Quality of life does not predict conversion from CIS to definite MS: a five-year prospective study

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Introduction

Low scores on self-rated health and quality of life (QoL) measures has been associated with following worsening disability in patients with Multiple Sclerosis (MS).

The aim of this study was to estimate the association between psychological well-being and quality of life at disease onset among patients with clinically isolated syndrome (CIS) and the risk of conversion to definite MS.

Figure 1. Study flow diagram. Recruitment of subjects and questionnaires administered.

Eligible subjects (symptoms suggestive of demyelinating disease) N=214

Excluded (N=46):
- Diagnosis of MS before inclusion (9)
- Not recruited - lack of consent, insufficient data, withdrawal (18)
- Alternative diagnosis (19)

Included in Follow-up phase N=168

- Multiple Sclerosis QoL-54 (MSQoL-54)/Short Form Health Survey (SF-36)
- Profile of Mood States (POMS)
- Chicago Multiscale Depression Inventory (CDMI)

Subjects included in analysis-Complete data N=162

Results

- The scores of the SF-36 at disease onset were significantly lower compared to those of an age- and sex-adjusted general Italian population (Figure 2).

Figure 2. Mean scores and 95% confidence interval of the standardized scores of the eight SF-36 scales for 162 patients in the GERONIMUS study. The general Italian population has a mean of 50 with a standard deviation of 10.
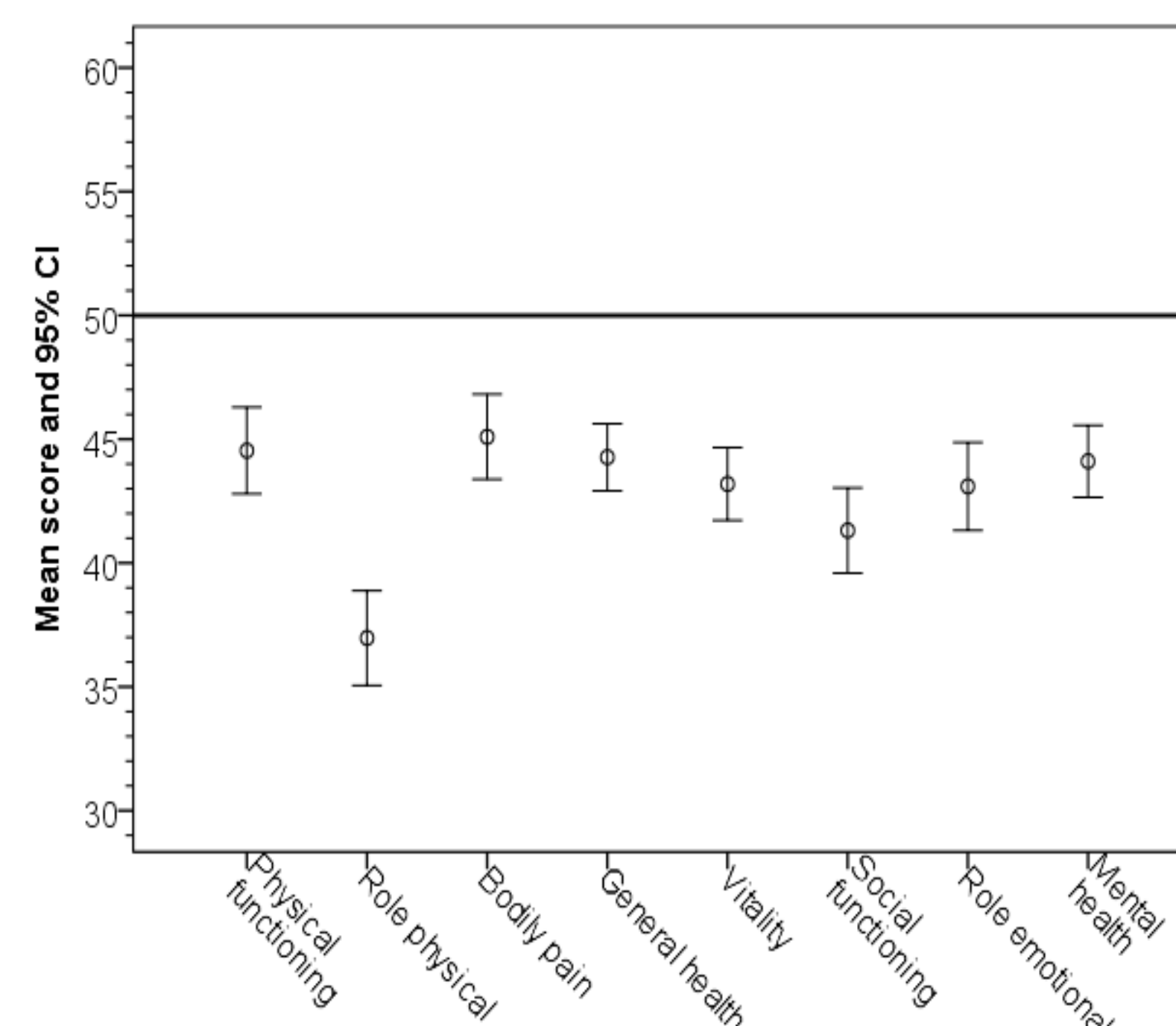
- During the 5 years follow-up 116 patients (72%) converted to definite MS (median time to conversion=603 days).
- No significant predictive effects for the physical and mental MSQoL-54 summary scales after adjusting for age, sex, MRI findings, EDSS score (Table 1).
- No association with time to conversion for POMS and CMDI, treatment at time of examination, BMI and education.

