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Congress on  
Sport Sciences

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# CERTIFICATE

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This is to certify that the manuscript entitled

"Impact of Core Strengthening Exercise Program on Balance, Functional Ability, Physical Activity Levels, Fear of Falling, and Risk of Falls in Healthy Older Women: Study Protocol for a Randomized Control Trial"

has been accepted as the **oral** presentation by

**Behnaz Shahtahmassebi**

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## گواهی پذیرش مقاله برای ارائه شفاهی

بدین وسیله گواهی می‌شود مقاله زیر برای ارائه شفاهی در چهاردهمین همایش بین‌المللی علوم ورزشی پذیرفته شده است.

عنوان: Impact of Core Strengthening Exercise Program on Balance, Functional Ability, Physical Activity Levels, Fear of Falling, and Risk of Falls in Healthy Older Women: Study Protocol for a Randomized Control Trial

کد مقاله: 2041-SSRC

نویسندگان: J. Jeffrey, Ahmad Ebrahimi Atri, Behnaz Shahtahmassebi, Fatemeh Sadat Darroudi, Hebert, Sedigheh Kamali

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دبیر علمی چهاردهمین همایش بین‌المللی علوم ورزشی



# Impact of Core Strengthening Exercise Program on Balance, Functional Ability, Physical Activity Levels, Fear of Falling, and Risk of Falls in Healthy Older Women: Study Protocol for a Randomized Control Trial

پذیرفته شده برای ارائه شفاهی

شناسه دیجیتال (DOI): 10.22089/SSRC.2024.4852

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نویسندگان

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نوع پذیرش

پذیرفته شده برای ارائه شفاهی (115)

پذیرفته شده برای پوستر (756)

موضوعات

Sports Biomechanics • (1)

جستجو

بیاب

جستجوی پیشرفته

## چکیده

### Background

Aging is closely linked to the gradual decline of the body's functional systems. This decline contributes to impaired balance, reduced functional ability, decreased physical activity levels, increased susceptibility to falls, and early mortality in older adults. Consequently, enhancing fall prevention strategies becomes a crucial healthcare focus for promoting and maintaining an active lifestyle among older adults. Current research emphasizes that core muscles play a crucial role in improving muscle size, and strength, and thereby significantly contributing to the reduction or prevention of the fear of falling and the risk of falls. While core muscle strengthening exercises are recently recommended in older populations, there is a need for further investigation into the impact of core muscle strengthening exercise program on balance, functional ability, physical activity levels, fear of falling, and the risk of falls in older adults.

### Aim

This study aims to investigate the impact of core strengthening exercise program on balance, functional ability, physical activity levels, fear of falling, and risk of falls in healthy older women.

### Method

Using a single-blinded parallel-group randomized controlled trial design, 60 older adults ( $\geq 60$  years) will be randomly allocated to a 12-week exercise program comprising walking and balance exercises with or without core muscle strengthening exercises (30 per group). Balance (Berg Balance Scale), functional ability (The Functional Movement Screen), physical activity levels (International Physical Activity Questionnaire), fear of falling (Falls Efficacy Scale-International), and the risk of falls (Falls Risk Assessment Tool) will be considered as the primary outcome measures. All outcome measures will be administered at baseline, week 6, and week 12. Following the intention-to-treat principle, linear mixed models will be applied to estimate values for missing data based on the available scores, ensuring the inclusion of all participants in the analyses.

### Discussion

The trial is anticipated to provide further support for the significant role of core strengthening in mitigating or preventing the risk of falls. The expected outcomes highlight the effectiveness of the comprehensive core muscle strengthening exercise program in enhancing balance, improving functional abilities, alleviating the fear of falling, and minimizing the overall risk of falling in healthy elderly women.

