2 \leq 0.30$), but the strength of the association differed across quartiles. For men, similar associations were obtained, although weaker. In the highest adiposity quartile (Q4), $\Delta F_{max}-F_{min}$ (left) in men showed higher explanatory capacity [$R^2=0.23$; $\beta=0.43$ (0.05;0.79)] than mHGS [$R^2=0.09$; $\beta=0.26$ (-0.19;0.71)]. Similarly, in women, post-peak AUC (right) demonstrated a stronger association with ALST [$R^2=0.35$; $\beta=0.74$ (0.44;1.04)] than mHGS [$R^2=0.33$; $\beta=0.69$ (0.40;0.97)].

CONCLUSIONS: Body fat influences the association between strength parameters and ALST. While mHGS remains associated with ALST, force-time curve indicators may also provide complementary insight into muscle mass in populations with higher adiposity.

CO20: MACHINE LEARNING MODELS AND KEY MORTALITY PREDICTORS IN HD PATIENTS

Cristina Garagarza^{1,2}; Ana Valente¹; Joana Jesus¹

¹ Nutrition Department, Fresenius Medical Care - Nephrocare

² Nutrition Laboratory, Faculty of Medicine, Academic Center of Medicine of Lisbon, University of Lisbon

INTRODUCTION: In recent years, machine learning (ML) techniques have emerged as powerful tools for risk prediction in healthcare, offering the ability to model nonlinear relationships and interactions among diverse variables.

OBJECTIVES: Evaluate the association of dietary intake, clinical and nutritional parameters with mortality in hemodialysis (HD) patients and compare the predictive performance of ML models.

METHODOLOGY: 582 patients on HD from 38 dialysis units were enrolled. Demographic, clinical and nutritional parameters were collected. A Food Frequency Questionnaire was applied. Patients were followed for 80 months. Three ML algorithms were trained to predict mortality. Model performance was evaluated using accuracy, F1 Score, area under the curve (AUC) and recall and SHAP analysis to identify key predictors.

RESULTS: Random Forest appeared to be the best-performing model, showing the highest AUC (0.788), an Accuracy of 0.633, a F1 Score of 0.733, a recall of 0.868 and a precision of 0.643 in predicting mortality within the follow-up period, compared to Logistic Regression and XGBoost. The 10 most important features of the Tuned Random Forest model associated with mortality were: HD vintage (0.127); Age-adjusted Charlson Index (0.031); creatinine (0.022); leukocytes (0.019); Product Calcium/Phosphorus (0.016); serum phosphorus (0.016); water intake (0.015); ferritin (0.014); overhydration (0.014) and diastolic blood pressure (BP) (0.014). Based on correlation with SHAP values, higher values of the following parameters tend to decrease the predicted mortality: HD vintage, serum creatinine, serum phosphorus, diastolic BP, ferritin and Calcium/Phosphorus product. On the contrary, increased levels of the following tend to increase mortality: age-adjusted Charlson comorbidity index, leukocytes, overhydration and water intake.

CONCLUSIONS: This data shows that modifiable and non-modifiable parameters significantly influence mortality risk in HD patients. ML models, particularly Random Forest, effectively predict mortality by integrating multidimensional data, supporting their potential role in personalized risk stratification and management.

CO21: THE USABILITY OF THE WEIGHT-URINE-THIRST (WUT) VENN DIAGRAM ON TRACKING CHANGES IN HYDRATION STATUS IN ATHLETES AFTER INCREASING WATER INTAKE: SECONDARY ANALYSIS FROM THE H2O ATHLETES RANDOMISED CONTROLLED TRIAL

David Bernardo¹; Filipe Jesus^{2,3}; Rúben Francisco^{2,4}; Analiza M Silva²

¹ Quilos Imparciais

² Exercise and Health Laboratory, CIPER, Faculty of Human Kinetics, University of Lisbon

³ Atlântica, University Institute, Barcarena Gunpowder Factory

⁴ Sport Physical Activity and Health Research & Innovation Center (SPRINT)

INTRODUCTION: In-field markers of hydration status [e.g., weight variability, thirst sensation, and urine colour (UCol)] have been proposed when combined (i.e., WUT diagram) but not validated against laboratory methods [e.g., urine osmolality (UOsm) and specific gravity (USG)].

OBJECTIVES: To assess the usability of WUT markers in athletes before and after an intervention to increase Water Intake (WI).

METHODOLOGY: Thirty-eight athletes (21.7±4.9 years; 47% females) with low WI ($WI \leq 35$ mL/kg/day) were included in the H2O Athletes trial (NCT05380089) and randomised into experimental (EG, $n=18$; $WI \geq 45$ mL/kg/day) or control group (CG, $n=20$; maintain WI) for 4 days. Adherence was assessed through water turnover (rH2O, deuterium dilution). Hydration status included UOsm (osmometry), USG (refractometry), weight variability, UCol (8-point chart), and thirst sensation (visual analogue scale). Hypohydration was "likely" and "very likely" with two or three factors, respectively. Considering missing data, 30 athletes (13 females) were considered.

RESULTS: Baseline rH2O [Total: 3.30(0.30) kg/day, $p=0.359$], UOsm [Total: 801.6(41.8) mOsm/kg, $p=0.108$], and USG [Total: 1.023(0.001), $p=0.972$] showed no between-group differences. UCol and thirst identified 25.8% and

19.3% of athletes at risk of hypohydration, respectively, with 6.4% presenting both. After the intervention, rH₂O increased in the EG ($p=0.001$) but not the CG ($p=0.359$). The EG reduced UOsm [-242.3(56.7) mOsm/kg, $p<0.001$] and USG [-0.007(0.002), $p<0.001$], with no changes for the CG ($p=0.972$ and $p=0.108$, respectively). Risk of hypohydration was present in 16.1% for both UCol and thirst, and 9.7% for weight variability. "Likely" hypohydration was observed for 6.4% and none with "very likely". Sensitivity and specificity were ~40% and ~60% individually, and 0% and >80% when combined, respectively.

CONCLUSIONS: The WUT showed limited ability to track the improvements in hydration status observed by laboratory markers. Combining WUT factors showed insufficient sensitivity but adequate specificity. In-field methods failed to detect hypohydration in athletes with low WI, before and after increasing WI.

