

## What is known:

Migration studies on MS conducted during the past six decades have explored two main issues: the relative role of environmental versus genetic exposures and the age at which individuals become susceptible to the disease [1]–[3]. There is evidence that age at migration and duration of residence in the host country modulate the disease phenotype towards that of the host country [4].

## Aim of the study:

to compare demographic and MS clinical characteristics between native and migrant patients

## Study Design:

Multicentre, retrospective observational study. Data were collected between January 2010 and December 2020 and a total of 1299 MS patients were recruited from 8 different neurological SM Centers in Italy

**Variables:** Information included demographics (sex, age at immigration, duration of residence in Italy, being first- or second- generation immigrant), clinical characteristics at MS onset, clinical, radiologic and laboratory characteristics at the diagnosis, and clinical characteristics at follow-up.

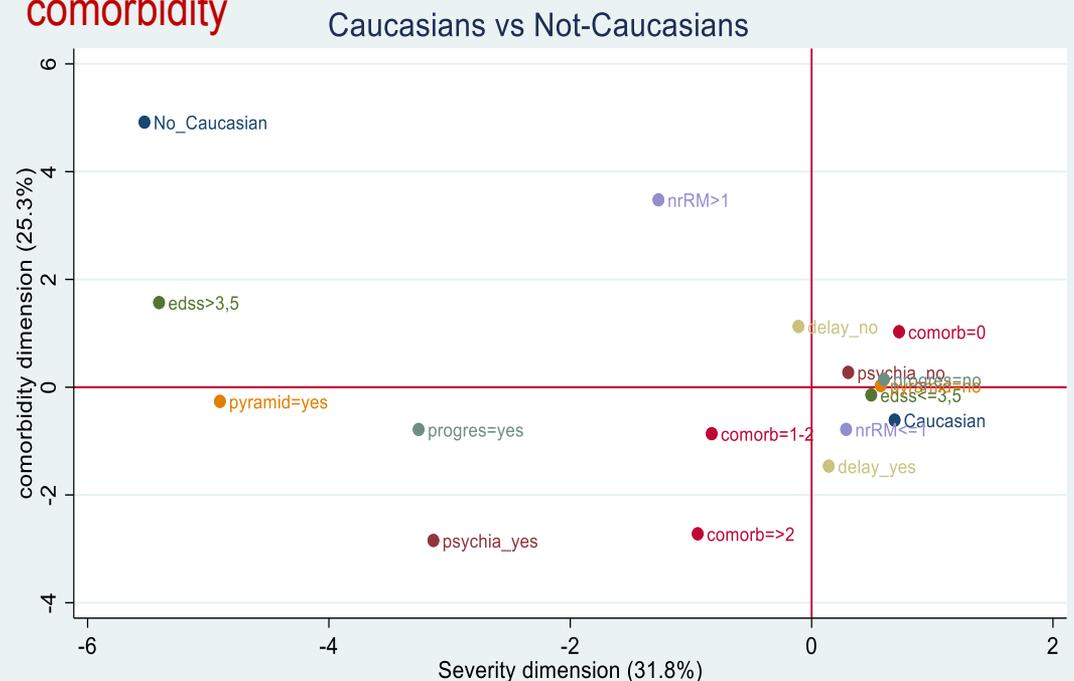
**Methods:** Statistically significant variables at univariable analysis were graphically displayed through the multiple correspondence analysis (MCA). Afterwards, multiple imputation was performed preliminary to multiple logistic regression

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## MCA plot of demographic and clinical characteristics of MS patients by ethnicity based on disease severity and comorbidity



## What's new:

From the MCA plot,

- ✓ more severe profile for Non-Caucasians than for Caucasians
- ✓ but..... they suffered a minor number of comorbidities

Specifically, non-caucasians compared to caucasian show:

- ✓ more prevalence of psychiatric comorbidity (AdjOR=1.88; 95%CI=(1.05-3.36))
- ✓ more severe Expanded Disability Status Scale (EDSS) class at onset (AdjOR=2.65 for EDSS at onset>3.5 ; 95%CI=(1.36-5.14))
- ✓ minor risk of a number of comorbidities between 1 and 2 (AdjOR=0.65; 95%CI=(0.46-0.93)).
- ✓ major likelihood to take higher number of MR exams (AdjOR=1.65; 95%CI=(1.08-2.53)).

## References

- [1] C. Ahlgren, A. Odén, and J. Lycke, "A nationwide survey of the prevalence of multiple sclerosis in immigrant populations of Sweden," *Mult. Scler. J.*, vol. 18, no. 8, pp. 1099–1107, 2012.
- [2] A. Ascherio and K. L. Munger, "Epidemiology of multiple sclerosis: from risk factors to prevention—an update," in *Seminars in neurology*, 2016, vol. 36, no. 02, pp. 103–114.
- [3] P. Berg-Hansen and E. G. Celius, "Socio-economic factors and immigrant population studies of multiple sclerosis," *Acta Neurol. Scand.*, vol. 132, pp. 37–41, 2015.
- [4] M. Pugliatti and C. Ferri, "Migration—a route to multiple sclerosis risk globalization?," *Nat. Rev. Neurol.*, vol. 16, no. 2, pp. 67–68, 2020.