Long term effect of inpatient low vision rehabilitation on participation, vision-related quality of life and psychosocial functioning

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Background

- Royal Dutch Visio: appr. 23,000 clients
  - Outpatient support for relatively straightforward needs (e.g. optical aids, low vision assessment, OT, social work)
  - Often older adults, referred by ophthalmologist

- Appr. 110-120 clients: Visio het Loo Erf (VHLE)
  - Complex needs / multiple problems
  - Intensive tailor-made trajectories
  - Stay during the week for appr. 6 months
Research inpatient rehabilitation

• Langelaan et al., 2009: effect VHLE vision-related QOL and prognostic factors (2002-2004; N=129)
  – Subscale mental health and independence improved
  – Age negative predictor of vision-related QOL

• Stroupe et al., 2008: USA, short inpatient program (4-6 weeks) vs. outpatient program; QOL and costs
  – Inpatient more improvement on visual functioning, mobility and visual-motor skills
  – No difference in reading and visual information processing
  – Inpatient 44.000 USD vs. outpatient 5.000 USD
Goal

• Study if inpatient rehabilitation has a long term positive effect on:
  – Participation
  – Vision-related quality of life
  – Psychosocial functioning

• What are predictors of change on these outcomes
Design

- Observational longitudinal cohort study with a baseline and two follow-up measurements
Methods

• Baseline within 1 month before inpatient rehab
• After observation week
• Feb 2013 – Jul 2014
• Follow-up: 10 and 18 months
• Telephone interviews

• Questionnaires (validated)
  o PAI (top five participation goals)
  o EQ–5D–5L (quality of life)
  o LVQOL (vision-related quality of life)
  o CES-D (depression)
  o HADS-A (anxiety)
  o AVL (adaptation to vision loss)

➢ Files: visual acuity, visual field, diagnosis, interventions
➢ Socio-demographic and medical characteristics
## Response

<table>
<thead>
<tr>
<th></th>
<th>N</th>
</tr>
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<tbody>
<tr>
<td>Invited (Feb 2013 – Jul 2014)</td>
<td>100</td>
</tr>
<tr>
<td>Response</td>
<td>74</td>
</tr>
<tr>
<td>Lost to follow-up</td>
<td>12 (16%)</td>
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</table>
# Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>(N=74)</th>
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<tbody>
<tr>
<td>Gender, % men</td>
<td>66%</td>
</tr>
<tr>
<td>Age, mean (SD), range</td>
<td>47 (15.1), 18-75 years</td>
</tr>
<tr>
<td>Visual impairment:</td>
<td></td>
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<tr>
<td>- Blind (VA&lt;0.05; VF&lt;10°)</td>
<td>57%</td>
</tr>
<tr>
<td>- Severe vision loss (VA&lt;0.3; VF&lt;30°)</td>
<td>43%</td>
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<tr>
<td>Duration of eye condition, range</td>
<td></td>
</tr>
<tr>
<td>- From birth / childhood</td>
<td>20 years (0.4 – 62 years)</td>
</tr>
<tr>
<td>- 25%</td>
<td></td>
</tr>
<tr>
<td>Comorbidity, % &gt;=1</td>
<td>31%</td>
</tr>
<tr>
<td>Paid work, %</td>
<td>16%</td>
</tr>
<tr>
<td>Civil status, % living together</td>
<td>69%</td>
</tr>
</tbody>
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Retinitis pigmentosa, Usher, Age-related MD, glaucoma
OA Leber, Stargardt, Rieger, albinism, retinoblastoma, microphthalmus
Participation: important goals

- Mobility outside (58%)
- Computer use (55%)
- Hobbies (38%)
- Cooking (31%)
- Acceptance (29%)
- Energy balance (25%)
- Sports/Reading (22%)
- Cleaning (19%)
- Public transport (15%)
## Utilisation of interventions

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<table>
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<tbody>
<tr>
<td><strong>Rehab trajectory, mean (range)</strong></td>
<td>8 months (3 – 15)</td>
</tr>
<tr>
<td><strong>Hours interventions (N=40), mean (range)</strong></td>
<td>612 hrs (150 – 1791)</td>
</tr>
<tr>
<td><strong>- Computer training</strong></td>
<td>130 hrs</td>
</tr>
<tr>
<td><strong>- Training leasure/hobbies</strong></td>
<td>63 hrs</td>
</tr>
<tr>
<td><strong>- Braille training</strong></td>
<td>60 hrs</td>
</tr>
<tr>
<td><strong>- Training orientation &amp; mobility</strong></td>
<td>54 hrs</td>
</tr>
<tr>
<td><strong>- Trajectory guidance (psycho-social)</strong></td>
<td>53 hrs</td>
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</table>
Participation

More participation

Less participation

baseline 10 months 18 months
Vision-related Quality of Life (LVQOL)

- Better VR-QOL
- Worse VR-QOL

Basic Aspects:
- Reading and fine work
- Total LVQOL score
- Mobility
- Adaptation

Graph showing changes in LVQOL over time (baseline, 10 months, 18 months).
Quality of Life (EQ-5D)
Psychosocial: depression / anxiety

During / after trajectory: 50% depression, 40% anxiety

- Baseline: 22% depression, 15% anxiety, 7% no symptoms, 57% no symptoms
- 10 months: 13% depression, 19% anxiety, 2% no symptoms, 66% no symptoms
- 18 months: 13% depression, 15% anxiety, 5% no symptoms, 67% no symptoms
Psycho-social: acceptance

![Graph showing acceptance over time]

- Better acceptance
- Worse acceptance

- Self
- Others
- Total

Baseline, 10 months, 18 months
## Predictors

<table>
<thead>
<tr>
<th></th>
<th>Participation</th>
<th>VR-QOL</th>
<th>QOL</th>
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<tbody>
<tr>
<td>Comorbidity</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Duration of vision loss</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Severity of vision loss</td>
<td></td>
<td>-</td>
<td>+</td>
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<tr>
<td>Education</td>
<td></td>
<td>+</td>
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Conclusion

• Positive effect of inpatient rehabilitation on:
  – Participation
  – Some VR-QOL domains (adaptation and mobility)
  – Psycho-social domains (depression, anxiety, acceptance)

• Comorbidity, duration and severity of vision loss structural predictors of participation and (VR-)QOL
  – Differentiate between vulnerable groups of clients
  – Create awareness among professionals
Discussion

• No improvement on visual functioning: expectations?

• Effect of inpatient rehabilitation on depression and anxiety unclear: attention needed for new cases; stepped-care?

• Acceptance needed time to sink in

• Limitations:
  – Design of study: no comparison with outpatient program
  – Representativeness: cognitively and physically able participants

• Future: effectiveness of single or combinations of interventions, dose-response relation of interventions
You are invited to

the 12th International Conference on Low Vision

by ISLRR and ESLRR

The Netherlands
The Hague, 25-29 June 2017

www.vision2017.org
Thank you

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