CO22: THE CONNECTION PROJECT IN RESIDENTIAL CHILD-CARE SETTINGS: ENGAGING ADOLESCENTS THROUGH PARTICIPATORY ACTION RESEARCH TO PROMOTE HEALTHIER EATING HABITS

Beatriz Teixeira¹; Catarina Carvalho¹; Carla Lopes^{1,2}

¹ ITR, Institute of Public Health of the University Porto, University of Porto

² Faculty of Medicine, University of Porto

INTRODUCTION: Participatory Action Research (PAR) is a valuable approach to promote healthy diets among adolescents, particularly in residential child-care homes. Actively involving youth in identifying barriers and co-creating solutions helps ensure that interventions are sustainable over time. The CONNECTION project aims to foster healthier diets through participatory processes, ultimately contributing to the reduction of health inequalities.

OBJECTIVES: To identify perceived barriers to healthy eating among adolescents living in residential child-care settings and to collaboratively with key stakeholders define feasible and impactful strategies to increase adherence to healthy diets.

METHODOLOGY: A PAR approach was implemented in three residential care institutions of Porto, involving six 14-17-years-old adolescents. Four participatory sessions were conducted using storytelling and photovoice methodologies. Semi-structured interviews were carried out with key stakeholders from each institution, from the *Movimento Transforms* (a social initiative supporting residential care homes), and the Porto municipality. A joint session with adolescents and stakeholders enabled the sharing of findings, prioritisation of challenges based on perceived impact and feasibility, and agreement on intervention strategies.

RESULTS: Adolescents identified several barriers to healthy eating: (1) unhealthy (particularly excess sweets and salty snacks) and poorly varied snacks, largely influenced by food donations and limited food literacy; (2) limited variety in lunches and dinners, combined with a lack of adolescent involvement in menu planning; and (3) the absence of daily fruit availability. An adapted food literacy programme was jointly agreed upon for implementation in each institution, developed in collaboration with the Porto municipality. Additionally, the municipality committed to supporting improvements in the overall food offer within residential care settings.

CONCLUSIONS: This study highlights the importance of involving adolescents and stakeholders early to co-create feasible and sustainable strategies for improving food environments in residential care settings.

FUNDING: ERA4Health Programme Grant Agreement No. 101095426 of the EU Horizon Europe Research and Innovation Programme.

CO23: ARE EATING DISORDER SYMPTOMS AND BODY MASS INDEX BIDIRECTIONALLY RELATED FROM ADOLESCENCE TO YOUNG ADULTHOOD?

Rita Pereira¹; Catarina Campos Silva^{2,3}; Milton Severo^{1,4}; Nadia Micali^{5,6};

Elisabete Ramos^{1,2}; Andreia Oliveira^{1,2}

¹ EPIUnit ITR - Institute of Public Health, University of Porto

² Public Health and Forensic Sciences, and Medical Education, Faculty of Medicine, University of Porto

³ Math Center, University of Porto

⁴ Institute of Biomedical Sciences Abel Salazar, University of Porto

⁵ Center for Eating and Feeding Disorders Research (CEDaR), Mental Health Center Ballerup, Copenhagen University Hospital- Herlev and Gentofte

⁶ Great Ormond Street Institute of Child Health, University College London

INTRODUCTION: Understanding the directionality of associations between eating disorder (ED) symptoms and body mass index (BMI) is relevant to inform intervention strategies. However, the temporal dynamics of these associations remain unclear.

OBJECTIVES: To examine bidirectional associations between ED symptoms and BMI from adolescence (ages 13-17) to young adulthood (ages 17-21).

METHODOLOGY: Data are from the population-based EPITeen cohort (Epidemiological Health Investigation of Teenagers), from assessments at ages 13, 17 and 21 ($n=2,106$ participants after inclusion criteria). ED symptoms were assessed using three subscales of the Eating Disorder Inventory: Body Dissatisfaction and Drive for Thinness (cognitive symptoms) and Bulimia (behavioral symptoms). BMI and age- and sex-adjusted BMI z-scores were computed. Associations were tested using Generalized Additive Models for Location, Scale, and Shape (GAMLSS), stratified by sex and adjusted for prior BMI or ED symptoms and relevant covariates. Estimates and respective 95% confidence intervals included β coefficients for BMI and rate ratios (RR) for ED symptoms, representing their relative percentage change.

RESULTS: Among females, statistically significant bidirectional associations emerged from ages 13 to 17, between BMI z-scores and cognitive symptoms: Body Dissatisfaction [$\beta_{BD13 \rightarrow BM17} = 0.020$ (0.003, 0.038); $RR_{BM13 \rightarrow BD17} = 1.188$ (1.094, 1.290)] and Drive for Thinness [$\beta_{DT13 \rightarrow BM17} / RR_{BM13 \rightarrow DT17} = \text{non-linear associations}$]. Among males, bidirectional associations emerged from ages 17 to 21 for all symptoms: Body Dissatisfaction [$\beta_{BD17 \rightarrow BM21} = 0.135$ (0.029, 0.240); $RR_{BM17 \rightarrow BD21} = \text{non-linear associations}$], Drive for Thinness [$\beta_{DT17 \rightarrow BM21} = 0.212$ (0.045, 0.379); $RR_{BM17 \rightarrow DT21} = 1.321$ (1.159, 1.505)] and Bulimia [$\beta_{BL17 \rightarrow BM21} = 0.080$ (0.021, 0.140); $RR_{BM17 \rightarrow BL21} = 1.737$ (1.154, 2.615)]. Among both sexes, BMI z-scores at age 17 were associated with cognitive symptoms at 21.

CONCLUSIONS: BMI and ED symptoms exhibited a longitudinal mutual influence from adolescence to young adulthood, with sex-specific developmental patterns. Bidirectional associations emerged earlier among females for cognitive symptoms (ages 13-17) and later among males for cognitive and behavioral symptoms (ages 17-21). Results support coordinated sex-specific prevention strategies targeting weight and ED symptoms.

