GT1M, GT3X and ActiTrainer counts comparison during standardized activities in young, adults and older adults [Comparación de los actígrafos GT1M, GT3X y Actitrainer durante diversas actividades estandarizadas en jóvenes, adultos y adultos mayores]

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Objective: The present study aims to compare the vertical counts registered by GT1M, GT3X and ActiTrainer. Methods: Treadmill activities, repeated sit-stands and rest were completed by 31 young, 31 adults and 35 older adults while wearing the accelerometers (GT1M, GT3X and ActiTrainer) on their right hips. Independent sample t-test analyses were performed to determine differences between counts in each age group and activities along with the Bland & Altman analysis to determine the degree of agreement. In order to determine the correction factor for the ActiTrainer counts, the linear regression forward analysis was used to minimize differences with the GT3X and the GT1M counts. Results: Differences among ActiTrainer, GT1M, and GT3X were revealed in all activities except in rest. The counts for ActiTrainer were significantly lower than those of GT3X and GT1M. The correction factor for ActiTrainer with GT1M (GT1M counts = 3185.564 + 649.647; *ActiTrainer counts - 36.163; *weight [kg] - 7.545 *age [years] r = 0.864; r2 = 0.746; r2 corrected = 0.745; SEE = 1451) and GT3X (GT3X counts = 3501.977 + 705.662 *ActiTrainer counts - 40.523 *weight [kg] - 11.864 *age [years] r = 0.901; r2 = 0.812; r2 corrected = 0.811; SEE = 310.160) reduced these differences. Conclusion: The GT1M and GT3X vertical counts may be compared. However, a correction factor to decrease differences to compare ActiTrainer counts with those of GT1M or GT3X counts must be applied.

Accelerometer

Accelerometry

Activity monitor

Counts