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Maintaining everyday-practical and cognitive competencies in dementia sufferers in a home setting

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BACKGROUND

- Approx. 50% of recipients cared for at home have dementia (Weyerer, 2005)
- Studies in clinical settings establish the stabilizing effect of an intensive activation program (Gräßel et al. 2011)
- There is an insufficient knowledge about the effects of non-pharmacological interventions in a home setting
- Interventions which also stabilize the relatives have only been partially examined. (Zank, 2006; Mantovan et al., 2010)
- Multimodal programs tailored for the relatives must be examined for effectiveness. (Mantovan et al., 2010)
- Lack of methodical, high-quality studies (RCTs)
THE PROJECT ANAA+KO

Title: ANgehörige Aktivieren Alltagspraktisch + externe Personen KOgnitiv

= everyday-practical activation by relatives and cognitive activation by external persons

„Maintaining everyday-practical and cognitive competencies in dementia sufferers in a home setting.“
INVESTIGATOR/ CO-INVESTIGATOR

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Elmar Gräßel (MD)
Birgit Eichenseer (MD)
University Hospital Erlangen
Medical Psychology/Medical Sociology,
Clinic for Psychiatry and Psychotherapy
AIM AND HYPOTHESIS

Aim:
- Investigation of the effects of a combination multimodal activation - practical and cognitive activation - for people with dementia especially in the home setting, on the condition that
  - relatives are integrated and
  - are continuously supported.

Hypothesis:
- The practical and cognitive activation during the 6-month intervention period will stabilise the practical and cognitive abilities for persons with dementia in the intervention group, whereas these abilities will continue to deteriorate in the control group.
**INTERVENTION**

**Everyday-practical Activation**
- Done by relatives
- 6 days a week
- 60 minutes daily

**Support**
- Done by external employees
- Continuously supported

**Cognitive Activation**
- Done by external employees
- 1 day a week
- 30 minutes

**Multimodale Activation for 6 months**
CONCEPT OF THE INTERVENTION

Everyday-practical Activation:
- Living Environment (Schütz und Luckmann, 1975)
- MAKS®-therapy (Eichenseer u. Gräßel, 2011)

Cognitive Activation:
- MAKS®-therapy (Eichenseer u. Gräßel, 2011)
- SIMA®-P (Oswald u. Ackermann, 2009)
- Memory or reminisence therapy (Schweitzer u. Bruce, 2010)
- Self preservation therapy (Romero u. Wenz, 2002)

No isolated activation program -
ANAA+KO use everyday life as activation!
INCLUSION/ EXCLUSION CRITERIA

Inclusion criteria

- Diagnosed Alzheimer’s disease according to ICD-10/DSM IV and Mini-Mental-State-Examination (Score: ≥12 and ≤24)
- SIDAM and integrated HIS (Haschinski Ischemic Score ≤4)
- Informed consent
- Informed caregiver/relative should live in or nearby

Exclusion criteria

- Neurological or psychiatric diseases
- Vascular dementia diagnosed by a physician
- Reluctance of the relative to take over the practical activation
- Other reasons
METHODS AND MATERIALS

Design:
• multicentric, randomized and controlled longitudinal trial

Randomization:
• Block Randomization (Block: 4)
• Computer-generated randomization list

Sample:
• 72 persons with slight to medium irreversible dementia (MMSE ≤24 and ≥12, SIDAM)
174 persons with care dependency are screened

Recruitment

72 randomized

102 excluded
- 39 Unwilling to participate/ no contact
- 23 diagnosed dementia
- 13 MMSE < 12
- 11 other diseases
- 4 other activation
- 12 other reasons

36 allocated to activation group
3 drop-out before initial measurement

9 drop-outs
Reasons: 1 died
3 refused
5 in-patient admission

24 analysed PP
32 analysed ITT

36 allocated to control group
3 drop-outs before initial measurement (death)

3 drop-outs
Reasons: 1 died
1 refused
1 in-patient admission

30 analysed PP
32 analysed ITT

6-month follow-up

6-month-analysis
OUTCOME MEASUREMENT

- **Persons with dementia**
  - Abilities to carry out ADL (E-ADL-Test)
  - Cognitive abilities (ADAS-cog)
  - Extent of care-dependency (PAS)
  - Geriatric symptoms (NOSGER-scale)
  - Instrumental functional abilities (NOSGER-scale)

- **Relatives**
  - Quality of life (WHOQOL-BREF)
  - Burden for the relatives (HPS)
**RESULTS:**
**E-ADL- ABILITIES, PP-ANALYSIS AFTER 6 MONTHS**

<table>
<thead>
<tr>
<th></th>
<th>Activation Group (n=24)</th>
<th>Control Group (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilized/improved</td>
<td>66,7 % (16)</td>
<td>53,3% (16)</td>
</tr>
<tr>
<td>Deteriorated</td>
<td>33,3 % (8)</td>
<td>46,7 % (14)</td>
</tr>
<tr>
<td>Total</td>
<td>100,0 % (24)</td>
<td>100,0 % (30)</td>
</tr>
<tr>
<td>T0-Measurement (MW, SD)</td>
<td>28,1 / 4,0</td>
<td>28,3 / 3,5</td>
</tr>
<tr>
<td>T1-Measurement (MW, SD)</td>
<td>26,6 / 5,9</td>
<td>25,6 /4,9</td>
</tr>
</tbody>
</table>

The activation group shows more improved or stabilized cases than in the control group after 6 months. The difference is **not significant**.