CO24: ADHERENCE TO SUSTAINABLE AND HEALTHY DIETARY PRACTICES IN SPANISH UNIVERSITY STUDENTS

Andreia Louro¹; Sandra Abreu^{2,5}; Blanca Ribot Serra⁶; Margarida Liz Martins⁷⁻¹⁰

¹ Coimbra Health School, Polytechnic University of Coimbra

² School of Life Sciences and Environment, University of Trás-os-Montes and Alto Douro (UTAD)

³ RISE—Health Research Network, Faculty of Medicine, University of Porto

⁴ Research Centre in Physical Activity, Health, and Leisure (CIAFEL), Faculty of Sport, University of Porto

⁵ Laboratory for Integrative and Translational Research in Population Health

⁶ University of Vic-Central University of Catalonia

⁷ Polytechnic University of Coimbra

⁸ H&TRC - Health & Technology Research Center, Coimbra Health School, Polytechnic University of Coimbra

⁹ Sports and Physical Activity Research Center, University of Coimbra

¹⁰ Research Centre for Anthropology and Health, University of Coimbra

INTRODUCTION: Current food systems and unhealthy diets pose major global health challenges. Promoting nutritionally adequate, sustainable diets is essential to improve health and reduce ecological harm, especially among young adults.

OBJECTIVES: To evaluate adherence to healthy and sustainable dietary practices among Spanish university students as well as to characterize their main sustainable food-related behaviors.

METHODOLOGY: A cross-sectional study was conducted among Spanish university students between March and April 2025 using a web-based questionnaire. Adherence to sustainable dietary practices was assessed through the SHED Index, which evaluates domains including plant-based food consumption, avoidance of ultra-processed products, beverage choices, purchasing and meal preparation practices. Participants were classified into tertiles according to the total SHED index score: first tertile (≤ 55.82), second tertile ($55.83-64.35$), and third tertile (≥ 64.36). Higher scores reflect healthier and more sustainable eating patterns.

RESULTS: A total of 1150 students from 46 universities participated in the study. The mean SHED Index score was 60.00 (P25: 26.84; P75: 88.61), indicating moderate adherence to healthy and sustainable dietary practices. Participants in the 3rd tertile (SHED ≥ 64.36) were more likely to be over 25 years old, female, have higher academic qualifications, follow plant-based diets, live in rural areas, and have sufficient income to access a healthy and sustainable diet. Students who perceive their diet as sustainable show higher total SHED index score ($p < 0.001$). Self-perception scores related to plant-based eating averaged 53.90 ± 19.51 (scale 0–100).

Avoidance of ultra-processed foods was widely reported (77%), and 95.1% indicated that they frequently chose water as their main beverage. Limiting sugary drinks and sweets was also common (57.9%). Home-based practices were prominent: 72.7% consumed homemade meals daily or almost daily, and 65.5% reported cooking regularly.

CONCLUSIONS: Students show meaningful engagement in several sustainable and healthy dietary practices and behaviors, particularly reducing ultra-processed foods, favoring water, and cooking at home.

C025: PERCEÇÕES DE PROFESSORES E ASSISTENTES OPERACIONAIS SOBRE COMPORTAMENTOS ALIMENTARES INADEQUADOS E FATORES ASSOCIADOS NA ADOLESCÊNCIA: UM ESTUDO QUALITATIVO

Margarida Rito^{1,2}; Maria Francisca Pereira¹; Mariana Vilas Boas³; Berta Valente¹; Beatriz Casais³; Sílvia Cunha⁴; Teresa Rodrigues⁴; Luís Filipe Peixoto⁴; Tânia Cordeiro⁴; Joana Araújo^{1,2,5}; Elisabete Ramos^{1,5}; Beatriz Teixeira^{1,2}

¹ EPIUnit ITR, Instituto de Saúde Pública da Universidade do Porto, Universidade do Porto

² Faculdade de Ciências da Nutrição e Alimentação da Universidade do Porto

³ Escola de Economia, Gestão e Ciência Política da Universidade do Minho

⁴ Câmara Municipal do Porto

⁵ Departamento de Ciências da Saúde Pública e Forenses, e Educação Médica, Faculdade de Medicina da Universidade do Porto

INTRODUÇÃO: A escola, pode desempenhar um papel estratégico na promoção de hábitos alimentares saudáveis em adolescentes. As percepções dos responsáveis pela política e organização da escola sobre os comportamentos alimentares dos adolescentes condiciona as suas decisões.

OBJETIVOS: Assim, este estudo teve como objetivo explorar as percepções de professores e assistentes operacionais sobre os comportamentos alimentares

inadequados dos adolescentes e os fatores associados.

METODOLOGIA: O projeto Promoção de Alimentação Saudável em Contexto Escolar (PASCE), foi implementado em três escolas E.B. 2/3 do município do Porto, em zonas de vulnerabilidade social. No âmbito do projeto foram realizadas 16 entrevistas semiestruturadas; a 3 membros da direção, a 7 professores coordenadores da educação para a saúde e a 6 assistentes operacionais. As entrevistas foram gravadas e transcritas integralmente. Realizou-se uma análise temática indutiva categorial, segundo a abordagem de Braun e Clarke, por duas investigadoras de forma independente.

RESULTADOS: Da análise das entrevistas, emergiram os seguintes comportamentos alimentares inadequados: consumo frequente de alimentos ultraprocessados e bebidas energéticas, omissão do pequeno-almoço, lanches de baixa qualidade nutricional e preferência por refeições fora da escola. Como justificação para estes comportamentos, foram referidos fatores individuais (preferência, restrições financeiras), sociais (pressão dos pares, hábitos dos familiares) e ambientais (*marketing* alimentar, menor atratividade da oferta na escola e o facto da refeição fora do recinto escolar ser associada a uma maior autonomia e afirmação social).

CONCLUSÕES: Os professores e assistentes operacionais identificaram quatro categorias de comportamentos alimentares inadequados dos adolescentes associando-os a fatores individuais, sociais e ambientais. No entanto, apesar de reconhecerem a influência de múltiplos contextos, não referiram a escola como um agente potencial de modificação destes comportamentos.

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C026: DO ADOLESCENTS WHO COOK HAVE HEALTHIER DIETS? BASELINE FINDINGS FROM THE MOKI-LAB SCHOOL-BASED CULINARY NUTRITION INTERVENTION

Rute Espanhol¹

¹ Benavente Municipality

INTRODUCTION: Adolescence is a critical period during which dietary behaviours are established and often persist into adulthood. In Portugal, declining adherence to the Mediterranean Dietary Pattern (MDP) and increasing adolescent overweight highlight the need for effective prevention. School-based culinary nutrition education may improve food literacy and promote healthier eating behaviours, yet evidence linking adolescents' cooking-related competencies with diet quality remains limited.

