Efficacy of occupational therapy-based intervention in people with advanced cancer: A randomised controlled trial

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in collaboration with

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Background

Problem:

• People with advanced cancer spend most of their time at home (la Cour et al, 2009)

• They report problems with occupations (Rainbird, 2010; Johnsen et al, 2013)

• We lack evidence of the effect of occupational therapy-based interventions for people with advanced cancer (Harrison-Poul et al, 2006; Hegel et al, 2011; Lindahl-Jacobsen et al, 2014)

• The ‘Cancer Home-Life Intervention’ (Brandt, 2016)
The ‘Cancer Home-Life Intervention’

- Main target are participant-selected occupations
- 1-3 home visits and 1-3 follow-up telephone calls
- Individually tailored

1. Prioritising
2. Adaptation
3. Posture and seating positioning
4. Assistive technology
5. Home modification
To evaluate efficacy of the ‘Cancer Home-Life Intervention’ compared with usual care alone on occupational performance and Health-related Quality of Life (HRQoL) in people with advanced cancer living at home

More specifically to examine efficacy on:

Attention!

1) ADL ability
2) Prioritised occupations
3) Participation restrictions
4) HRQoL
Design

RCT

Recruitment

Two Danish hospitals

Baseline

T1

Intervention

T2

6 weeks

Control

T2

T3

12 weeks
Study population

Inclusion criteria:

• ≥18 years old
• Evaluated with incurable cancer by their responsible oncologist
• Functional level 1-2 on WHO performance scale (PS)
• Live at home or in sheltered living

Exclusion criteria:

• Cognitive impairment preventing participants from participating in structured interview
• Considered incapable of complying with trial
• Live in nursing home or hospice
Outcomes

Primary outcome
• ADL motor ability (AMPS)

Secondary outcomes
• ADL process ability (AMPS)
• Difficulty performing prioritised occupations (IPPA)
• Participation restrictions (IPA-DK)
• HRQoL (EORTC QLQ C-30)
## Baseline (N=242)

<table>
<thead>
<tr>
<th>Personal characteristics</th>
<th>Primary tumour type</th>
<th>Comorbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 years</td>
<td>31% Gastrointestinal</td>
<td>76% &gt;1</td>
</tr>
<tr>
<td>51% women</td>
<td>20% Lung</td>
<td></td>
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<tr>
<td>31% lived alone</td>
<td>15% Breast</td>
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<tr>
<td>70% in a house</td>
<td>12% Prostate</td>
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</tr>
<tr>
<td>47% ≥13 years of education</td>
<td>22% Other</td>
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<tr>
<td>WHO PS</td>
<td></td>
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<tr>
<td>71% PS 1</td>
<td></td>
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<tr>
<td>29% PS 2</td>
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</tr>
</tbody>
</table>
Outcomes at baseline (N=242)

AMPS
ADL motor: 1.13 logits
< competence cut-off: 95%
ADL process: 0.84 logits
< competence cut-off: 59%

IPPA (1-25)
Difficulty performing occupations: 14.25
0 27%
1–3 31%
>3 42%

IPA-DK (0-4)
Autonomy indoor: 0
Family role: 1
Social relations: 0

EORCT QLQ C-30 (0-100)
HRQoL: 58.51
Delivered interventions (N=121)

- Component 2: 60%
- Component 3: 58%
- Component 4: 31%
- Component 5: 54%
- Component 6: 9%

Number of components per participant: 3

Home visits:
- 1: 93% 105 min.
- 2: 26% 45 min.
- 3: 3% 45 min.

