BOOK OF ABSTRACTS

Organização

U.PORTO

Apoio

INVESTIGAÇÃO JOVEM DA UNIVERSIDADE DO PORTO

YOUNG RESEARCHERS MEETING

U.PORTO

INVESTIGAÇÃO JOVEM DA UNIVERSIDADE DO PORTO

TÍTULO | *TITLE*

Livro de Resumos do 17.º Encontro de Investigação Jovem da U.Porto / *Book of Abstracts Young Researchers Meeting of U.Porto*

Universidade do Porto

Vice-Reitor para a investigação e Inovação

Professor Doutor Pedro Rodrigues

ijup@reit.up.pt

ISBN

978-989-746-378-5

Design

Serviço de Comunicação e Imagem da U.Porto

21784 | Exploring the Relationship Between 24-Hour Urinary Sodium Excretion and Body Fat Mass Percentage in School-Aged Children: Insights from the ARIA Study

Ana P. Soares[1]; Mónica Rodrigues[2,3]; Patrícia Padrão[1,2,3]; Carla Gonçalves[2,3,4]; André Moreira[1,2,3,5,6]; Pedro Moreira[1,2,3]

Faculty of Nutrition and Food Sciences of the University of Porto, Porto, Portugal[1]; Epidemiology Research Unit, Institute of Public Health, University of Porto, Porto, Portugal[2]; Laboratory for Integrative and Translational Research in Population Health, Institute of Public Health, University of Porto, Porto, Portugal[3]; CITAB—Centre for the Research and Technology of Agro-Environmental and Biological Sciences, University of Trás-os-Montes and Alto Douro, Vila Real, Portugal[4]; Basic and Clinical Immunology, Department of Pathology, Faculty of Medicine, University of Porto, Porto, Portugal[5]; Immuno-Allergology Department, Centro Hospitalar São João, Porto, Portugal[6]

Background & Aim: Childhood obesity is a complex public health problem responsible for a series of complications that contribute to increased morbidity and premature mortality. Increased sodium intake has been associated with obesity. Although some studies suggest a potential association, the evidence linking sodium intake to obesity, including body fat mass percentage (%), remains limited. Therefore, this study aims to verify whether there is an association between 24-hour urinary sodium excretion and body fat mass %, independent of total energy intake, in a sample of school-aged children from the ARIA 248-13 study. **Methods:** This cross-sectional analysis included 258 children aged between 7 and 12 years, enrolled in the 3rd and 4th year of 20 public schools across Porto, Portugal. Body fat mass % was assessed using Tanita™ BC-418 Segmental Body Analyzer. Children's total energy intake was estimated on Food Processor® software through a single 24-Hour Recall Questionnaire, and to estimate urinary sodium was used the "gold standard", 24-Hour urinary sodium excretion. The association between, our dependent variable, body fat mass % (>20.90%, median value), and our independent variable, 24-hour sodium excretion (>2507mg, median value), was estimated by binary logistic regression adjusted for sex, age, physical activity, total energy intake, and parental education. **Results:** There is a significant positive association between higher levels of sodium urinary excretion and higher values of body fat mass %, adjusted for previously referred confounders (aOR=2.26, IC95% 1.28-4.01). **Conclusions:** Our findings suggest that higher sodium intake is associated with a higher prevalence of body fat mass % among school-aged children, independent of total energy intake.

Keywords: Obesity, Children, Sodium, Energy Intake.

Acknowledgments

The authors gratefully acknowledge the funding by Fundação para a Ciência e Tecnologia through the Project NORTE-01-0145-FEDER-000010—Health, Comfort and Energy in the Built Environment (HEBE), cofinanced by Programa Operacional Regional do Norte (NORTE2020), through Fundo Europeu de Desenvolvimento Regional (FEDER) and EXALAR 21 project financed by FEDER/FNR and by Fundação para a Ciência e Tecnologia (EXALAR 21 02/SAICT/2017 —Project nº 30193).