OBJECTIVES: To examine whether adolescents' cooking-related behaviours, skills, confidence, and attitudes are associated with adherence to the MDP and anthropometric indicators.

METHODOLOGY: This cross-sectional study used baseline data from the Mobile Kitchen Lab (MoKi-Lab), a school-based culinary nutrition intervention implemented in public schools in Benavente, Portugal. A total of 406 students aged 10–15 years completed validated questionnaires assessing cooking-related outcomes and diet quality. Anthropometric measurements were collected. Multivariable regression models examined associations between cooking-related variables, MDP adherence, and anthropometric indicators. Principal component and cluster analyses were used to identify patterns of cooking-related behaviours.

RESULTS: More than half of adolescents (52.5%) reported never cooking or cooking less than once per month. Girls reported greater confidence and skills in cooking, as well as more involvement in helping with cooking at home, compared to boys. Cooking-related outcomes were positively associated with adherence to the MDP, although correlations were weak. In multivariable regression models, cooking attitudes and skills were associated with higher MDP adherence. Higher cooking frequency was also associated with greater odds of high MDP adherence (OR = 1.92, 95% CI 1.21–3.04). Conversely, cooking-related outcomes were

not associated with anthropometric indicators. Exploratory analyses identified three cooking-related profiles that differed significantly in diet quality but not in anthropometric outcomes.

CONCLUSIONS: Cooking-related competencies among adolescents appear more strongly associated with diet quality than with anthropometric outcomes. These findings support the potential role of school-based culinary nutrition education in improving adolescents' diet quality.

C027: LIFE COURSE PREDICTION MODELS OF OVERWEIGHT AND OBESITY IN EARLY ADOLESCENCE - GENERATION XXI BIRTH COHORT

Rita Pereira¹; Mafalda Oliveira^{1,2}; Andreia Oliveira^{1,3}; Henrique Barros^{1,3}; Rita Gaio^{2,4}; Susana Santos¹

¹ EPIUnit ITR - Institute of Public Health, University of Porto

² Department of Mathematics, Faculty of Sciences, University of Porto

³ Public Health and Forensic Sciences, and Medical Education, Faculty of Medicine, University of Porto

⁴ Math Center, University of Porto

INTRODUCTION: Obesity/overweight prediction models can enhance early risk detection and inform timely preventive strategies. However, existing models present key methodological limitations (i.e., small sample sizes, model overfitting, cross-sectional designs, and a limited set of candidate predictors) and, to our knowledge, no studies have developed both age-specific (static) and longitudinal (dynamic) prediction approaches within the same population.

OBJECTIVES: To develop and compare the predictive performance of multi-exposure life course static and dynamic prediction models of overweight/obesity at age 13.

METHODOLOGY: We included 4150 mother-child pairs from the Generation XXI birth cohort. A total of 57 maternal and child candidate predictors (sociodemographic, anthropometric, health-related behaviors and obstetric factors) assessed during pregnancy, infancy and childhood were included. The outcome was overweight/obesity at age 13, based on the WHO growth reference values. Four static models [pregnancy/infancy, 4, 7 and 10 years of age (y)] and one dynamic longitudinal model were fitted using logistic regression or Elastic Net. Predictive performance was assessed through the area under the ROC curve (AUC), specificity, sensitivity and prediction error.

RESULTS: The 7y, 10y and dynamic models showed good predictive ability, with AUC values of 0.82, 0.87 and 0.88, respectively. These models consistently showed higher sensitivity (0.86–0.88) than specificity (0.67–0.81). The pregnancy/infancy model presented the highest prediction error (36%) while the 10y and dynamic models presented the lowest (17%). Across both static and dynamic approaches, socioeconomic and anthropometric factors emerged as the most consistent and relevant predictors.

CONCLUSIONS: Prediction improved when using data closer to the outcome or with longitudinal exposures. The dynamic and static models at ages 7 and 10 exhibited good performance, particularly in identifying children with overweight and obesity compared to those without - an advantage for screening purposes. These models may contribute to early risk stratification and targeted prevention efforts from mid-childhood onward.

C028: COBERTURA DA OBESIDADE NA IMPRENSA DIGITAL PORTUGUESA: ANÁLISE DO USO DE LINGUAGEM CENTRADA NA PESSOA (2020-2025)

Ana Rita Costa Pinto^{1,2}; Berta Valente^{2,3}; Juliana Martins^{2,3}; Marta Peixoto⁴; Aryane Pinho⁴; Romeu Mendes^{1,2}; Sara Soares²; Joana Araújo^{2,4}

¹ Unidade de Saúde Pública, Unidade Local de Saúde Trás-os-Montes e Alto Douro

² EPIUnit ITR, Instituto de Saúde Pública da Universidade do Porto

³ Departamento de Saúde Pública e Ciências Forenses e Educação Médica, Faculdade de Medicina, Universidade do Porto

⁴ Faculdade de Ciências da Nutrição e Alimentação da Universidade do Porto

INTRODUÇÃO: Narrativas mediáticas da obesidade podem perpetuar preconceito e estigma associados ao peso, especialmente quando não é utilizada linguagem centrada na pessoa (LCP).

OBJETIVOS: Analisar o uso de LCP em textos sobre obesidade publicados no digital dos quatro jornais portugueses com maior alcance.

METODOLOGIA: Análise de conteúdo dedutiva quantitativa de textos publicados entre janeiro de 2020 e dezembro de 2025 nos *websites* do Expresso, Público, Correio da Manhã e Jornal de Notícias. A seleção dos textos foi realizada pela plataforma CISION®, com as palavras-chave: "obesidade", "excesso de peso", "peso", "peso corporal", "dieta" e "perda de peso". Dos 4950 textos identificados, foram incluídos 713 depois de aplicados os critérios de inclusão através da leitura do título e, posteriormente, texto integral, por duas investigadoras de forma independente. LCP foi definida segundo o guia da Associação Europeia para o Estudo da Obesidade, como "sim-LCP" (ex.: "pessoa com obesidade"), "não-LCP" (ex.: "obeso") ou "não aplicável". Nos "não-LCP", analisou-se a frequência de termos estigmatizantes medicalizantes ("obeso/a(s)") e coloquiais ("gordo/a(s)", "gordinho/a(s)"). Estimou-se a associação entre o uso de LCP e a autoria por profissionais de saúde através do teste qui-quadrado.

