

Introduction and purpose

To date, no studies about factors associated with socio-professional performances in adulthood in patients with juvenile multiple sclerosis (MS) (onset before 18 years of age) have been performed, despite studies showing cognitive impairments in these patients. We aimed to assess these associations in two subgroups: patients with juvenile MS, and patients with 'non-juvenile MS' (aged 18-22 years at MS onset).

Results

We included 445 patients with a confirmed MS diagnosis: 211 with juvenile MS (70.1% female) and 234 with non-juvenile MS (75.6 % female). Patients were 25 to 35 years at inclusion in 2015. In the juvenile MS group, patients were mostly between the ages of 15 and 18 at onset (71.1%), 92.8% had a relapsing-remitting course (92.7% in the non-juvenile group) and 64% were working (69% respectively). Some baseline characteristics are reported in Table 1.

In multivariate analysis:

Expanded Disability Status Scale (EDSS) at inclusion > 3 (62 patients out of 211 ; odds ratio (OR) : 5.1, 95% confidence interval (95% CI) : 2.1-12.3, p< 0.001), significant fatigue (MFIS5 ≥ 10, 89 patients; OR : 14.9, 95% CI : 5.6-39.5, p< 0.001) and risk of depression (K6≥13, 43 patients; OR : 3.4, 95% CI: 1.3-9.1, p=0.01) were significantly associated with poor socio-professional performances in patients with juvenile MS onset (Table 2).

The same factors were found for non-juvenile MS patients, in addition to a longer disease duration (median 10.0 years [7.0-12.5] in patients with WSAS <20 , 12.7 years [9.7-14.3] in patients with WSAS ≥20) and a lower recovery level (Table 3). No interaction was found statistically significant for the two groups

Conclusions

For both groups, factors associated with poor socio-professional performances are related to disease severity, fatigue and psychological status. No specific factors were associated with the Juvenile MS group. Social and psychological interventions could be helpful in these patients.

Methods

A cross-sectional study nested in the 'Observatoire Français de la Sclérose en Plaques' (OFSEP) survey was conducted. The variables collected concerned: - baseline demographic, disease and therapeutic characteristics, social status, academic level

- fatigue status (Modified Fatigue Impact Scale 5-item, MFIS5), mental health status (K6 scale), recovery level (Recovery assessment scale), self-esteem status (Rosenberg's self-esteem scale)
- socio-professional performance ('Work and social adjustment scale', WSAS), the outcome was poor socio-professional performance defined as WSAS≥20.

Descriptive analysis was completed by multivariate analysis with logistic regression in the two groups. Covariates with p<0.2 according to univariate analysis were included in multivariate analysis model with age, sex and education level, with a backward procedure.

Table 1

BASILINE CHARACTERISTICS *p<0.05	JUVENILE MS (N=211)	NON JUVENILE MS (N=234)
Polysymptomatic at onset	39 (18.5%)	48 (20.5%)
Median age at inclusion (years, IQR)	29.2 [24-36]	30.1 [24-35]
EDSS at inclusion > 3	62 (29.4%)	66 (28.2%)
Immunomodulator or immunosuppressor treatment at inclusion	173 (82%)	222 (94.9%)
Attack(s) 2 years before inclusion*	62 (29.4%)	36 (15.4%)
Higher education	116 (55%)	143 (61.1%)
Executive employment	25 (11.8%)	29 (12.4%)
Sport practice	97 (46%)	116 (49.6%)

Table 2

MULTIVARIATE ANALYSIS JUVENILE MS PATIENTS N=211	OR	95% CI	p
Sex			
male (N=63)	1	[0.44 – 2.26]	0.999
female (N=148)	1		
Age at onset of disease	0.9	[0.77 – 1.05]	0.174
EDSS at inclusion			
≤3 (N=149)	1		
3+ (N=62)	5.1	[2.10 – 12.30]	<0.001
MFIS5 score fatigue status			
< 10 (N=122)	1		
10+ (N=89)	14.9	[5.63 – 39.47]	<0.001
K6 score risk of depression			
< 13 (N=168)	1		
13+ (N=43)	3.41	[1.28 – 9.07]	0.014

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Table 3

MULTIVARIATE ANALYSIS NON JUVENILE MS PATIENTS N=234	OR	95% CI	p
Sex			
male (N=57)	1.74	[0.64 – 4.72]	0.275
female (N=177)	1		
Age at onset of disease	1.12	[0.78 – 1.59]	0.545
EDSS at inclusion			
≤3 (N=168)	1		
3+ (N=66)	7.02	[2.93 – 16.80]	<0.001
Disease duration *	1.15	[1.00 – 1.32]	0.049
MFIS5 score fatigue status			
< 10 (N=145)	1		
10+ (N=89)	2.78	[1.12 – 6.94]	0.027
K6 score risk of depression			
< 13 (N=194)	1		
13+ (N=40)	6.21	[2.05 – 18.9]	0.001
RAS score recovery level			
< 80 (N=49)	6.26	[1.34 – 29.36]	0.02
[80 – 92] (N=83)	2.56	[0.61 – 10.72]	0.198
[92-100] (N=53)	1.05	[0.20 – 5.50]	0.95
100 + (N=49)	1		