A functional task exercise programme was better than a resistance exercise programme in elderly women


Clinical impact ratings GP/FP/Primary care: 6/6/6; Geriatrics: 6/6/6; Physical medicine & rehabilitation: 6/6/6

Q: In elderly community dwelling women, is a functional task exercise programme (FTP) better than a resistance exercise programme (REP) for improving activities of daily living?

METHODS

Design: randomised controlled trial.

Allocation: (allocation concealed)†

Blinding: blinded (data collectors) *

Follow up period: 12 weeks.

Setting: community leisure centre in Utrecht, the Netherlands.

Patients: 98 elderly women >70 years of age (mean age 74 y) who were medically fit to participate in an exercise programme. Exclusion criteria included recent fractures, unstable cardiovascular or metabolic diseases, and musculoskeletal disease or other chronic illness that might limit training or testing.

Intervention: (i) FTP (core exercises done for >2 of 4 domains (moving with a vertical or horizontal component, carrying an object, and changing between lying-sitting-standing position) in 3 sessions of 5–10 repetitions) (n = 33), (ii) REP (exercises to strengthen the muscle groups that are important for daily task performance in 3 sets of 10 repetitions) (n = 34), or (iii) control (normal pattern of activity) (n = 31). Exercises were done 3 times/week (1 h sessions).

Outcomes: functional performance (Assessment of Daily Activity Performance (ADAP)), Timed Up and Go (TUG), and muscle function (isometric knee extensor strength [IKEs], isometric elbow flexor strength [IEFs], handgrip strength [HGS], and leg extension power [LEP]).

Patient follow up: 86%.

*See glossary. Information provided by author.

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MAIN RESULTS

Participants in the FTP had a greater increase in ADAP total score compared with those who received REP (table) or the control intervention (p ≤ 0.001). FTP and REP groups did not differ for TUG, HGS, or LEP (table). The REP and control groups did not differ for ADAP total score (p = 0.06), TUG (p = 1.00), or HGS (p = 1.00). REP improved IKEs and IEFs more than FTP (table).

CONCLUSION

In elderly community dwelling women, a functional task exercise programme was better than a resistance exercise programme for improving physical functional performance.

Functional task exercise programme (FTP) vs resistance exercise programme (REP) for improving physical and muscle function*

<table>
<thead>
<tr>
<th>Outcomes at 3 months</th>
<th>Mean change from baseline</th>
<th>Difference in mean change from baseline between FTP and REP (95% CI)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of Daily Activity Performance total</td>
<td>6.8 (3.2)</td>
<td>3.6 (1 to 6)</td>
<td>0.007</td>
</tr>
<tr>
<td>Timed Up and Go (sec)</td>
<td>-0.1 (0.1)</td>
<td>0.0 (-0.4 to 0.4)</td>
<td>1.00†</td>
</tr>
<tr>
<td>Isometric knee extensor</td>
<td>-7.0 (23.7)</td>
<td>30.7 (16 to 45)</td>
<td>0.001</td>
</tr>
<tr>
<td>Hand grip strength</td>
<td>-0.1 (0.2)</td>
<td>0.1 (-0.7 to 0.9)</td>
<td>1.00†</td>
</tr>
<tr>
<td>Isometric elbow flexor strength</td>
<td>-1.0 (10.6)</td>
<td>11.6 (2.8 to 20)</td>
<td>0.03</td>
</tr>
<tr>
<td>Leg extension power</td>
<td>11.2 (10.8)</td>
<td>0.4 (-14 to 14)</td>
<td>1.00†</td>
</tr>
</tbody>
</table>

*CI defined in glossary. Difference in mean change from baseline and CI calculated from data in article. †Not significant.