Environmental Factors and Participation in Stroke Survivors

Cross-sectional study for detecting used environmental factors and their significance for participation of people living at home after stroke

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Objectives, Key Concepts and Conceptual Basis

- Environment as System
- Health – Participation
- Disability after a Stroke

- Occupational therapy models
- International Classification of Functioning, Disability and Health (ICF)
Research Question

- What kind of physical aids (e1), family support (e3) and services (e5) are being used in the south of Switzerland by patients affected by a stroke?

- How relevant are these environmental factors for the affected people in terms of participation and integration?
Method: Cross-Sectional study with structured interview

Environmental factors
1. Physical Aids/ Products/ Technologies (e1)
2. Support from people close to the patient (e3)
3. Assistance through external services (e5)

Participation
1. Hygiene
2. Mobility inside
3. Nutrition/Cooking
4. Household
5. Mobility outside
6. Administration/Communication
7. Work/Leisure
Sample Test:

N: 49  18 women / 31 men stroke survivors (12 months after the incident)

- Living at home in Ticino
  - 79% with partner/parents/children
  - 21% alone

- Age:  38 - 90 years (mean 66 y.)
Weight of the different domains on the experienced disability

London Handicap Scale (LHS)

- Mobility: 18%
- Physical independence: 21%
- Social integration: 14%
- Economic self-sufficiency: 14%
- Occupation: 22%
- Orientation: 11%
Results:

- Use of single environmental factors
- Combination within an activity group
- Importance for participation
Use of physical aids

- Hygiene: MEAN 4.74
- Mobility inside: MEAN 3.67
- Nutrition: MEAN 2.32
- Household: MEAN 1.16
- Mobility outside: MEAN 1.84
- Administration: MEAN 2.54
- Work/Leisure: MEAN 1.3

N: 49
MEAN: 13
MAX: 26
MIN: 1
SD: 5.5
### Variable: Degree of disability (LHS) and age

<table>
<thead>
<tr>
<th>Activity group</th>
<th>LHS</th>
<th>MEAN</th>
<th>AGE</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Hygiene</em></td>
<td></td>
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<tr>
<td>&lt;17</td>
<td></td>
<td>3.4</td>
<td>&lt;66</td>
<td>3.4</td>
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<tr>
<td>&gt;16</td>
<td></td>
<td>5.1</td>
<td>&gt;65</td>
<td>5.1</td>
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<tr>
<td><em>Mobility inside</em></td>
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<td>&lt;17</td>
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<td>2.5</td>
<td>&lt;66</td>
<td>2.8</td>
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<tr>
<td>&gt;16</td>
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<td>3.7</td>
<td>&gt;65</td>
<td>3.4</td>
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<tr>
<td><em>Nutrition</em></td>
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<td>&lt;17</td>
<td></td>
<td>2</td>
<td>&lt;66</td>
<td>2.1</td>
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<tr>
<td>&gt;16</td>
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<td>1</td>
<td>&gt;65</td>
<td>1</td>
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<tr>
<td><em>Mobility outside</em></td>
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<tr>
<td>&lt;17</td>
<td></td>
<td>1.3</td>
<td>&lt;66</td>
<td>1.4</td>
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<tr>
<td>&gt;16</td>
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<td>1.5</td>
<td>&gt;65</td>
<td>1.5</td>
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<tr>
<td><em>Total (SD)</em></td>
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<tr>
<td>&lt;17</td>
<td></td>
<td>11.3(4.9)</td>
<td>&lt;66</td>
<td>11.8(5.3)</td>
</tr>
<tr>
<td>&gt;16</td>
<td></td>
<td>13.5(4.9)</td>
<td>&gt;65</td>
<td>13.0(4.6)</td>
</tr>
</tbody>
</table>
Support from people close to the patient

- **Hygiene**
  - Support from 1-3 person: 71%
  - No support: 29%

- **Mobility inside**
  - Support from 1-3 person: 35%
  - No support: 65%

- **Nutrition**
  - Support from 1-3 person: 82%
  - No support: 18%

- **Household**
  - Support from 1-3 person: 88%
  - No support: 12%

- **Mobility outside**
  - Support from 1-3 person: 84%
  - No support: 16%

- **Administration**
  - Support from 1-3 person: 84%
  - No support: 16%

- **Work/Leisure**
  - Support from 1-3 person: 49%
  - No support: 51%

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Use of external services

- **Hgygine**: 73% support from 1-4 services, 27% no support
- **Mobility inside**: 28% support from 1-4 services, 71% no support
- **Nutrition**: 28% support from 1-4 services, 71% no support
- **Household**: 51% support from 1-4 services, 49% no support
- **Mobility outside**: 51% support from 1-4 services, 49% no support
- **Administration**: 14% support from 1-4 services, 86% no support
- **Work/Leisure**: 33% support from 1-4 services, 67% no support
## Facilitating environmental factors

<table>
<thead>
<tr>
<th>Environmental Factors</th>
<th>Type of Aid</th>
<th>Relative Frequency</th>
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</thead>
<tbody>
<tr>
<td>Physical aids</td>
<td>Cane</td>
<td>55%</td>
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<tr>
<td></td>
<td>Manual Wheelchair</td>
<td>39%</td>
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<tr>
<td>Support/Relationship</td>
<td>Children</td>
<td>59%</td>
</tr>
<tr>
<td>Services</td>
<td>Transportation for the Disabled</td>
<td>29%</td>
</tr>
<tr>
<td></td>
<td>Electric Wheelchair</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>Walker</td>
<td>10%</td>
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<tr>
<td></td>
<td>Automobile</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td>Motorcycle</td>
<td>4%</td>
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<tr>
<td></td>
<td>Other</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td>Bicycle</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>Other family members</td>
<td>18%</td>
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<tr>
<td></td>
<td>Other</td>
<td>12%</td>
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<tr>
<td></td>
<td>Train/Bus</td>
<td>12%</td>
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<tr>
<td></td>
<td>Airplane</td>
<td>10%</td>
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<tr>
<td></td>
<td>Other</td>
<td>10%</td>
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<tr>
<td></td>
<td>Taxi</td>
<td>4%</td>
</tr>
</tbody>
</table>

Activity group nr. 5 “Mobility outside”
Importance of environmental factors for participation

**Categories**

- unimportant: (<2)
- somewhat important: (≥2 - <4)
- important: (≥4 - <7)
- very important: (≥7 – 9)
- indispensable: (≥9 – 10)

- **Social Network**  ø 9,2 (indispensable)
- **Physical Aids**  ø 8,0 (very important)
- **Services**  ø 7,2 (very important)
Importance of environmental factors

Use and importance of physical aids
Mobility inside

- Environmental Control
- Other
- Transfer aids
- Electric Wheelchair
- Anti decubitus mattress
- Ramp
- Orthopedic shoes
- Electric Bed
- Splint for shoes
- Lift/Treppenlift
- Handrail
- Cane

- \( \varnothing \) importance of physical aids
- absolut Frequency
- Espo. (absolut Frequency)
- Espo. (\( \varnothing \) importance of physical aids)

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Importance of environmental factors for participation
Findings and outlook

- Environmental factors have an influence on the potential of integration
- Collective knowledge and scientific basis
- Coordinated outpatient rehabilitation network?
- Leisure activities planning – supply and demand?
- Smart technologies?
Thank you all for your attention