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## CO22: INTERMITTENT FASTING INFLUENCE ON BODY COMPOSITION AND METABOLIC PARAMETERS IN NORMOPONDERAL, OVERWEIGHT AND OBESE INDIVIDUALS

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**INTRODUCTION:** Intermittent fasting is defined as the energy restriction interspersed with periods of food intake and includes a set of feeding protocols in which the feeding time is restricted. The main types of fasting are: fasting on alternate days, altered fasting, restricted feeding time, and religious fasting.

**OBJECTIVES:** Systematize, compare and discuss the effect of intermittent fasting types on body composition and metabolic parameters in normoponderal, overweight or obese individuals.

**METHODOLOGY:** Integrative review of the literature through the research of clinical trials carried out in the last 5 years published in Pubmed, Scientific Repository of Open Access of Portugal, B-on, Research Gate, Science Direct and Mendeley, regarding the different types of fasting. We analyzed nine clinical trials evaluating the impact of fasting type on body composition and metabolic parameters.

**RESULTS:** Significant weight reductions ( $5.2 \pm 0.9$  to  $10.7 \pm 3$  kg) as well as in body fat ( $4.2 \pm 0.6$  to  $8.7 \pm 2.6$  kg) were observed in the altered fasting regime in obese populations. As for the abdominal perimeter, decreases of  $3 \pm 1$  to  $10.6 \pm 5$  cm were observed in obese and normoponderal subjects when undergoing an altered fasting regimen. A decrease ( $0.29 \pm 0.62$  at  $18 \pm 6$  mmol/l) in LDL cholesterol was observed, the most noticeable differences were observed in fasting associated with exercise.

**CONCLUSIONS:** Of the various types of fasting, the modified fasting regimen seems to have the most significant effects on body composition. Regarding metabolic parameters, intermittent fasting only has benefits in reducing LDL cholesterol. However, it's a recent topic that needs to be investigated and whose long-term effects are not fully known, therefore the adoption of this type of regime must be prudent.

## CO23: SOCIODEMOGRAPHIC AND LIFESTYLE CHARACTERISTICS RELATED WITH DISCREPANCIES BETWEEN GENERAL AND ABDOMINAL ADIPOSITY MEASURES WITHIN PORTUGUESE CHILDREN

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**INTRODUCTION:** Body Mass Index (BMI), Waist Circumference (WC) and Waist-to-Height Ratio (WHtR) are measures used to evaluate general and abdominal adiposity. Several studies in other countries report the relationships between anthropometric measurements and sociodemographic and lifestyle characteristics are related to obesity but more commonly focus on BMI and in the adult population.

**OBJECTIVES:** To evaluate the prevalence of general adiposity by BMI and of abdominal adiposity according to WC and WHtR in Portuguese children. To identify the sociodemographic and lifestyle characteristics related with the highest discrepancies between these 3 adiposity measures.

**METHODOLOGY:** Portuguese participants from the IAN-AF 2015-2016 survey included 578 children aged 3 to 9 years old. Anthropometric measures, sociodemographic and lifestyle characteristics were obtained. General adiposity was defined by BMI according to IOTF criteria. Abdominal adiposity was defined by  $WC \geq P90\%$  according to McCarthy, and by  $WHtR \geq 0.5$  according to Ashwell.

Estimates were weighted according to sampling design. Sociodemographic and lifestyle variables relationships with anthropometric measures were analysed through weighted UniANOVA.

**RESULTS:** According to BMI 20.7% children presented pre-obesity and 6.8% obesity, 33.1% had  $WC \geq P90\%$  and 35.9% had  $WHtR \geq 0.5$ . BMI showed a classification discrepancy of 17.1% with WC and of 28.2% with WHtR, respectively, a strong ( $r=0.789$ ;  $p<0.001$ ) and a moderate correlation ( $r=0.611$ ;  $p<0.001$ ). A moderate correlation between WC and WHtR was found ( $r=0.688$ ;  $p<0.001$ ), with 28.1% classification discrepancy. Larger discrepancies were found in children that were younger, living in Azores, male, sleeping more hours, had siblings, had parents with more education, and had less hours of screen time during the weekend.

**CONCLUSIONS:** Prevalence of abdominal adiposity was higher than general adiposity and there were discrepancies between BMI, WC and WHtR classifications related with sociodemographic and lifestyle characteristics.

## CO24: ASSOCIAÇÃO DO ÍNDICE DE QUALIDADE DA DIETA COM A INFLAMAÇÃO SISTÊMICA DE BAIXA INTENSIDADE E INFLUÊNCIA DA COMBINAÇÃO DE GENÓTIPOS SOBRE ESSA ASSOCIAÇÃO - ESTUDO DE BASE-POPULACIONAL

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**INTRODUÇÃO:** A inflamação sistêmica e de baixa intensidade está relacionada a desordens metabólicas, sendo o padrão alimentar considerado um fator de risco para a inflamação. Polimorfismos de nucleotídeo único (SNP) podem influenciar essa relação.

**OBJETIVOS:** Verificar a associação do índice de qualidade da dieta (IQD-R) e de SNP em genes relacionados à resposta inflamatória com um escore inflamatório, baseado na concentração plasmática de 11 biomarcadores inflamatórios em estudo de base populacional – Inquérito de Saúde da cidade de São Paulo (ISA-Capital).

**METODOLOGIA:** Todos os adultos (20 - 59 anos) participantes da etapa de coleta sangue do estudo transversal de base populacional, ISA-capital 2008-2010, foram incluídos ( $n=301$ ). Aqueles com concentração plasmática de proteína C reativa (PCR)  $> 10$  mg/dL foram excluídos ( $n=32$ ). Foram determinadas as concentrações plasmáticas de adiponectina, PCR, interleucina (IL)-1 $\beta$ , IL-6, IL-8, IL-10, fator de necrose tumoral- $\alpha$ , IL-12p70, proteína quimiotática de monócitos, molécula de adesão intercelular solúvel-1 e molécula de adesão celular vascular solúvel-1, os quais compõem o escore de inflamação. Foi realizada a genotipagem de 31 SNP relacionados aos genes *ADIPOQ*, *TLR4*, *IL1B*, *IL6*, *IL10*, *TNFA*, *MCP1* e *CRP* pelo sistema Taqman Open Array.

**RESULTADOS:** O IQD-R é inversamente associado ao escore de inflamação após ajuste por fatores de confusão clássicos. Os genótipos GA e GG para os SNP IL1B rs1143643 e SNP TLR4 rs5030728, respectivamente, foram associados a um maior escore de inflamação. Uma interação estatisticamente significativa foi encontrada de forma que indivíduos GA/GG (rs1143643/rs5030728) tem uma variação média no escore de inflamação de -6,12 ( $n=74$ ;  $p=0,014$ ) entre os extremos mais alto e mais baixo do IQD-R, enquanto indivíduos com outras combinações de genótipo tem uma variação média não significativa de -3,45 ( $n=194$ ;  $p=0,071$ ).

**CONCLUSÕES:** A qualidade da dieta é inversamente associada à inflamação sistêmica de baixa intensidade e isso é mais evidente em indivíduos GA/GG (rs1143643/rs5030728).