

# Clinical and economic predictors of quality of life in dementia

Franziska Gallrach<sup>1</sup>, Ray Kirk<sup>1</sup>, Andrew Hornblow<sup>1</sup>, Matthew Croucher<sup>2</sup>

Health Sciences Centre, University of Canterbury, Christchurch, New Zealand<sup>1</sup>

School of Medicine, University of Otago, Christchurch<sup>2</sup>

## 1. Background

- To date, multivariate analyses of quality of life (QoL) in dementia are relatively rare (Banerjee et.al\_2009). This study aimed to measure QoL of persons with dementia and their family-caregivers.
- The study also examined what interventions from primary and secondary care in New Zealand are helpful for enhancing QoL and what these interventions cost.

## 2. Methodology

### Inclusion criteria

#### Patients

- Alzheimer's dementia, vascular dementia or mixed dementia, any stage
- Diagnosed recently, within 3 months prior to baseline interview
- Living in community
- Having primary informal family-caregiver

#### Caregivers

- Being patient's primary informal family-caregiver (family member or friend)

### Baseline interviews (1/12): Completed

#### Patients

- Stage of illness: Clinical Dementia Rating (CDR) Scale
- Cognition: Modified Mini Mental State (3MS) Examination
- QoL: Quality of Life-Alzheimer's Disease (QOL-AD) Scale (patient rated) and QOL-ADproxy (caregiver rated)
- Depression: Cornell Scale for Depression in Dementia (CSDD)
- Difficult behaviours: Neuropsychiatric Inventory (NPI)
- Daily functioning: Bristol Activities of Daily Living Scale (BADLS)

#### Caregivers

- QoL: QOL-AD (QoL)
- Distress: NPI-Distress (NPI-D)
- Perceived burden: Zarit Burden Interview (BI)
- Depression: Geriatric Depression Scale (GDS)
- Subjective level of support from family and friends: Multidimensional Scale of Perceived Social Support (MSPSS)

#### Secondary measurements

- Direct and indirect costs: Service-Use-Costs-Questionnaire (adaptation of CAS, CATS and RUD)
- Level of satisfaction with formal and informal support: qualitative interview

### Service Use and Costs Diaries (12 x 4/12): Ongoing

### Interview at 12-months follow-up (12/12): Ongoing

- Repeated baseline measurements
- Caregivers' economic burden: Cost of Care Index (CCI), part 5
- Caregivers' work status: Resource Utilization in Dementia (RUD) Questionnaire

Note: All correlations are positive unless stated otherwise.

### Literature cited

- Banerjee, S., Samsi, K., Petrie, C. D., Alvir, J., Treglia, M., Schwam, E. M., et al. (2009). What do we know about quality of life in dementia? A review of the emerging evidence on the predictive and explanatory value of disease specific measures of health related quality of life in people with dementia. *International Journal of Geriatric Psychiatry*, (1), 15-24.

## 3. Clinical outcomes

- At baseline, patients' difficult behaviours (NPI) and functioning were significantly negatively correlated with patients' QoL. Caregivers' QoL and burden were also correlated with patients' QoL (Figure 1).
- A later stage of illness predicted more impairment of patients' QoL and of their daily functioning.
- Depressive symptoms in patients negatively impacted their QoL and caregivers' subjective level of burden.
- NPI symptoms were related with depression in patients and with higher level of burden in caregivers.
- Cognition was not a predictor of QoL but it did decrease with illness progression.
- Caregivers' ratings of patients' QoL were significantly negatively associated with the presence of NPI symptoms, patients' daily functioning, and caregivers' distress amongst others.

## 4. Informal care and support

- At baseline, even though the hours of informal care increased with illness progression and informal care time was correlated with patients' QoL there was no correlation between informal care and caregivers' QoL.
- Formal care (t, n) was unrelated to participants' QoL (Figure 2).
- Increased informal care was related to burden and depression in caregivers.
- Depression and difficult behaviours in patients increased the need for informal care (Figure 3).
- Perceived social support (from friends and significant others, less from family) correlated with caregivers own QoL and their proxy ratings of patients' QoL.

Figure 1

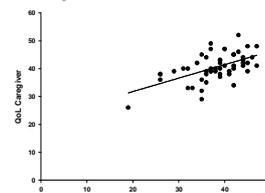


Figure 2

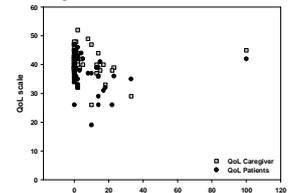


Figure 3

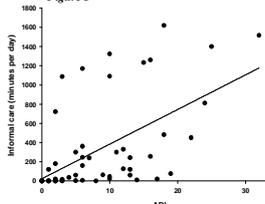
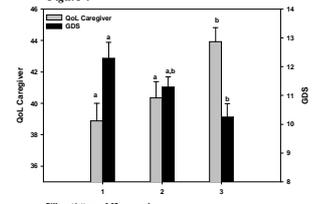


Figure 4



## 5. Economic burden

- At baseline, lower income impacted negatively caregivers' QoL and increased carers' risk for depression (Figure 4).
- The subjective financial situation as perceived by patients and caregivers (QOL-AD q12) was correlated with caregivers' burden.
- The financial burden of care (BI q15) was associated with caregivers' and patients' QoL and increased depression and distress scores in carers.
- A higher level of subjective burden in caregivers was linked to less subjective financial security (GDS q23).

## 6. Conclusions

- Depression in patients and caregivers, each other's QoL, patients' neuropsychological behaviours and functioning, as well as caregivers' burden, and the level of informal care can predict QoL in dementia.
- Reducing the intensity of informal care - by treating depression and difficult behaviours in patients - might reduce caregivers' symptoms of depression and burden with potential to delay institutionalization and reduce costs.
- Developing (financial) incentives that reward informal caregivers for their time spent caring could be a key factor in supporting carers in their role. This might delay the need for permanent professional care and therefore decrease the societal financial burden.

### For further information

- Please contact: Franziska Gallrach, MA, Ph.D.-Candidate (Health Sciences)
- Email: [franziska.gallrach@canterbury.ac.nz](mailto:franziska.gallrach@canterbury.ac.nz) or visit our web site at <http://www.hsci.canterbury.ac.nz>