¿CUÁL ES EL MEJOR UMBRAL DE PASOS PARA ALCANZAR LAS RECOMENDACIONES DIARIAS DE ACTIVIDAD FÍSICA?

WHICH IS THE BEST STEP-BASED THRESHOLD TO ACHIEVE THE DAILY PHYSICAL ACTIVITY RECOMMENDATIONS?

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RESUMEN
El objetivo del estudio fue comparar la precisión de los umbrales de pasos diarios previamente establecidos (validación cruzada) asociados al cumplimiento de las recomendaciones de actividad física moderada-vigorosa en adolescentes. Una muestra de 85 estudiantes de Educación Secundaria Obligatoria y Bachillerato (29 varones y 56 mujeres) de 12-18 años participaron en el presente estudio. Los niveles diarios de actividad física moderada-vigorosa y pasos se midieron objetivamente mediante acelerómetros. Los resultados de precisión de las recomendaciones de pasos diarios de estudios previos asociados al cumplimiento de los 60 minutos de actividad física moderada-vigorosa en adolescentes variaron de moderada a alta: Alcanzar al menos entre 9.701-11.500 (varones)/9.000-9.701 (mujeres) pasos diarios parece ser lo más apropiado para el cumplimiento de las recomendaciones de actividad física en adolescentes.

PALABRAS CLAVE: pasos/día, puntos de corte, adolescentes, actividad física moderada-vigorosa, validación cruzada, jóvenes.

ABSTRACT
The purpose of the study was to compare the accuracy of the previously established steps thresholds (cross validation) associated with the recommended 60 minutes of moderate-to-vigorous physical activity in adolescents. A sample of 85 high-school and bachelor students (29 boys and 56 girls) aged 12-18 years old participated in the present study. Daily moderate-to-vigorous physical activity levels and steps were measured objectively accelerometers. Each participant wore an accelerometer placed on the right hip for a full day. The accuracy results of the previously established daily step-based thresholds related to achieving at least 60 minutes per day of moderate-to-vigorous physical activity in adolescents ranged from moderate to high. Achieving at least between 9,701-11,500 (males)/9,000-9,701 (females) steps per day seems to be the most appropriate for compliance with daily physical activity recommendations in adolescents.

KEYWORDS: steps/ day, cut-off points, adolescents, moderate-to-vigorous physical activity, cross-validation, youth.
Daily step-based recommendations are gaining credibility as an indicator of physical activity during the last years\(^1\). However, studies focused on establishing daily step-based recommendations are inconsistent, varying from 7,500 to 14,000 steps per day\(^2\)\(^3\)\(^4\)\(^5\)\(^6\)\(^7\)\(^8\). Consequently, the purpose of the study was to compare the accuracy of the previously established steps thresholds (cross validation) associated with the recommended 60 minutes of moderate-to-vigorous physical activity in adolescents.

2. MATERIAL AND METHODS

A sample of 85 high-school and bachelor students (29 boys and 56 girls) aged 12-18 years old participated in the present study. Daily moderate-to-vigorous physical activity levels and steps were measured objectively by GT3X + accelerometers (ActiGraph, LLC, Pensacola, FL, USA). Each participant wore an accelerometer placed on the right hip for a full day.

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3. RESULTS

The accuracy results of the previously established daily step-based thresholds related to achieving at least 60 minutes per day of moderate-to-vigorous physical activity in adolescents ranged from moderate to high: 9,930 ($P = 0.81; k = 0.59$), 11,714 ($P = 0.76; k = 0.44$), 12,000 ($P = 0.76; k = 0.44$), 11,000/10,500 ($P = 0.79; k = 0.52$), 14,000/11,500 ($P = 0.76; k = 0.44$), 13,000/12,000 ($P = 0.75; k = 0.41$), 8,500/7,500 ($P = 0.81; k = 0.63$), 11,500/9,000 ($P = 0.84; k = 0.65$), 10,500/9,500 ($P = 0.84; k = 0.65$), 12,118 ($P = 0.76; k = 0.44$), 12,118/12,605 ($P = 0.74; k = 0.38$), 9,701 ($P = 0.84; k = 0.65$) y 10,000 ($P = 0.80; k = 0.56$).

4. DISCUSSION AND CONCLUSIONS

The cut-off points (males/ females) 11,500/ 9,000, 10,500/9,500 and 9,701 steps per day showed the best results ($P = 0.84, k = 0.65$). Achieving at least between 9,701-11,500 (males)/9,000-9,701 (females) steps per day seems to be the most appropriate for compliance with daily physical activity recommendations in adolescents.

REFERENCES