RESULTADOS: No total dos textos analisados, 27,4% foram classificados como "sim-LCP", 32,5% como "não-LCP" e 40,1% como "não aplicável". De todos os incluídos, 8,8% foram escritos por profissionais de saúde. O "sim-LCP" foi mais frequente em textos de profissionais de saúde comparativamente com outros profissionais (68,0% vs. 44,0%, $p=0,008$). Nos "não-LCP", identificaram-se 687 referências a termos estigmatizantes (490 medicalizantes em 220 textos; 197 coloquiais em 98 textos).

CONCLUSÕES: Embora a utilização de LCP tenha sido mais frequente entre profissionais de saúde, um importante número de textos utilizou termos estigmatizantes ao referir-se a pessoas que vivem com obesidade. Estes resultados reforçam a necessidade de implementar orientações específicas sobre a escrita acerca da obesidade nos media.

C029: SOCIODEMOGRAPHIC PROFILE AND LIFESTYLE BEHAVIOUR ACCORDING TO RESIDENCE AREA OF PORTUGUESE PARTICIPANTS IN THE BETTER4U PILOT STUDY

Matilde Vicente¹; Raquel Henriques¹; Maria de Fátima Martins¹; Ana Santos¹; Ana Isabel Rito^{1,2}; George Dedoussis³ on behalf of the BETTER4U Consortium

¹ Centre for Studies and Research in Social Dynamics and Health

² WHO Collaborating Centre for Nutrition and Childhood Obesity - DAN/INSA

³ Department of Nutrition and Dietetics, School of Health Science and Education, Harokopio University of Athens

INTRODUCTION: Artificial intelligence (AI) enables personalized lifestyle interventions and may enhance behavior change. The BETTER4U (B4U) pilot study aimed to optimize AI models and assess app usability and acceptability for future use on a randomized controlled trial (RCT), delivering a biologically and behaviorally personalized obesity management intervention using multi-regional Portuguese data.

OBJECTIVES: Characterize sociodemographic and lifestyle indicators of adult participants according to residence area, and evaluate B4U study app and platform usability and acceptability.

METHODOLOGY: B4U pilot study collected sociodemographic, lifestyle and health-related data using validated questionnaires (Mini-Eat, IPAQ-Short form). Descriptive statistics were obtained with SPSS27.

RESULTS: The sample included 66 adults (29.5±10.8 years), 57.5% living in Metropolitan areas (MA) and 42.5% in other areas (OA), mostly female (71.1% in MA; 78.6% in OA). Most reported daily consumption of at least two portions of fruit (55.3% in MA; 75% in OA) and vegetables (52.6% in MA; 82.2% in OA). Few consumed pulses at least 5–6 times/week (13.1% in MA; 32.1% in OA), while 44.7% in MA and 35.7% in OA consumed sweets more than twice/week. Few were current smokers (5.3% in MA; 0.0% in OA). Alcohol consumption was higher in MA (73.7%) than in OA (39.3%). In MA, most did not report moderate-intensity physical activity, (55.3%), whereas in OA most (53.6%) did. Most participants agreed or totally agreed with the app's acceptability (42.1% in MA; 42.8% in OA) and ease of use (65.8% in MA; 67.9% in OA).

CONCLUSIONS: Low consumption of pulses, higher consumption of alcohol, higher consumption of sweets and low levels of physical activity were reported in MA. While the use of the B4U app and platform was quite accepted, addressing these lifestyle behaviours and potential area-specific adaptations are key for weight management for future use in the B4U RCT.

CO30: DEVELOPMENT OF THE FOOD GUIDE FOR SÃO TOMÉ AND PRÍNCIPE: SURVEY ON FOOD CUSTOMS AND TRADITIONS

Dilúvia Boa Morte Viegas D'Ábreu António^{1,2}; Rozangela Verlegia³; Raquel Teixeira⁴; Maria Rita Marques de Oliveira¹

¹ São Paulo State University "Júlio de Mesquita Filho" (UNESP)

² National Nutrition Program – Ministry of Health of São Tomé and Príncipe

³ Institute of Biosciences of Botucatu (UNESP)

⁴ EPIUnit ITR, Institute of Public Health of the University of Porto, University of Porto

INTRODUCTION: São Tomé and Príncipe (STP) currently lacks a National Food Guide with recommendations aligned with international guidelines and adapted to the country's sociocultural context. In a scenario of ongoing nutrition transition, characterized by urbanization, increased availability of industrialized foods, and rising prevalence of noncommunicable diseases, the development of context-specific dietary guidelines has become a public health priority. Valuing traditional food knowledge and practices represents a strategic step in this process.

OBJECTIVES: To investigate food customs and traditions among the population of STP in order to inform the development of the National Food Guide.

METHODOLOGY: A qualitative study was conducted between December 2024 and April 2025. Twelve focus group discussions were held with 110 adults from 12 communities (eight in São Tomé and four on Príncipe Island). Communities were selected to ensure territorial representativeness, and participants were recruited with the support of local leaders and community health agents. Discussions followed a structured guide, and data were manually recorded until thematic saturation was reached. Data were analyzed using thematic content analysis according to Bardin. Ethical principles applicable to research involving human participants were ensured.

RESULTS: Traditional dishes such as sô, izaquente, leaf-based stews, and calulú were highly valued and associated with family meals and community sharing. Commensality emerged as a structuring cultural practice, reinforcing the identity dimension of food. The dietary base remains centered on fish, banana, breadfruit, rice, and pasta, coexisting with a growing presence of industrialized foods. Participants emphasized the importance of including traditional preparations and local foods in the Guide, linking them to improved quality of life.

CONCLUSIONS: Traditional food practices remain socially valued and culturally significant in STP, providing a legitimate reference for the formulation of the Guide. Incorporating this knowledge may strengthen cultural appropriateness, enhance adherence to recommendations, and promote healthier and more sustainable food systems.

CO31: PROMOÇÃO DA LITERACIA ALIMENTAR EM ADULTOS MAIS VELHOS – ESTUDO DE INTERVENÇÃO

Ana Filipa Barroso^{1,3}; Joana Araújo^{1,4}; Cláudia Afonso^{1,4}

¹ Faculdade de Ciências da Nutrição e Alimentação da Universidade do Porto

² Associação Social de Pevidém Vida a Cores

³ Basto Vida – Serviços de Ação Social e Cuidados de Saúde, CRL

⁴ EPIUnit ITR - Instituto de Saúde Pública da Universidade do Porto

INTRODUÇÃO: O envelhecimento da população é um fenómeno mundial e atual que exige respostas estruturadas na promoção da saúde, mas apesar do reconhecimento da literacia alimentar como determinante fundamental, a sua aplicação em programas de intervenção dirigidos a adultos mais velhos permanece limitada.

