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The Importance Of Bouts Of Physical Activity For Type 2 Diabetes Prevalence (Abs No. 611)

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Abstracts

Purpose: The World Health Organization (WHO) suggest that people at least 65 year old should perform 150 min physical activity (PA) per week in bouts of at least 10 minutes. The guidelines are predominantly based on studies with self-reported PA. We evaluated objective measures of PA on T2D prevalence and the WHO guidelines.

Methods: During 2012-2015, a total of 1872 (49% women) individuals, all 70 year old were included in a cross sectional study investigating risk factors for non-communicable diseases; the Healthy Ageing Initiative. Objective measures of PA was attained from accelerometers, worn for one week. T2D was defined by a fasting glucose of ≥7.0 mmol/L or a prior T2D diagnosis.
Results: Based on objectively measured PA, 39% of the studied population reached the minimum requirements for PA as stated by the WHO. Using logistic regression, the odds ratio (OR) for T2D when achieving the WHO recommendations was 0.94 (CI 0.68-1.30). By removing the 10 minute bout prerequisite, the OR decreased to 0.61 (CI 0.45-0.84). Using a cutoff value of 6 000 steps a day further lowered the OR to 0.51 (CI 0.37-0.70), for T2D after adjusting for sex, smoking and amount of visceral fat. Additionally, individuals with no T2D had significantly higher step count as compared with diabetics diagnosed in the study ($p<0.05$) and prior known T2D diagnosis ($p<0.001$).

Conclusions: In our investigated cohort, adhering to the WHO guidelines of PA did not reduce the risk for T2D. By discarding the requirement of at least 10 min of consecutive PA, the relative risk was significantly lowered, while the cutoff level of 6 000 steps a day presented the highest risk reduction, demonstrating that every step counts. Notably, individuals with known diabetes had the lowest PA level.

Keywords: Physical activity recommendations, Type 2 diabetes mellitus, Objective meassures of physical activity
Sub-Theme: Physical Activity, Sedentary Surveillance and Epidemiology