Table 1. The physical and mental summary score as predictors of conversion from CIS to definite MS during a five-year follow-up. Hazard ratios with 95% confidence intervals estimated from univariate and multivariate Cox' proportional hazard regression model.

Variable	Univariate analysis HR[1]	95%CI	P-value[2]	Multivariate model[3] HR[1]	95%CI	P-value[2]
Physical summary scale			0.66			0.55
Q4 highest scores	1			1		
Q3	1.07	0.63 – 1.83		0.80	0.42 – 1.50	
Q2	1.14	0.67 – 1.93		0.67	0.34 – 1.36	
Q1 lowest scores	0.83	0.50 – 1.39		0.56	0.26 – 1.22	
Mental summary scale			0.77			0.64
Q4 highest scores	1			1		
Q3	1.14	0.69 – 1.91		1.27	0.66 – 2.43	
Q2	0.85	0.50 – 1.46		1.00	0.52 – 1.93	
Q1 lowest scores	1.07	0.65 – 1.76		1.72	0.81 – 3.64	

[1] Hazard ratio
[2] Overall p-value for categorical variable
[3] Adjusted for Age at baseline, gender, total number of MRI lesions at baseline, EDSS at baseline
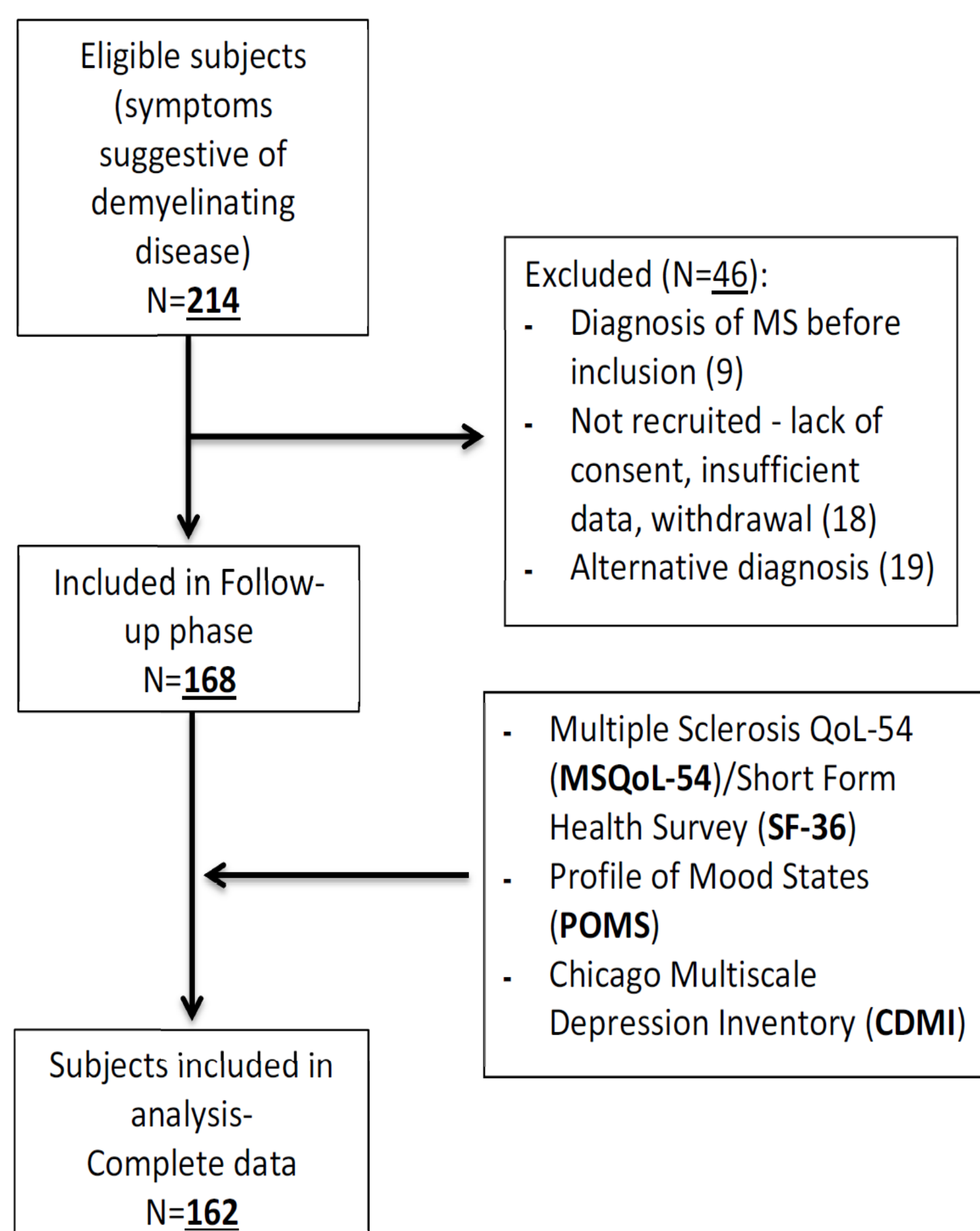
Conclusions

CIS patients in our study reported reduced health-related QoL at disease onset compared to the general population. However, the variation in these reduced quality of life scores does not seem to predict the conversion to MS in subjects with clinically isolated syndrome.

References

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