Usability study of a web-based intervention to support people living with dementia and their caregivers

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The aim of the project is to create a digital platform for people with dementia (PwD) or Mild Cognitive Impairment (MCI) and their caregivers that will provide services based on social networks, tailored interventions, clinical strategies and gamification in order to improve quality of life, wellbeing and medication compliance.
Background

• Adequate care through ICT (Meiland et al., 2012)
• Web-based fora (Torkamani et al., 2014)
• Educational programs (Cristancho-Lacroix et al., 2015)
• Social networks (van der Roest et al., 2010)

Involving end-users in the development of ICT interventions

• Understand preferences and needs
• Increase autonomy (Span et al., 2013)
• Usability
• User-friendliness/ease of learn or use, usefulness (Meiland et al., 2012)
Background

CAREGIVERSPRO-MMD platform

Services

• Social network
• Reminders for medication and appointments
• Localised information (support & events)
• Online health questionnaires
• Educational Information
• Monitored by healthcare professionals
• Gamification
• Cognitive interventions
Background

CAREGIVERSPRO-MMD platform

Aims & objectives

• Improve QoL of PLWD
• Reduce caregiver burden
• Reduce administration time to health services and professionals
• Reduce or delay hospitalisations or admission to care homes

Aim of presented study: findings from a usability study for CAREGIVERSPRO-MMD platform
Methods

Participants

• MCI, mild, mild to moderate dementia
• 50 years old
• Informal caregiver

<table>
<thead>
<tr>
<th></th>
<th>PLWD (n=24)</th>
<th>Caregivers (n=24)</th>
<th>Professionals (n=10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age [mean (SD)]</strong></td>
<td>78.30 years (9.70)</td>
<td>53.58 years (13.71)</td>
<td>40.78 years (10.44)</td>
</tr>
<tr>
<td><strong>Age range</strong></td>
<td>55-91 years</td>
<td>30-77 years</td>
<td>26-53 years</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>14 females 10 males</td>
<td>20 females 4 males</td>
<td>7 females 3 males</td>
</tr>
</tbody>
</table>
Methods

Material

Usability questionnaire:
• Perceived usefulness
• Ease of use
• Satisfaction of users
• Qualitative questions for neutral or negative responses
• Likert scale: strongly disagree (0) to strongly agree (4)

Procedure
• Platform access and manual
• Create user accounts
• Training
• 1-week follow up
## Results

<table>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Follow up</td>
<td>Baseline</td>
</tr>
<tr>
<td>Usefulness</td>
<td>65.6%</td>
<td>65.9%</td>
<td>81.6%</td>
</tr>
<tr>
<td>Ease of use</td>
<td>56.1%</td>
<td>56.8%</td>
<td>79.6%</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>60.0%</td>
<td>58.4%</td>
<td>79.4%</td>
</tr>
</tbody>
</table>

- Usage benefits professionals
- Usefulness and ease of use vary for user groups
- Priorities for PLWD differ from other user groups
Results

**Qualitative comments**

**PLWD**
- Interface with bigger colour contrast, more icons, less text
- Unsure how to upload photos
- Find emoticons unnecessary
- Missing privacy settings
- Shows appointments from past days
- Explain who has access to the forums
- Monitoring for abuse is necessary
Results

Qualitative comments

Caregivers

• Not appealing sign in page
• Privacy issues about appointments
• Appointments and messages from others are mixed
• Replace text with icons
• Appointments should be presented in chronological order
• Personalisation for fonts is not enough (colours and backgrounds)
• Statements about information visibility
Results

**Qualitative comments**

**Professionals**
- Difficulty to find other users
- Interface is not user-friendly – bigger icons, less busy pages
- No interest to upload photos

**All user groups**
- Remote monitoring
Conclusions

• Above 80% satisfaction for caregivers and professionals
• Lower satisfaction (58.4%) and ease of use (56.8%) for PLWD
• Different account per user group
• Simpler for PLWD
• Professionals and caregivers rated the platform higher than PLWD
• Unfamiliar with ICT
• Common concern about security and privacy settings, sharing information and monitoring inappropriate use
Conclusions

Priorities for services

PLWD
• Local resources
• Social network

Caregivers & Professionals
• Social network
• Appointments
• Invitations to connect with other users

Improvements needed

• Interface
• Functionality
• Security
• Interaction with professionals
• Gamification
Follow us in:  Caregiverspro-Mmd project
            @Caregiverspromd
            CAREGIVERSPRO_MMD Project (group)
            http://caregiversprommd-project.eu/

Thank you
References


