Title: Active video game training benefits’ in asthmatic children: Pilot study

Body: Background: The benefits of aerobic training are well known at asthma. However, it is unknown whether active video games cause the same effects in asthmatic children. Aim: To evaluate the effects of ludic exercises through the active video game on the FeNO, functional capacity and pulmonary function in children with asthma. Method: Were evaluated and training nine stable asthmatic children mean age 7.83 (from 5 to 11 years). The training was performed with Xbox video game (Xbox 360 Kinetic™). Firstly, it was performed a 10-min warming-up on a treadmill (2km/h) followed by 10 matches of 3 min each of Kinect adventure game with an interval of 30 s between them (the Reflex Rigde game was achieved with increase intensity); twice a week, for 8 consecutive weeks. Pre and post training were assessed the FeNO, spirometry, treadmill exercise testing (TET) (Bruce protocol) and reported the Asthma Control Questionnaire (ACQ6). Results: The FeNO decreased from 41.4±19.5 ppb to 23.8±11.0 ppb (p=0.01). There was an improvement in the FEV1(%) (from 71±14 to 88.3±19.54; p=0.05); in the walking distance in the TET (from 534.4±130.7m to 647.7±112.2m; p=0.008); and in the disease control verified by the ACQ6 (from 10.2±9.0 to 1.8±2.4; p=0.01). Conclusion: The training with active video game appears to be an effective option of aerobic training in asthmatic children. Clinicaltrials.com - NCT01438294.