

## Assessing the Predictors of Quality of Life in Stroke Survivors: A Longitudinal Study

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## Introduction

- Stroke represents 10% of all deaths and is the leading cause of long-term disability in Australia
- Post stroke depression (PSD) that presents in around 30% of all stroke patients
- Health-related quality of life (HRQoL) is an important index of outcome after stroke because it considers physical, social, and psychological aspects of an individual's health
- Stroke research and rehabilitation has traditionally focussed on physical and functional impact of stroke
- There has been less focus upon psychosocial factors and their impact on stroke outcomes

## Aims and Objectives

- To identify psychosocial predictors of health related quality of life (HRQoL) in chronic stroke survivors
- To examine differences between non-depressed and depressed participants
- To explore changes over a six month time frame for HRQoL and psychosocial variables

## Methods - participants

- Sample: 135 community-dwelling first-ever stroke survivors aged 25-96 years
  - All participants had experienced their stroke within the last 6-24 months
- Exclusion criteria; cognitive impairment, history of psychiatric illness or pre-stroke depression, suicidal ideation, dementia, or terminal illness.
  - Confirmation of eligibility was obtained from each person's GP.
- Data was collected at baseline, 10-weeks, and 6-months via mail-administered questionnaires

## Methods – assessment tools

- Health related quality of life (HRQoL)
  - Generic: Assessment of Quality of Life (AQoL)
  - Satisfaction with Life Scale
  - Stroke specific: Stroke Impact Scale
- Five psychosocial factors were assessed :
  - Depression: Centre for Epidemiologic Studies Depression scale (CES-D)
  - Social support: Medical Outcome Study Social Support Survey (MOS-SSS)
  - Optimism: Life Orientation Test Revised (LOT-R)
  - Self-esteem: Rosenberg Self Esteem Scale (SES)
  - Perceived control: Recovery Locus of Control scale (RLOC)

## Methods – screening and analysis

- Demographic and clinical characteristics:
  - stroke severity, stroke type, time since stroke, comorbidity, and exercise status
- Depression screening:
  - The PHQ-9 was initially used to screen for depression.
  - Participants screening positive (score  $\geq 5$ ) underwent a psychiatric assessment by a trained psychiatrist to confirm the presence of PSD
- Hierarchical multiple regressions, ANCOVA, and ANOVA were the primary analysis techniques used. Statistical significance was accepted at  $p < 0.05$

## Results- sample characteristics

- 92 male (68%) and 43 female participants
- Mean age 68 ( $\pm 14$ ) years; 60% over the age of 65 years
- Most participants were married (59%), living in a house (86%), and Australian born (76%)
- 47% of sample were classified as 'exercisers' at baseline, according to National Physical Activity guidelines
- Most (77%) experienced ischaemic stroke
- Stroke severity was mostly (47%) rated 'mild' (Modified Rankin Scale mean  $3.0 \pm 1.4$ )

## Results

- Demographic characteristics of the sample were similar to other community-dwelling stroke samples
- Participants appeared to have above average health, compared to other community-dwelling stroke samples
  - low stroke severity,
  - low comorbidity,
  - high scores for physical functioning and HRQoL

## Psychosocial Predictors of HRQoL

- Psychosocial factors were consistently and significantly associated with HRQoL at each time point
  - accounted for 33% to 53% of the variance, after controlling for demographic and clinical characteristics
- Strongest determinants of HRQoL were
  - depressive status,
  - self-esteem,
  - and perceived control
- Social support and optimism *did not* predict HRQoL
- Lower stroke severity and regular exercise were also positively associated with HRQoL

## Depressed vs. Non-depressed participants

- At least 26% of all participants reported clinically significant depressive symptoms at any one time point
- Depressed participants were more often female, younger, non-exercisers, and had higher stroke severity
- Depressed participants displayed significantly poorer scores for:
  - HRQoL,
  - social support,
  - optimism,
  - self-esteem,
  - perceived control,
  - physical and emotional functioning

## Quality of life and psychosocial functioning over time

- Health related quality of life did not change significantly over the 6 month study period
- Participant's physical health, social participation, depressive status, and optimism significantly improved over the 6 months

## Discussion

- Psychosocial factors- especially depression, self-esteem, and perceived control- play a significant role in the longer-term recovery of stroke survivors
- It is possible that individuals with fewer depressive symptoms, greater self-esteem and greater perceived control are more motivated and engaged with rehabilitation programs, play a more active role in their own stroke recovery, and thus have better HRQoL
- Social support and optimism did not significantly predict HRQoL.
  - These variables may be more important in the sub-acute stages post stroke

## Depression

- PSD was highly prevalent and had a significant impact upon psychosocial functioning, quality of life (HRQoL) and life satisfaction
- It is important that future researchers and practitioners have a strong awareness of these issues

## Study limitations

- Given the relatively high level of health displayed by this sample, it is not surprising that HRQoL did not significantly improve over the course of the study.
- Participants may have already returned to premorbid levels of HRQoL in the earlier sub-acute stages post stroke
- Other factors, such as cognitive deficits, which were not assessed in this study, may also impact upon HRQoL
- Exclusion of those with cognitive impairment and a low response rate (15%) may affect the generalizability of results

## Conclusions and recommendations

- Stroke rehabilitation programs typically focus primarily on functional recovery
- Often there is little or no assessment and management of survivors' psychosocial functioning
- The findings from this study indicate that psychosocial factors play a significant role in HRQoL for chronic stroke survivors
- To facilitate optimum HRQoL it is recommended that rehabilitation programs be more multidimensional in their nature, addressing
  - PSD, self-esteem, and perceived control
  - Assisting survivors to explore stroke recovery expectations, perceptions, and cognitions

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