کلیدواژه ها به انگلیسی

: Aging and Elderly and Falls and Fear of Falling and Mobility and Trunk Muscles

|                        |  |
|------------------------|--|
| کد مقاله               | 2041-SSRC  |
| عنوان مقاله            | Impact of Core Strengthening Exercise Program on Balance, Functional Ability, Physical Activity Levels, Fear of Falling, and Risk of Falls in Healthy Older Women: Study Protocol for a Randomized Control Trial   |
| موضوعات                | • Sport Injury and Corrective Exercise   |
| چکیده                  | <p><b>Background</b></p> <p>Aging is closely linked to the gradual decline of the body's functional systems. This decline contributes to impaired balance, reduced functional ability, decreased physical activity levels, increased susceptibility to falls, and early mortality in older adults. Consequently, enhancing fall prevention strategies becomes a crucial healthcare focus for promoting and maintaining an active lifestyle among older adults. Current research emphasizes that core muscles play a crucial role in improving muscle size, and strength and thereby significantly contributing to the reduction or prevention of the fear of falling and the risk of falls. While core muscle strengthening exercises are recently recommended in older populations, there is a need for further investigation into the impact of core muscle strengthening exercise program on balance, functional ability, physical activity levels, fear of falling, and the risk of falls in older adults.</p> <p><b>Aim</b></p> <p>This study aims to investigate the impact of core strengthening exercise program on balance, functional ability, physical activity levels, fear of falling, and risk of falls in healthy older women.</p> <p><b>Method</b></p> <p>Using a single-blinded parallel-group randomized controlled trial design, 60 older adults (≥60 years) will be randomly allocated to a 12-week exercise program comprising walking and balance exercises with or without core muscle strengthening exercises (30 per group). Balance (Berg Balance Scale), functional ability (The Functional Movement Screen), physical activity levels (International Physical Activity Questionnaire), fear of falling (Falls Efficacy Scale-International), and the risk of falls (Falls Risk Assessment Tool) will be considered as the primary outcome measures. All outcome measures will be administered at baseline, week 6, and week 12. Following the intention-to-treat principle, linear mixed models will be applied to estimate values for missing data based on the available scores, ensuring the inclusion of all participants in the analyses.</p> <p><b>Discussion</b></p> <p>The trial is anticipated to provide further support for the significant role of core strengthening in mitigating or preventing the risk of falls. The expected outcomes highlight the effectiveness of the comprehensive core muscle strengthening exercise program in enhancing balance, improving functional abilities, alleviating the fear of falling, and minimizing the overall risk of falling in healthy elderly women.</p> |
| کلیدواژه‌ها به انگلیسی | "Aging"; "Elderly"; "Fall"; "Fear of Falling"; "Mobility"; "Trunk Muscles"   |
| توضیحات                |  |
| چک لیست                | <p>📄 چکیده مقاله فقط به زبان انگلیسی تهیه و ثبت شده است</p> <p>📄 مشخصات نگارندگان را در پرونده به صورت کامل و به صورت انگلیسی ثبت شده و ترتیب نام نویسندگان رعایت شده است.</p> <p>📄 چکیده ارسال شده در هیچگونه همایش دیگری ارسال نشده است</p> <p>📄 دبیرفغان و نویسندگان مقاله از این ارسال مطلع بوده و تعارض منافع نداریم</p> <p>📄 تمایل داریم در ششمین جایزه بین‌المللی پژوهشگر جوان شرکت کنیم (ضروری است اطلاعات و مستندات را از بخش شرکت در جایزه ارسال نمایید)</p>   |
| توضیحات دبیر علمی      | <p>ضمن عرض تبریک به عزیزی که مقاله یا مقالات آنها پذیرفته شده، خواهشمند است با مراجعه به صفحه اول همایش به آدرس <a href="https://14thcong.ssric.ac.ir/">https://14thcong.ssric.ac.ir/</a> و مطالعه دقیق فرمت تهیه پوستر یا سخنرانی کمیته اجرایی را جهت برگزاری هر چه بهتر این همایش یاری فرمایید. پیشاپیش از همکاری شما کمال امتنان و تشکر را داریم.</p>   |
| وضعیت                  | چکیده برای ارائه شفاهی پذیرفته شده است   |
| تاریخ ارسال            | 1402-11-16 05:11:09  |
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پذیرفته شده برای ارائه شفاهی

شناسه دیجیتال (DOI): [10.22089/ssrc.2024.4852](https://doi.org/10.22089/ssrc.2024.4852)

کد مقاله: 2041-SSRC

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چکیده

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کلیدواژه ها به انگلیسی

" [Aging](#) & " [Elderly](#) & " [Fall](#) & " [Fear of Falling](#) & " [Mobility](#) & " [Trunk Muscles](#) & "