OBJETIVOS: Avaliar a eficácia de uma intervenção participativa e em grupo nos conhecimentos sobre alimentação, hábitos alimentares e estado nutricional em adultos mais velhos em contexto de Centros de Convívio em Guimarães e Cabeceiras de Basto.

METODOLOGIA: Estudo quase-experimental baseado numa amostra de conveniência de 40 adultos mais velhos no grupo de intervenção (GI) e 40 no grupo de controlo (GC). A intervenção consistiu em 19 sessões semanais (60 minutos) no GI, integrando atividades diversificadas, numa abordagem participativa e em grupo, e 4 sessões no GC, durante cinco meses. O estado nutricional (MNA), a adesão ao padrão alimentar mediterrânico (PAM) através do MEDAS, conhecimentos em alimentação e medidas antropométricas foram avaliados nos momentos pré e pós intervenção. Os parâmetros pré e pós intervenção foram comparados através do teste *Wilcoxon* e as diferenças entre o GI e GC através do teste *t* de *Student*.

RESULTADOS: No GI, após intervenção verificou-se um aumento significativo na adesão ao PAM ($\uparrow +22,8\%$; $p < 0,001$), nos conhecimentos sobre alimentação ($\uparrow +11,8\%$; $p = 0,003$), ligeira melhoria na hidratação ($\uparrow +17,7\%$; $p = 0,175$), no estado nutricional ($\uparrow +1,9\%$; $p = 0,094$) e medidas antropométricas (Índice de Massa Corporal (IMC): $\downarrow -1,2\%$; $p = 0,056$; perímetro da cintura: $\downarrow -3\%$; $p < 0,001$). No GC verificou-se melhorias significativas nos conhecimentos e na adesão ao PAM. As melhorias foram mais consistentes e expressivas no GI. Avaliaram o projeto como “Bom” ou “Muito bom” 88% dos participantes.

CONCLUSÕES: Esta intervenção comunitária destacou-se pela aplicação simultânea de vários instrumentos de avaliação e evidenciou potencial para melhorar conhecimentos, comportamentos e escolhas alimentares. Intervenções estruturadas em contexto comunitário poderão contribuir para a saúde e bem-estar dos adultos mais velhos.

CO32: EVALUATION OF PROBABLE GREENWASHING PRACTICES AND NUTRITIONAL PROFILE OF FOOD PRODUCTS IN A PORTUGUESE SUPERMARKET

Matilde Vicente^{1,2}; Ángeles Pouso Calo²

¹ Centre for Studies and Research in Social Dynamics and Health

² Universitat Oberta de Catalunya

INTRODUCTION: Food systems are one of the main drivers of the climate crisis, accounting for 26% of environmental pressure. In 2023, a poor diet was responsible for 12.2% of all deaths. Greenwashing, the dissemination of misleading or unsubstantiated environmental claims, can confuse consumers, affecting their food choices and delaying sustainability transitions. A lack of data on greenwashing is observed in food products and in Portugal.

OBJECTIVES: Assess potential greenwashing practices and the nutritional profile of the food products with the highest greenhouse gas emissions/kilogram in the Portuguese supermarket with the highest market share.

METHODOLOGY: Food products were selected from the Continente website, and potential greenwashing practices were assessed with the Chen and Chang scale, while the Descodificador de Rótulos was applied to analyse the food products' nutritional profile. Statistical analysis was conducted in IBM SPSS Statistics 27, assuming a 95% significance level.

RESULTS: A total of 512 products were analysed, with 51.4% not presenting green claims. The categories with the highest median potential greenwashing scores were burgers and fillets (Md = 10.0). Statistically significant differences in potential greenwashing across categories were found ($p = 0.004$), namely between coffee and pastries ($p_{\text{adj}} = 0.002$), fillets and pastries ($p_{\text{adj}} = 0.006$), coffee and pizza ($p_{\text{adj}} = 0.002$) and fillets and pizza ($p_{\text{adj}} = 0.010$).

The greater the likelihood of greenwashing, the greater the likelihood of a better nutritional profile in the chocolate category ($r = -0.146$; $p = 0.033$).

CONCLUSIONS: Findings suggest that such practices are concentrated in categories with higher environmental impact, namely burgers and fillets. A statistically significant association was found between the potential presence of greenwashing and the nutritional profile in the chocolate category. The results highlight the need for stricter regulation of environmental claims in the food sector and for extending the investigation to additional product categories.

CO33: IODINE CONTENT OF TAP WATER ACROSS CONTINENTAL PORTUGAL

Saraí Isabel Machado^{1,2}; Ana Machado³; Adriano Bordalo³; Nuno Borges⁴; Luís Simas⁵; Joana Almeida Palha^{1,2,6}

¹ Life and Health Sciences Research Institute (ICVS), School of Medicine, University of Minho

² ICVS/3B's - PT Government Associate Laboratory

³ Laboratory of Hydrobiology and Ecology, Institute of Biomedical Sciences (ICBAS-UP) & CIIMAR, University of Porto

⁴ Faculty of Nutrition and Food Sciences, University of Porto

⁵ ERSAR - Portugal Water and Waste Services Regulation Authority

⁶ Clinical Academic Centre-Braga (2CA-B)

INTRODUCTION: Iodine is an essential micronutrient, crucial for the synthesis of thyroid hormones that are required throughout life. Dairy and seafood are the main dietary contributors to iodine intake, nonetheless they may be insufficient. Given the deleterious effects of iodine deficiency, the World Health Organization recommends the fortification of salt with iodine as the most cost-effective measure to assure adequate iodine intake at a population level. Drinking water has usually low levels of iodine, however that may vary with the geomorphology and climate characteristics. In Portugal, data on iodine content in drinking water is unknown.

OBJECTIVES: To characterize iodine content in tap water across all Portuguese continental districts and to estimate its potential contribution to adequate iodine intakes.