Data comparison of the initial investigation to the data of the 6-month investigation, no significant change appears in the activation group, while the data **deteriorate** in the control group **significantly**. (Wilcoxon-Test, p=0,01).
**RESULTS:**
**ADAS-COG, PP-ANALYSIS AFTER 6 MONTHS**

<table>
<thead>
<tr>
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<th>Activation Group (n=24)</th>
<th>Control Group (n=30)</th>
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<tbody>
<tr>
<td>Stabilized/improved</td>
<td>41,7 % (10)</td>
<td>43,3 % (13)</td>
</tr>
<tr>
<td>Deteriorated</td>
<td>58,3 % (14)</td>
<td>56,7 % (17)</td>
</tr>
<tr>
<td>Total</td>
<td>100,0 % (24)</td>
<td>100,0 % (30)</td>
</tr>
<tr>
<td>T0-Measurement (MW, SD)</td>
<td>28,3 / 11,7</td>
<td>28,3 / 13,1</td>
</tr>
<tr>
<td>T1-Measurement (MW, SD)</td>
<td>32,0 / 11,6</td>
<td>32,9 / 14,9</td>
</tr>
</tbody>
</table>

ADAS-COG **no differences** between both groups. The average comparison proves no significant change - either with the activation group or with the control group.
EXTENT OF CARE-DEPENDENCY (PAS): PP-ANALYSIS AFTER 6 MONTHS

Quota of stabilized/improved cases after 6 months

<table>
<thead>
<tr>
<th>PAS</th>
<th>ANAA+KO-Gruppe</th>
<th>Kontrollgruppe</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,0%</td>
<td>79,2%</td>
<td>53,3%</td>
</tr>
<tr>
<td>20,0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40,0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60,0%</td>
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<td></td>
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<tr>
<td>80,0%</td>
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Significantly more stabilized/ improved cases in activation group than in control group (p=0,048).
**Extent of Care Dependency (PAS): PP-analysis after 6 months**

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<tr>
<td>T0-Measurement (MW, SD)</td>
<td>50,4 / 11,9</td>
<td>54,4 / 12,2</td>
</tr>
<tr>
<td>T1-Measurement (MW, SD)</td>
<td>57,5 / 10,8</td>
<td>54,8 / 12,5</td>
</tr>
</tbody>
</table>

Data comparison of the initial measurement to the data of the 6-month measurement shows a **significant improvement** in the activation group, while the data does not significantly change in the control group. (Wilcoxon-Test, p=0,002)
Instrumental and Functional Abilities (NOSGER-IADL): PP-analysis after 6 months

Significantly more stabilized/ improved cases in activation group than in control group (p=0.019).

<table>
<thead>
<tr>
<th>NOSGER_IADL</th>
<th>ANAA+KO-Gruppe</th>
<th>Kontrollgruppe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>75,0%</td>
<td>42,3%</td>
</tr>
</tbody>
</table>
**INSTRUMENTAL AND FUNCTIONAL ABILITIES (NOSGER-IADL): PP-ANALYSIS AFTER 6 MONTHS**

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<tbody>
<tr>
<td>T0-Measurement (MW, SD)</td>
<td>17.4 / 4.2</td>
<td>16.8 / 4.3</td>
</tr>
<tr>
<td>T1-Measurement (MW, SD)</td>
<td>16.8 / 4.0</td>
<td>17.2 / 4.0</td>
</tr>
</tbody>
</table>

Slight improvement in the activation group and the slight deterioration in the control group are **not significant** in either case.
**NOSGER-Social Behavior: PP-Analysis after 6 Months**

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<td>46.2% (12)</td>
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<tr>
<td>Deteriorated</td>
<td>33.3% (8)</td>
<td>53.8% (14)</td>
</tr>
<tr>
<td>Total</td>
<td>100.0% (24)</td>
<td>100.0% (26)</td>
</tr>
<tr>
<td>T0-Measurement (MW, SD)</td>
<td>15.0 / 4.4</td>
<td>15.1 / 3.7</td>
</tr>
<tr>
<td>T1-Measurement (MW, SD)</td>
<td>13.9 / 4.5</td>
<td>15.7 / 4.4</td>
</tr>
</tbody>
</table>

Slight improvement in the activation group and the slight deterioration in the control group are **not significant** in either case.
CONCLUSION AND DISCUSSION

- Indications of the positive effects of everyday-practical activation
- Significant differences in
  - E-ADL
  - Care-dependency (PAS) and
  - NOSGER-IADL
- Indications that the integration into or the creation of new everyday life routines can positively influence symptoms of a dementia patient

Limits of the study:
- targeted random sample of 117 families could not be reached - validity of the study is limited
- data analysis is still pending
- t1 only shows the shortterm effects
  - Follow-up is ongoing
Thank you for your attention!

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