

Yessica Cabrera-Yusunguara¹, Germán Idarriaga¹, Enrique Gomez-Figueroa², Angela Navas-Granados¹, Marco Reyes-Guerrero¹, Adriana Casallas-Vanegas¹⁻²

1. Multiple Sclerosis Cayre Center, Bogotá – Colombia

2. Multiple Sclerosis and Demyelinating Disorders Clinic, National Institute of Neurology and Neurosurgery, Mexico City, Mexico

Introduction

Multiple sclerosis (MS) is a chronic neurological autoimmune condition and the main non-traumatic cause of neurological disability worldwide in young people. To date, disease-modifying therapies (DMT) directly impact on the long-term prognosis of patients with MS, remaining the only therapeutic option to prevent relapses and disability progression.

Objective

To analyze the impact of socioeconomic status (SES) on DMT access in Colombian patients.

Methods

We evaluated the association between SES and DMT access using the MS registry from Cayre MS center, Bogotá. We included 332 patients with MS (McDonald 2010 criteria). We categorized SES according to DANE (National Administrative Department of Statistics) SES classification. We analyzed DMT type, MS phenotype, educational level, symptomatic onset to diagnosis and EDSS at arrival. Chi-squared and Wilcoxon tests were used, and multivariate analysis performed for DMT access.

Results

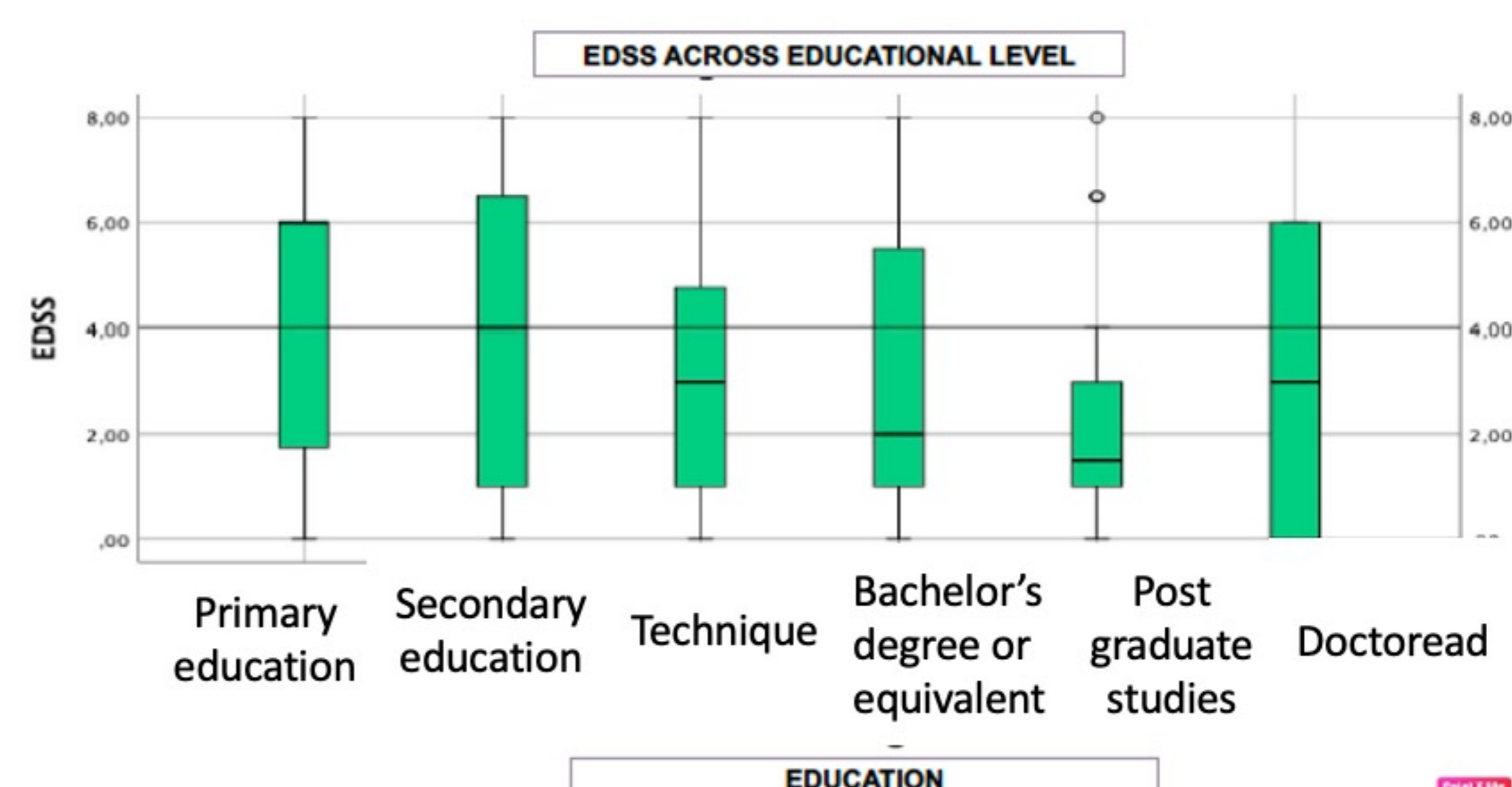
The study's population was predominantly female (91,2%) and mean age of 45 years (± 12.7). Mean EDSS was 3,1 ($\pm 2,60$). Median age of initial symptom was 2010 and diagnosis 2011 ($\pm 7,60$), delay in diagnosis was greater between low SES and low educational level MS patients. In our study we found that low SES is risk factor for low educational levels in Colombian MS population ($p=0,000$). An influence of low educational level was found on the percentage of patients with higher levels of disability (EDSS >4) ($p = 0.079$), showing inverse association. Mean SES was 3,2 ($\pm 1,01$), low SES was associated with subsequently higher EDSS score ($p = 0.05$). Finally, we also found that lower educational levels but no SES, had significant association regarding low access to high disease modifying therapies ($p=0,036$). Demographics are shown in **Table 1**.

DEMOGRAPHICS	TOTAL
SES	1. 4 (0,4%) 2. 68 (6,8%) 3. 142 (14,5%) 4. 70 (7,0%) 5. 35 (3,5%) 6. 9 (0,9%)
MALE	98 (9,8%)
FEMALE	234 (91,2)
AGE	Media 45,02 (SD 12,7)
EDSS SCORE	Media 45,02 (SD 12,7)
EDUCATIONAL LEVEL	Primary education 16 (1,6%) Secondary education 78 (7,8) Technique 42 (4,2%) Bachelor's degree or equivalent 129 (12,9%) Post graduate studies 65 (6,5%) Doctoread 2 (0,2%)

Demographics MS patients in a colombian cohort .

Discussion

SES represents a complex measure of social and economic influence on disease evolution over time. It is also a risk factor for the development of multiple sclerosis (MS) as well as for major disability in pwMS. SES directly affects access to health care, which is a well-known contributor to a higher life expectancy, lesser morbidity, and higher degrees of health-related quality-of-life across pwMS. The Environmental Factors in MS (EnvIMS) study assessed the educational level and a history of environmental risk factors, found that a higher level of education was associated with a decreased MS risk when comparing those with the highest and lowest levels of education. According our study, low SES and lower educational levels have been shown to negatively impact disability in pwMS. **Figure 1**.



EDSS and educational level in MS colombian patients.

Conclusion

Unfortunately, our study confirms that SES is an important factor determining lower educational levels in MS Colombian patients, subsequently conditioning access to highly effective DMT. The lower the socioeconomic level, the greater the differences with respect to education possibilities, worse EDSS and finally progression of the disease.

References

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