METHODOLOGY: A pilot study to map water by Portuguese continental districts covering the supply of 32% of the Portuguese population was conducted with Portuguese Water and Waste Services Regulatory Authority collaboration, between May and September of 2025. Twenty-two managing entities of public drinking water were selected and contacted to provide a water sample at the time of the inspection control, for iodine analysis.

RESULTS AND CONCLUSIONS: From the 22 sites of collection, 21% corresponded to subterranean origins, 57% superficial origins and 22% mixed origins. Median iodine content was 4.6 µg/L (IQR = 5.8), ranging from 0.53 µg/L in Bragança to 26.25 µg/L in Beja. Considering water intake from 2016 IAN-AF, of 869.8ml, it would represent at a national level a median of 4 µg/day (3% of adequate intake for adults). Of notice, in the case of Beja it would represent 23 µg (15% of adequate intake for adults), highlighting regional differences that should be confirmed and studied possible impacts on iodine policies. Overall, water

contribution of drinking water in continental Portugal is low, enhancing the risk of deficiency in our population. Nevertheless, districts with higher water iodine content should be considered in public policies. Further studies are in place to expand the characterization and to identify other substances in water that are relevant for thyroid function.

CO34: FOOD PROVISION IN PORTUGUESE DAYCARE CENTRES: A MULTI-STAKEHOLDER PERSPECTIVE

Francisca Costa¹; Diana e Silva^{1,4}; Beatriz Teixeira^{1,5}

¹ Faculty of Nutrition and Food Sciences, University of Porto

² Center for Health Technology and Services Research—CINTESIS

³ Paediatrics Department - Womens and Childrens Unit - Local Health Unit São João

⁴ Nutrition Department/ Local Health Unit São João

⁵ EPIUnit ITR, Institute of Public Health of the University Porto, University of Porto

INTRODUCTION: Daycare centres play a crucial role in shaping children's early eating habits, particularly in Portugal where children spend significantly more time in these settings compared to the European average. Despite the crucial role of these spaces in food provision, limited national guidelines and inconsistent practices may hinder optimal food provision during this critical developmental period.

OBJECTIVES: This study aimed to explore the perspectives of educators, parents, and healthcare professionals regarding food provision in Portuguese daycare centres.

METHODOLOGY: A qualitative design was employed, using four focus groups (with educators, healthcare professionals, and parents) involving a total of 26 participants from 25 to 64 years old. Thematic content analysis was conducted following Braun and Clarke's six-phase approach. Data were analysed inductively in Portuguese and translated into English for dissemination.

RESULTS: Participants recognized daycare centres as important facilitators of healthy eating habits and complementary feeding support. While main meals were generally seen as nutritionally adequate for infants until 12 months, concerns were raised about limited food diversity, excessive portions of protein sources, and inappropriate snack options (e.g., sweetened yoghurts, processed infant porridge). Structural challenges included the absence of national guidelines, limited access to nutrition professionals, and discrepancies between institutional and home feeding practices. Resistance to change and limited training among staff were also identified as key barriers.

CONCLUSIONS: Improving food provision in daycare settings requires a systemic approach, including national nutritional guidelines, institutional involvement of nutritionists, staff training, and strengthened collaboration with families. These findings highlight the potential of daycare environments as settings for early nutrition intervention.

CO35: DIMORFISMO SEXUAL DO LEITE MATERNO PRÉ-TERMO: UM PASSO PARA UMA FORTIFICAÇÃO MAIS INDIVIDUALIZADA DO LEITE DA PRÓPRIA MÃE?

Inês Rodrigues¹; Luís Proença²; Renata Ramalho¹; Daniel Virella^{3,4}; Luís Pereira-da-Silva^{4,5}; Manuela Cardoso^{2,6}

¹ Laboratório de Nutrição, Centro de Investigação Interdisciplinar Egas Moniz (CiEM), Egas Moniz School of Health and Science

² Centro Egas Moniz de Investigação Interdisciplinar (CiEM), Egas Moniz School of Health and Science

³ Unidade de Neonatologia, Maternidade Dr. Alfredo da Costa, Unidade Local de Saúde São José, Centro Clínico Académico de Lisboa-CCAL

⁴ CHRC-Centro de Investigação Integrada em Saúde, Grupo de Nutrição, NOVA Medical School, Universidade Nova de Lisboa

⁵ Área Académica de Medicina da Mulher, da Infância e da Adolescência, NOVA Medical School, Universidade Nova de Lisboa, Centro Clínico Académico de Lisboa-CCAL

⁶ Unidade de Nutrição, Maternidade Dr. Alfredo da Costa, Unidade Local de Saúde São José, Centro Clínico Académico de Lisboa-CCAL

INTRODUÇÃO: Vários fatores podem influenciar a composição do leite materno, incluindo o sexo do recém-nascido, a idade de gestação e se a gravidez é única ou gemelar.

OBJETIVOS: Determinar a associação entre o sexo do recém-nascido e a concentração de macronutrientes e de energia no leite da própria mãe, durante as primeiras seis semanas após o parto.

METODOLOGIA: Um estudo de coorte realizado numa maternidade terciária, incluiu lactantes que tiveram o parto antes das 37 semanas de gestação. Foi usado um analisador de leite humano por infravermelhos (Miris AB, Uppsala, Suécia) para medir a concentração de macronutrientes e de energia no leite.

RESULTADOS: De um total de 174 mães, foram obtidas 360 amostras de leite, 67% de leite para filhos únicos e 33% para gémeos. Relativamente ao leite para filhos únicos, o leite maduro para meninas foi significativamente mais rico em energia total, lípidos e proteína do que o leite para meninos; à medida que a lactação avançou, o leite para meninos tornou-se significativamente mais rico em proteína do que o leite para meninas. Especificamente para os do sexo masculino, o leite de transição para gémeos foi significativamente mais rico em lípidos e energia do que o leite para filhos únicos; à medida que o leite amadureceu, tornou-se significativamente mais rico em energia, hidratos de carbono e proteínas do que o leite para gémeos em relação aos filhos únicos. Especificamente para os do sexo feminino, o leite maduro para gémeos foi significativamente mais rico em lípidos e energia total do que o leite para filhos únicos, na quarta semana após o parto.

CONCLUSÕES: Este estudo fornece informações sobre a forma como o sexo do recém-nascido e o número de fetos nascidos influenciam a composição do leite materno pré-termo. Esta informação pode ajudar a individualizar, com maior precisão, o método de fortificação do leite materno.

