muscle circumferences were calculated using Jelliffe equation. DEXA was used to assess total appendicular lean mass as well as regional right arm and leg lean mass. Linear regression models were used to estimate the association between each anthropometric indicator of muscle mass and total appendicular lean mass and with regional lean mass, stratified by sex and adjusted for age and height.

RESULTS: 67 adults (67.2% women, 18-63 years) were included in this analysis. Results are presented in standardised coefficients with 95% confidence intervals (β, 95%CI). All anthropometric measurements were associated with total appendicular lean mass, both in women (MAMC:0.60, 0.35-0.85; MUAG:0.55, 0.28-0.81; LMC:0.76, 0.54-0.98 and LG:0.67, 0.42-0.91) and in men (MAMC:0.87, 0.64-1.11; MUAG:0.90, 0.70-1.11; LMC:0.85, 0.53-1.17 and LG:0.87, 0.63-1.12). Considering single limbs, the strongest association was between LG and leg lean mass in men (0.86, 0.68-1.04), followed by LMC, also in men (0.79, 0.52-1.07). All other measurements had positive and significant association with DEXA derived total and regional lean mass measurements, except for MAMC and arm muscle mass in women.

CONCLUSIONS: These preliminary results reveal a stronger association between anthropometric indicators and total appendicular lean mass than for regional lean mass. Leg anthropometry indicators were the most consistent proxy of lean mass.

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CO22. URINARY LEVELS OF ESSENTIAL TRACE ELEMENTS IN PREGNANCY AND MATERNAL AND NEONATAL OUTCOMES: A PROSPECTIVE STUDY FROM THE IOMUM COHORT

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INTRODUCTION: Essential trace elements (ETEs) are cofactors of several enzymes, and inadequate levels of ETEs have been associated with poor pregnancy and neonatal outcomes.

OBJECTIVES: The aim of the present study was to characterize urinary levels of ETEs in Portuguese pregnant women and to study their association with maternal and neonatal health outcomes.

METHODOLOGY: This prospective study (trial registration #NCT04010708, ethical approval #292/17) was conducted at Porto and Lisbon regions, from April 2018 to December 2021. Pregnant women were invited to participate during routine 1st trimester ultrasound scan when they provided a random spot urine sample and sociodemographic and lifestyle data. Clinical data were provided by clinical records. Women with twin pregnancies, gestational age at recruitment < 10 or ≥ 14 weeks, and who didn't deliver urine samples were excluded.

RESULTS: Urinary Cobalt (Co), Copper (Cu), Manganese (Mn), Molybdenum (Mo) and Zinc (Zn) urinary levels were measured by inductively coupled plasma-mass spectrometry. The mean ± SD age at recruitment of the 614 pregnant women was 33 ± 5 years. The overall median (P25; P75) ETEs urinary concentrations were, in µg/L: Co, 0.31 (0.12-0.53); Cu, 11.20 (6.89-18.21); Mn, 1.70 (0.74-3.09); Mo, 38.54 (21.57-62.35); and Zn, 255.67 (145.86-455.75). Lower Mn urinary levels were associated with the occurrence of pregnancy complications, and Mn levels above the 50th percentile (> 1.70 µg/L) associated with increased risk of birth weight small for gestational age (SGA) (crude OR [95%CI] = 2.811 [1.155-6.841]; p = 0.023). Zn urinary levels below the 50th percentile (< 255.67 µg/L) associated with an increased risk of SGA birth head circumference (crude OR [95%CI] = 2.525 [1.015-6.232]; p = 0.046).

CONCLUSIONS: Our results reinforce the nutritive properties of ETEs during pregnancy while also highlighting that, depending on the concentration, some of the ETEs may present toxicity during this critical period of life.

CO23. COMPARAÇÃO DA OFERTA ALIMENTAR DO ALMOÇO EM CONTEXTO DE CRECHE COM AS RECOMENDAÇÕES PARA CRIANÇAS DOS 0 AOS 3 ANOS: RESULTADOS DO PROJETO CRECHE COM SABOR E SAÚDE – C2S

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INTRODUÇÃO: Os hábitos alimentares na infância são essenciais na modulação das preferências alimentares. Sendo a Creche o local onde as crianças passam a maioria do dia, torna-se relevante avaliar a sua oferta alimentar.

OBJETIVOS: Comparar a oferta alimentar do almoço em creche (0-3 anos), com as respetivas recomendações.

METODOLOGIA: Para quantificar os alimentos oferecidos ao almoço em 6 instituições envolvidas no projeto C2S, realizaram-se visitas, durante 5 dias consecutivos, na hora de almoço (outubro 2022-janeiro 2023). Para reduzir o viés associado à variação da capitação servida, cada componente da refeição foi pesada três vezes aleatoriamente (6-8, 9-11, 12-23 e 24-36 meses),

considerando-se a média obtida do peso (g) dos hortícolas, fruta, alimento fornecedor de hidratos de carbono e de proteína. Excluíram-se os pratos compostos. As recomendações para as capitações foram calculadas utilizando as recomendações nutricionais da EFSA e o Manual de Equivalentes Alimentares da APN. Estas recomendações foram, posteriormente, comparadas com as capitações oferecidas.

