Falls Prevention Among the Elderly

Opportunity Snapshot

As part of our effort to investigate and fund impactful research on critical patient-centered health questions, we are turning to you, the public to provide us with information on which questions are of personal importance regarding falls prevention in the elderly. We would like your input on which questions in this topic are unanswered, which treatments should be compared, and which are the most important patient-centered outcomes that need to be addressed. Our objective in asking for your input is to collect information on critical gaps in knowledge that will contribute to enabling patients who are affected by falls to overcome barriers to improved healthcare outcomes.

Overview

Older persons are living long and longer independently. A significant risk factor to less independent living is falls among the elderly. Those who have previously fallen or suffered a hip fracture have a significant risk of falling again. Clinicians can assess a patient's risk factors that may lead to a dangerous fall, including the current level of physical activity, prior history of falls, vision and balance screening. Even after improving the living environment, there remain questions about how to best prevent falls through multi-component strategies. Some strategies include safety assessment in the home environment, strength and balance training, and improved vision interventions. Patients, caregivers, and clinicians want to be able to avoid falls and fractures and improve patient risk factors, but there is uncertainty about the best prevention strategies for this group. It is unclear whether certain prevention strategies are more effective than others, and whether there needs to be additional community-level outreach. Patients, their caregivers, their doctors, and other stakeholders need more information on the effects of various prevention interventions. Strong evidence-based studies on treatment plans can guide patients and their caregivers to make decisions that will maximize the impact of their treatment choices and health outcomes.

Research Areas of Interest

We have identified the following specific topic areas for falls prevention in the elderly as an area of potential research funding:

- Questions that compare prevention strategies to improve patient-centered outcomes for fall prevention, including exercise and balance training.
- Questions that identify and compare promising strategies such as exercise among older adults at varying degrees of risk.
- Questions that compare strategies to overcome patient-, provider-, or system-level barriers (e.g., language, culture, transportation, homelessness, unemployment, lack of family/caregiver support) that may additionally reduce falls and improve patient-centered outcomes. Strategies may focus on different segments of at-risk populations, such as hospital inpatients, residents of nursing homes and older people with osteopenia and osteoporosis.

Please let us know if we are on the right track. Submit your questions on falls prevention and help us define which critical questions in this topic area should be further explored.

Background

Adults 65 years or older who have previously fallen or suffered a hip fracture have a higher risk of falling again. Falls in older adults may be linked to injury or even fatality, but research suggests that the risk of falls may be reduced or even preventable. Doctors can assess a patient's risk factors that may lead to a dangerous fall, such as level of physical activity and prior history of falls or previous fractures. From this assessment, patients with varying degrees of risk receive individualized plans aimed to lower their susceptibility to falls. This may include a combination of different types of exercises such as balance, strength, endurance, and physical therapy, as well as vitamin D supplementation and environmental safety precautions.

Although studies suggest exercise therapies and vitamin D supplementation may improve health and reduce the risk of falling, it is unknown which combination of treatments is most effective and which patients would benefit most. A comparison between the effectiveness of exercise therapies and other clinical treatments in older adults may help doctors recommend preventative measures and targeted treatment for patients who have a history or a high risk of falling.

Additionally, between 30 to 40% of community dwelling persons 65 years and older fall at least once per year. Falls represent the leading cause of fatal and nonfatal injuries among persons 65 years or older.[1] With the aging demographics, some have estimated that the direct medical costs for fatal and nonfatal fall-related injuries among community-dwelling persons 65 years and older could reach $55 billion by 2020.[2] Despite these statistics, some falls among older persons are preventable. Previous work has established an evidence-based practice guideline recommending that older adults at high risk for falls receive a multifactorial fall-risk assessment and individualized, targeted interventions to address the risks and deficiencies identified in the assessment.[3] With these guidelines in place, healthcare providers have tools to address this problem, yet significant barriers remain in intervening to prevent falls, including lack of awareness and appropriate knowledge, competing risks, and difficulty assessing risk.[4]

Other researchers have established that these interventions are effective, but the optimal regimens, frequency and duration of prevention strategies remain understudied. Additional research is needed to confirm the context in which multifactorial assessment and intervention, home safety interventions, vitamin D supplementation, and other interventions are effective. For example, a Cochrane review of 111 trials (55,303 participants) concluded that multicomponent exercise, individually prescribed multiple-component home-based exercise, and Tai Chi resulted in reduced rates of falls, but it is unclear which patients would benefit most.[5]

Additional evidence underpinning the U.S. Preventive Services Task Force recommendations regarding fall prevention in older adults comes from time-limited, randomized, controlled trials involving heterogeneous populations that participated in different combinations of balance, strength, endurance, or general exercise programs in various settings under the supervision of diverse groups of experts (e.g., physical therapists, nurses, and exercise physiologists).[6] The trials provide general guidance but no details as to how to construct or conduct a clinical exercise program.[7] PCORI views these gaps in falls prevention research as an area where we can contribute to improving health outcomes.

Example Questions

- The following research questions are meant as examples of the types of questions we are interested in exploring. The list is by no means exhaustive. If identifying at-risk patients is part of a promising fall reduction strategy, which risk characteristics are most critical to identify?
- How does the availability of community-based exercise programs compare to other strategies? Under what circumstances are patient-led exercise therapies more effective than provider-monitored exercise programs?
- What are the most effective prevention strategies that include outreach and multi-component prevention?
- How do different components of exercise and balance training compare regarding fall prevention and patient-centered outcomes?
- Given that effective interventions to improve fall prevention often require a multipronged approach, under what circumstances do different options for interventions work best to improve patient-centered outcomes?

Do you have additional questions about falls prevention in the elderly that you would like to see answered? We look forward to receiving your input. Please post your questions about falls prevention here:

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