

S22-1: From Screening to Strength – How the STEADI Algorithm and vAdBeCeDa Movement Programme Can Prevent Falls in Older Adults

Tjaša Knific¹, Alena Berends²

¹ National Institute of Public Health, Ljubljana, Slovenia

² Ivančna Gorica Health Centre, Ivančna Gorica, Slovenia

Purpose: This study evaluates the integration of the CDC's STEADI algorithm into Slovenia's primary healthcare system, combined with the vAdBeCeDa movement programme, to address the growing incidence of falls among adults aged 65 and over. The main aim is to assess whether this combined approach can effectively reduce fall risk and improve vitality and independence in older adults, offering an innovative, systematic application of a proven fall-prevention algorithm alongside a physical activity intervention.

Methods: This quantitative, mixed-methods study used an implementation design to integrate the STEADI algorithm within Slovenia's Integrated Prevention Strategies, delivered via Health Promotion Centres (HPCs) and community health nursing. Participants were screened using the STEADI 3-Question (3KQ) and 12-Question (12KQ) assessments, Timed Up and Go (TUG) test, and home safety checklists. At-risk individuals were referred to the vAdBeCeDa programme, targeting strength, balance, and mobility improvements. Data were collected through two clinical studies: 1) A validation study assessing the reliability and predictive value of the 3KQ screening tool, and 2) An effectiveness study measuring functional outcomes after the vAdBeCeDa intervention. Statistical analyses assessed screening reliability, participant characteristics, and intervention outcomes.

Results: The STEADI 3KQ demonstrated high sensitivity (88.1%–100%) and moderate specificity (53.4%–81.8%) for detecting fall risk. Its weak but significant correlation with the TUG test ($\rho = 0.391$, $p = 0.0006$) and superior ROC performance ($p = 0.001$) support its reliability (Berends et al., 2024). The vAdBeCeDa programme led to an 18.8% reduction in errors on the BESS test, showing significant improvements in balance and postural control among participants (Tomažin et al., 2024).

Conclusions: The integration of fall screening and physical activity strategies has proven effective in preventing falls and enhancing functional fitness in older adults. This approach provides a scalable, cost-effective model for other countries aiming to strengthen active ageing policies and geriatric care services.

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Keywords: Falls prevention, older adults, physical activity, screening, health promotion