RESULTADOS: Analisaram-se 30 almoços diferentes. A quantidade de hortícolas no prato (12-23 meses: 9,4 g; 24-36 meses: 10,8 g) foi inferior à recomendação mínima de 20g a partir dos 12 meses. As quantidades de alimentos fornecedores de hidratos de carbono apresentaram-se sempre acima das recomendações, principalmente dos 12-23 meses (média oferecida de 62,2 g e orientação de aproximadamente 30g). As recomendações para os alimentos fornecedores de proteína foram cumpridas (9-11 meses: 14,2 g; 12-23 meses: 20,3 g; 24-36 meses: 23,9 g). As capitações oferecidas de fruta dos 6-8 meses (84,6 g) e dos 9-11 meses (133,3 g) apenas cumpririam as recomendações se esta fosse a única refeição diária. Dos 12-36 meses, as capitações médias (53,1 g e 46,6 g) cumpriam as recomendações.

CONCLUSÕES: As quantidades de alimentos oferecidas ao almoço nem sempre estavam de acordo com as recomendações, principalmente no que respeita aos hortícolas (por defeito) e ao alimento fornecedor de hidratos de carbono (por excesso).

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CO24. CHANGES IN ESSENTIAL TRACE ELEMENT LEVELS PRE- AND POST-HAEMODIALYSIS SESSION

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INTRODUCTION: Chronic kidney disease affects over 10% of the world's population and often requires renal replacement therapy, such as haemodialysis. Haemodialysis patients are at an increased risk of trace element imbalances, which may be due to factors such as inflammation, dietary restrictions, and losses during dialysis sessions.

OBJECTIVES: This study aimed to compare the serum concentration of essential trace elements in chronic haemodialysis patients pre- and post-haemodialysis session. Healthy individuals without evidence of renal impairment were used as a control group.

METHODOLOGY: Samples were collected during routine laboratory testing of patients on chronic haemodialysis. The concentration of trace elements Cu, Zn, Se and Mo was determined by ICP-MS.

RESULTS: After a haemodialysis session, the serum concentration of Cu, Zn and Se increased significantly ($p < 0.001$) by 44% 44%, and 38%, respectively, while Mo decreased by 54% ($p < 0.001$). Before the haemodialysis session, patients had significantly lower serum Cu, Zn and Se concentrations ($p < 0.001$) and a significantly higher serum Mo concentration ($p < 0.001$) compared to the control group. After the haemodialysis session, serum Zn and Se concentrations remained significantly lower ($p < 0.001$), while serum Cu and Mo concentrations were significantly higher ($p < 0.001$) than in the control group.

CONCLUSIONS: The haemodialysis process causes significant changes in the serum concentrations of some trace elements. During the haemodialysis session, Mo is extensively removed, while Cu, Zn and Se are concentrated. However, the observed increase in concentration is higher than what would be expected due to the simple effect of haemoconcentration. These findings suggest that other mechanisms (e.g., haemolysis) are also responsible for the increased serum concentrations of Cu, Zn and Se observed post-dialysis. More studies are needed to confirm these results.

CO25. ENERGY-ADJUSTED DIETARY INFLAMMATORY POTENTIAL OF CHILDREN AND ADOLESCENTS (IAN-AF 2015-2016): AN ALTERNATIVE APPROACH TO THE CHILDREN DIETARY INFLAMMATORY INDEX, BASED ON A NEW REFERENCE POPULATION

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INTRODUCTION: Low-grade inflammation is a pathological process where diet plays a significant role. The Children's Dietary Inflammatory Index has been used to estimate dietary inflammation in younger ages. However, it is limited to participants aged 6-14 years and excludes several food parameters (FP) with anti- or pro-inflammatory effects, such as flavonoids, n-3 & n-6 fatty acids, trans-fatty acids, caffeine, tea, onion and garlic.

OBJECTIVES: This study aimed to develop and describe a comprehensive tool to estimate the Dietary Inflammatory Score (DIS) among children and adolescents aged 3-17 years, accounting for 38 FP, including the abovementioned FP.

METHODOLOGY: DIS was estimated for 1073 participants (51.7% girls) from the National Food and Physical Activity Survey 2015-2016. The first step was calculating each FP's energy-adjusted intake z-score in our sample, using the energy-adjusted dietary intake means and standard deviations from a reference population within the same age range. The corresponding centered percentile was multiplied by each FP's inflammatory effect score (IES) to obtain the FP-specific DIS. Finally, the individual global DIS was calculated by the sum of all the FP-specific DIS.

Our reference population includes 30280 individuals, available on the Global Dietary Database, and IES were collected from the literature.

Mean and standard deviation (SD) were used to describe DIS. The association between DIS and sociodemographic factors and diet quality, measured through Healthy Eating Index (HEI), was assessed using linear regression analysis. Lower DIS relate to more anti-inflammatory effects.

RESULTS: The mean(±SD) DIS was 0.45±1.95, ranging between -4.71 and 5.38. Compared to children, adolescents had significantly higher DIS (β=0.87[95%CI:0.66;1.11]). Individuals in lower HEI quartiles (Q) showed significantly higher DIS: compared to Q4, Q1 was the most pro-inflammatory (β=2.29[95%CI:1.98;2.61]).

CONCLUSIONS: Our findings suggest that DIS is a promising open tool for estimating dietary inflammation among children and adolescents. Nonetheless, a full validation using low-grade inflammation biomarkers should be performed.

CO26. DEVELOPMENT OF A PHOTOGRAPH-BASED INSTRUMENT TO ASSESS NUTRITION LITERACY IN PORTUGUESE ADULTS

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