Contribution ID: **59** Type: **Poster**

Double burden of malnutrition in Cuban preschool children. Obesity, anemia and iron deficiency

Introduction: Obesity is a cause invoked in iron deficiency and anemia in population; inflammation is one of the aspects related with both malnutrition forms. Non study were carried-out in Cuba exploring that aspects and preschool children is a mean risk groups of iron deficiency and anemia.

Objective: To assess nutritional status, iron deficiency, anemia and inflammation in Cuban preschool children

Materials and Methods: 1226 children of 3 Cuban Regions (Western, Central and Easter) 2015-2017. Weight, Height and Skinfolds were measure to calculate Weight/Height and adiposity and were evaluated by WHO standard. Anemia prevalence was evaluated by Hemoglobin quantification (ABX Micros 60), iron store depletion by ferritin, inflammation by C-reactive protein (CRP) and alfa-1 acid glycoprotein (AGP) by Immunoturbidimetric method. Soluble transferrin receptor (sTfR as iron tissue depletion) by ELISA.

Results:
Undernutrition was 1,1%, overweight 5,8% and obesity 2,2% (global overweight 8%). Adiposity by Tricipital skinfold +2DS was 5,5% and +3DS 1,4%; by Subscapular skinfold was slightly higher (+2DS was 7,3% and +3DS 1,6%). Anemia was 22,3% (17,6-27,1), no several cases were found. Iron store depletion adjusted by Thurnham factor was 34,4% (25,1-41,7), iron tissue depletion was 13,2% (5,0-21,5). Inflammation evaluated was high by CRP (>5mg/L) 12,3% (9,8-14,8) and by AGP (>1g/L) 34,3% (27,9-40,6). Overweight plus obesity was not a significative protector factor for anemia (OR=0,442 CI95%=0,173-1,128) and iron store depletion (OR=0,514 CI95%=0,229-1,154). No association was found between inflammation and overweight and obesity. Anemia was associated with iron store depletion (stratified by group of up to 2 year and 2-4 years old) ORMH=2,09 CI95%=1,49-2,93, iron tissue depletion ORMH=2,78 CI95%=1,81-4,28 and inflammation ORMH=1,61 CI95%=1,16-2,24.

Conclusions:
Undernutrition is not a public health problem. Overweight and obesity are not associated with anemia. Anemia was associated with iron deficiency and inflammation.

Country

Cuba

Institution

National Institute of Hygiene, Epidemiology and Microbiology

Author: Dr PITA-RODRÍGUEZ, Gisela María (National Institute of Hygiene, Epidemiology and Microbiology)

Co-authors: Prof. BASABE-TUERO, Beatriz (National Institute of Hygiene, Epidemiology and Microbiology); Mrs LLERA-ABREU, Elisa (National Institute of Hygiene, Epidemiology and Microbiology); Ms ALFONSO-SAGUÉ, Karen (National Institute of Hygiene, Epidemiology and Microbiology); Prof. DÍAZ-SÁNCHEZ, María Elena (National Institute of Hygiene, Epidemiology and Microbiology); Dr RODRÍGUEZ-MARTÍNEZ, Odalys (Programm Officer, UNICEF); Mr DÍAZ-ALFONSO, Yoandry (National Institute of Hygiene, Epidemiology and Microbiology)

Presenter: Dr PITA-RODRÍGUEZ, Gisela María (National Institute of Hygiene, Epidemiology and Microbiology)

Session Classification: Poster session 1

Track Classification: Epidemiology