

Single dose of ADHD drug can reduce fall risk in older adults

July 17 2013

Ben-Gurion University of the Negev (BGU) researchers have discovered that a single dose of methylphenidate (MPH), used to treat Attention Deficit Hyperactivity Disorder (ADHD) and narcolepsy, helps to improve balance control during walking, hence reducing the risk of falls among elderly adults.

Falls in older adults are the leading cause of hip fractures and other injury-related visits to emergency rooms and of accidental death. Age-related deterioration in gait and balance is a major contributor to falls in older adults.

According to a study published in *The Journals of Gerontology*, the BGU researchers found that a single dose of MPH improves walking by reducing the number of step errors and the step error rate in both single and dual tasks.

"Our results add to a growing body of evidence showing that MPH may have a role as a [therapeutic option](#) for improving gait and reducing fall risk in older adults," said Itshak Melzer of BGU's Schwartz Movement Analysis and Rehabilitation Laboratory, Department of Physical Therapy, Faculty of Health Sciences.

"This is especially true in real-life situations, where the requirement to walk commonly occurs under more complicated, 'dual task' circumstances with cognitive attention focused elsewhere (e.g., watching traffic, talking) and not on performing a specific motor task."

The study participants were 30 healthy older adults who were at least 70 years-old and had the ability to walk 70 feet (20 meters) without personal assistance or an assistive device. The participants were given a single dose (10 mg.) of MPH and were assessed under four task conditions of single and combined motor and [cognitive tasks](#).

"The enhanced attention that comes about as a result of MPH may lead to improved balance control during walking, especially in dual task conditions," Meltzer explains.

"Our findings that MPH improves gait can be explained not just by its effect of attentional improvements, but also by indications that it has a direct influence on areas of the brain that deal with motor and balance control."

Provided by American Associates, Ben-Gurion University of the Negev

Citation: Single dose of ADHD drug can reduce fall risk in older adults (2013, July 17) retrieved 24 April 2024 from <https://medicalxpress.com/news/2013-07-dose-adhd-drug-fall-older.html>

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