Telephone contacts:
- 0: 11%
- 1: 51%
- 2: 32%
- 3: 6%
# Outcome

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>n</th>
<th>Intervention group</th>
<th>n</th>
<th>Control group</th>
<th>Between-group mean change (95% CI)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean change</strong></td>
<td></td>
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<tr>
<td>AMPS</td>
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<tr>
<td>ADL motor ability T1-T3&lt;sup&gt;abcd&lt;/sup&gt;</td>
<td>97</td>
<td>-0.14 (-0.27 to 0.00)</td>
<td>94</td>
<td>-0.10 (-0.24 to 0.05)</td>
<td>-0.04 (-0.23 to 0.15)</td>
<td>0.69</td>
</tr>
<tr>
<td>ADL process ability T1-T3&lt;sup&gt;abcd&lt;/sup&gt;</td>
<td>97</td>
<td>-0.10 (-0.20 to -0.01)</td>
<td>94</td>
<td>-0.04 (-0.14 to 0.06)</td>
<td>-0.06 (-0.20 to 0.07)</td>
<td>0.37</td>
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<tr>
<td>IPPA</td>
<td></td>
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<tr>
<td>IPPA score T1-T2&lt;sup&gt;cdef&lt;/sup&gt;</td>
<td>67</td>
<td>-1.27 (-2.01 to -0.53)</td>
<td>65</td>
<td>-1.16 (-1.91 to -0.41)</td>
<td>-0.11 (-1.17 to 0.95)</td>
<td>0.83</td>
</tr>
<tr>
<td>IPPA score T1-T3&lt;sup&gt;cdef&lt;/sup&gt;</td>
<td>62</td>
<td>-1.38 (-2.35 to -0.40)</td>
<td>63</td>
<td>-1.03 (-2.00 to -0.05)</td>
<td>-0.35 (-1.71 to 1.01)</td>
<td>0.61</td>
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<tr>
<td>EORTC QLQ C-30</td>
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<tr>
<td>HRQoL T1-T2&lt;sup&gt;edgh&lt;/sup&gt;</td>
<td>94</td>
<td>-1.40 (-5.49 to 2.68)</td>
<td>93</td>
<td>-1.19 (-5.39 to 3.01)</td>
<td>-0.21 (-5.97 to 5.54)</td>
<td>0.94</td>
</tr>
<tr>
<td>HRQoL T1-T3&lt;sup&gt;edgh&lt;/sup&gt;</td>
<td>93</td>
<td>1.50 (-2.97 to 5.97)</td>
<td>90</td>
<td>3.11 (-1.52 to 7.74)</td>
<td>-1.61 (-7.95 to 4.73)</td>
<td>0.62</td>
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<tr>
<td><strong>Odds ratio for no perceived participation restrictions (95% CI)</strong></td>
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<tr>
<td>IPA-DK&lt;sup&gt;i&lt;/sup&gt;</td>
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<td></td>
</tr>
<tr>
<td>Autonomy Indoor T2</td>
<td>95</td>
<td>7.64 (4.07 to 14.32)</td>
<td>91</td>
<td>6.00 (3.36 to 10.79)</td>
<td>1.27 (0.54 to 3.02)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.59</td>
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<tr>
<td>Autonomy Indoor T3</td>
<td>89</td>
<td>8.89 (4.46 to 17.71)</td>
<td>87</td>
<td>8.67 (4.35 to 17.28)</td>
<td>1.03 (0.39 to 2.75)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.95</td>
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<tr>
<td>Family role T2</td>
<td>95</td>
<td>1.21 (0.81 to 1.81)</td>
<td>91</td>
<td>1.39 (0.92 to 2.12)</td>
<td>0.83 (0.46 to 1.50)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.54</td>
</tr>
<tr>
<td>Family role T3</td>
<td>89</td>
<td>1.70 (1.10 to 2.61)</td>
<td>87</td>
<td>1.56 (1.01 to 2.40)</td>
<td>1.08 (0.59 to 1.99)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.81</td>
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<tr>
<td>Social relations T2</td>
<td>95</td>
<td>18.00 (7.31 to 44.30)</td>
<td>89</td>
<td>13.83 (6.04 to 31.68)</td>
<td>1.22 (0.35 to 4.21)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.75</td>
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<tr>
<td>Social relations T3</td>
<td>89</td>
<td>11.71 (5.41 to 25.34)</td>
<td>87</td>
<td>13.50 (5.89 to 30.94)</td>
<td>0.86 (0.28 to 2.69)&lt;sup&gt;kl&lt;/sup&gt;</td>
<td>0.80</td>
</tr>
</tbody>
</table>
Some possible explanations

 أد Intensity and extent

 0 Prioritised occupations

 ? Right population match
Summing up

• No effect of ‘Cancer Home-Life Intervention’

HOWEVER

• People with advanced cancer have substantial problems performing their occupations, and the majority also needed an intervention addressing these problems

• Need and benefit of occupational therapy
Thank you for your attention

Thanks to the participants, the occupational therapists, nurses and physicians from the two Danish hospitals.

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