CO36: PROJETO DE MELHORIA CONTÍNUA: IMPACTO DE UMA INTERVENÇÃO FORMATIVA NOS CONHECIMENTOS DOS PROFISSIONAIS EM CONTEXTO HOSPITALAR

Sara Serdoura^{1,3}; Ana Sofia Pinto¹; Isabel Gomes¹

¹ Unidade Local de Saúde do Tâmega e Sousa

² Programa Doutoral em Biotecnologia Avançada, Faculdade de Biologia, Universidade de Vigo

³ RISE-Health, Centro de Investigação em Saúde Translacional e Biotecnologia Médica (TBIO), Escola Superior de Saúde, Instituto Politécnico do Porto

INTRODUÇÃO: A desnutrição hospitalar apresenta elevada prevalência e associa-se ao aumento da morbilidade, mortalidade, frequência e tempo de internamento do utente, com impacto significativo nos custos em saúde. A consciencialização e capacitação dos profissionais para esta realidade poderá contribuir para a melhoria dos resultados clínicos.

OBJETIVOS: Capacitar os diferentes grupos profissionais envolvidos na alimentação dos utentes em contexto hospitalar e sensibilizá-los para o impacto da alimentação e da nutrição no estado clínico do utente.

METODOLOGIA: Estudo de intervenção no âmbito da melhoria contínua, realizado na Unidade Local de Saúde do Tâmega e Sousa, entre setembro e outubro de 2024. Foram promovidas formações teóricas sobre alimentação e nutrição dirigidas a 255 profissionais hospitalares, distribuídos em três grupos: Grupo I - enfermeiros; Grupo II - Técnicos Auxiliares de Saúde (TAS); e Grupo III - Profissionais do Serviço de Alimentação (SA). Os conteúdos programáticos foram

especificamente estruturados e adequados a cada grupo profissional. Cada participante frequentou uma sessão, adaptada ao grupo-alvo, com a duração de 3 horas, na qual foi aplicado um questionário de avaliação de conhecimentos diagnóstico e final.

RESULTADOS: Participaram 136 (53,3 %) enfermeiros, 77 (30,2 %) TAS e 42 (16,5 %) profissionais do SA. Globalmente, a percentagem total de respostas corretas aumentou significativamente após a formação (23 % vs. 29 %; $p < 0,001$). Verificaram-se ganhos absolutos em todos os grupos: +20 pontos percentuais nos TAS (66 % vs. 86 %), +17 pontos percentuais nos enfermeiros (70 % vs. 87 %) e +12 pontos percentuais nos profissionais do SA (62 % vs. 74 %) ($p < 0,001$).

CONCLUSÕES: A intervenção formativa demonstrou impacto positivo nos conhecimentos dos profissionais, com ganhos distintos entre grupos, reforçando a necessidade de estratégias formativas adaptadas. Recomenda-se a integração regular destas formações e a avaliação futura do seu impacto em indicadores clínicos e assistenciais.

CO37: UNDERSTANDING THE USER EXPERIENCE OF WOMEN WITH GESTATIONAL DIABETES MELLITUS WITH A MOBILE APP TO SUPPORT SELF-CARE: QUALITATIVE INSIGHTS FROM A PILOT STUDY

Joana Rodrigues^{1,2}; Beatriz Félix¹; Maria Lua Nunes^{1,3,4}; Inês Santos^{4,5}; Francisco Nunes^{1,3}; Fernando Pichel²

¹ Fraunhofer Portugal AICOS

² Department of Nutrition, Santo António Local Health Unit

³ Comprehensive Health Research Center (CHRC)

⁴ Faculty of Medicine, Lisbon University

⁵ Institute for Environmental Health (ISAMB), Faculty of Medicine, Lisbon University

INTRODUCTION: Nutrition therapy represents the cornerstone of glycaemic regulation in gestational diabetes mellitus (GDM). However, implementing dietary modifications in the short-term can be challenging. Mobile health apps may facilitate self-management by enhancing access to tailored information and practical guidance.

OBJECTIVES: To understand the user experience of patients with GDM with a mobile app for supporting dietary treatment and health education.

METHODOLOGY: Seventeen pregnant women diagnosed with GDM were recruited at the Santo António Local Health Unit, Porto. Participants used the NUTRIA mobile app, which consisted of the meal plan, glycaemia self-tracking, and educational content, to support self-care, for four weeks. Two semi-structured interviews were conducted after the second and fourth weeks of use. Interviews were audio-recorded, transcribed verbatim, and thematically analysed.

RESULTS: Participants reported that the NUTRIA app facilitated adherence to dietary treatment, by providing their prescribed meal plan. The meal plan feature was primarily used to clarify meal composition, including food types, portion sizes, and food equivalents, which was regarded as particularly helpful when eating out. Meal reminders were framed as a valuable feature for facilitating mealtime compliance. Participants reported they learned with the app about healthy eating principles (e.g., the Portuguese Mediterranean Wheel), adequate water intake, fish consumption recommendations during pregnancy, interpretation of food labels, strategies for GDM management, and lifestyle factors influencing glycaemia (e.g., physical activity, sleep). The inclusion of homemade measures and clear instructions for preparing food were also valued for streamlining daily routines. Educational content was especially useful for women with no previous knowledge or experience with diabetes, reinforcing their confidence in self-management.

CONCLUSIONS: The NUTRIA app supported dietary adherence and health education among women with GDM, underscoring its potential as a complementary tool in clinical nutrition interventions.

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C.O. VENCEDORES

PRÉMIO

Melhor Comunicação Oral

CO1 | WATER PROJECT: A ONE HEALTH ASSESSMENT OF UNTREATED WATER SOURCES IN RURAL NORTHERN PORTUGAL

MENÇÕES HONROSAS

Nutrição Comunitária e Saúde Pública

CO6 | THE TRAJECTORIES OF FREE SUGAR INTAKE AND ITS MAIN SOURCES DURING CHILDHOOD AND CARDIOMETABOLIC CLUSTERS AT 13 YEARS OF AGE

Nutrição Clínica

CO14 | ASSOCIATION OF FAT MASS ASSESSED BY DUAL ENERGY X-RAY ABSORPTIOMETRY WITH HANDGRIP STRENGTH – RESULTS FROM THE NUTRIFUNCTION PROJECT