According to the CDC, falls are the leading cause of nonfatal injuries, and hospital admissions for trauma in the 65+ populations.[1] Some of the most common injuries from falls are lacerations, head trauma along with TBI's, and fractures of the hip, spine, forearm, pelvis, and ankle.[1] These injuries often result in hospital admissions that frequently turn into extended long-term stays at skilled nursing care facilities.[1] Falls also cause a loss of confidence and fear of falling that limits normal activity, which decreases social activities and overall health, while increasing the risk of depression.[1] Thus, falls have several outcomes that are not conducive to the general wellbeing of older adults and they lead to an increased expenditure of healthcare dollars.[1] Therefore the need to identify effective interventions that reduce the rate of falls, the risk of falling, and their associated injuries is paramount in decreasing overall costs, poorer outcomes as well as quality of life. Two interventions that have grown in popularity are group exercise programs and multifactorial programs. Group programs can include one or more of the following strength, balance, flexibility, endurance training, or Tai Chi.[2-3, 7-11] Multifactorial programs often include common exercises as well as fall prevention education, home safety assessments, or medicine reviews.[4-6] The purpose of this review is to compare and contrast group exercise programs and multifactorial programs that target community dwelling older adults, and identify which interventions are most effective at decreasing fall risks.

After reviewing the literature, the most effective intervention for reducing fall risks includes a combination of strength, balance, and endurance training that are progressive.[2-11] It is also clear that higher session frequency (2-3x/wk), and longer program duration (>6-8mths) will decrease risks the most.[6, 9-10] The multifactorial approach shows that it is able to reduce fall risks, however the groups that included exercise had the best results.[4-6] Therefore, the effectiveness of education, home safety, and medicine reviews at reducing fall risks are minimal to moderate. It is not clear what subjects were educated on in most studies, however one study reports that education on general health related topics resulted in better lifestyle changes that decreased risks of falls and depression.[2] Functional exercise is another intervention that is thought to improve confidence and decrease fear of falling, however there is limited evidence.[7, 9] Tai Chi has also been shown to improve confidence and decrease fear of falling, however two studies report that there is a delayed effect on fall risks due to a learning curve.[2, 10-11] There is moderate evidence that suggests tai chi is not as beneficial in the older, frail, less educated, and less familiar populations.[2, 11]

When applying the results of this review to the clinic, it is clear that a 2-3x/wk for >6mth program that is progressive and focus' on strength, balance and endurance, will produce the best results.[2-11] The education component of the multifactorial approach can promote positive lifestyle changes as well as decrease fall risks.[2, 4-6] Several studies suggest that these programs are sustainable given that the clinic already has available space, equipment, and staff to maintain it.[3-5] One of the biggest concerns for the effectiveness of these programs is attendance.[2,5] Therefore a clinician will need to address transportation issues, location proximity, and clinic access to improve attendance, which should improve outcomes. Another aspect clinicians should consider, is that interventions should be recommended per individual interests and preferences, because it can increase adherence. For instance, tai chi is best suited for older adults that are more active, educated, and familiar with the movements and positions of tai chi.[2, 10-11] Creating a positive social interaction in the group is another important aspect in patient adherence.[5] Finally, when recording change, secondary measures such as TUG, FES, 30sec sit-to-stand, gait speed, and QOL/depression scales were the most used.[2-11] These measures are inexpensive, reliable, responsive, and easy to implement.[2-11]

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