

POSTER PRESENTATIONS

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Exploring the Interplay between Physical Activity, Gait Speed, and Balance in Community-Dwelling Older Adults: A Pathway to Active and Independent Aging

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ABSTRACT

Background and Objectives: This study explored the relationships between physical activity, gait speed, and balance in community-dwelling older adults aged 60 and above in Selangor, Malaysia. **Methods:** A cross-sectional design assessed 95 participants using the Physical Activity Scale for the Elderly (PASE), 4-Meter Walking Test (4MWT), and Timed Up and Go test to measure physical activity, gait speed, and balance or fall risk respectively. Demographic data and anthropometrics were collected. Pearson's correlation analysis determined the associations. **Results:** A significant negative correlations between higher physical activity levels, and better balance performance where more physically active older adults exhibited superior balance ($r=-0.499$, $p<0.001$) while a significant positive correlation between gait speeds and balance performance where faster gait speeds show better balance ($r=0.868$, $p<0.001$). Similarly, PASE score over 125 and gait speeds over 0.8 m/s demonstrated enhanced balance compared to those under 125 and 0.8 m/s ($p<0.05$). **Conclusion:** Higher physical activity levels and faster gait speeds were strongly associated with better balance performance. Interventions promoting active lifestyles, improving gait ability, and incorporating balance training may optimize physical function and independence in this population. Assessing gait speed could serve as a practical screening tool for mobility limitations and fall risk in community settings. By targeting modifiable factors like physical activity and gait speed, strategies can be developed to reduce falls and functional decline, ultimately enhancing quality of life for older adults aging in the community.

Keywords: Aging; Balance; Risk of Falls; Gait speed; Physical activity

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