Background
Multiple sclerosis (MS) is a disabling disease that affects the central nervous system. Switching from first line drugs or initiation of a second-line therapy should be considered if suboptimal response is observed with first-line drugs.
- First-line drugs: interferon-β (Avonex®, Betaferon®, Rebif®) and glatiramer acetate.
- Second and third-line drugs: Natalizumab, mitoxantrone, cyclophosphamide and rituximab.

Purpose
The aim of this study is to analyze the changes in MS treatment, focusing on the elapsed time and the reasons to change.

Results

- Patients that switched treatment: 30%, once; 7%, at least twice (23.3% of MS population who had changed previously).

Treatment time (mean ± SD): 51 ± 43 months, which decreased to 23.5 ± 21.9 months after first change treatment.

Expanded Disability Status Scale (EDSS) score (mean ± SD) at diagnosis: 2.5 ± 1.4; at first change: 3.9 ± 1.9; and at second change: 5.7 ± 1.8.

Materials and methods

- Design: Cross-sectional, retrospective descriptive study.
- Study population: 100 patients, 10% of MS population followed up by the reference Clinical Neuroimmunology Unit. Patients were randomly selected from those who picked up medication from the Outpatient Pharmacy Unit and had clinical records available.
- Data collected: biographic characteristics, disability value measured as EDSS score, clinical diagnosis, drug treatment, reasons for and time to change.
- Statistical analysis: Descriptive and Kaplan-Meier survival analysis (time to change) by pc software package SPSS V.15.0 (SPSS Inc, USA).

Conclusions
- The main reason for changing MS treatment was lack of efficacy, although this outcome varies with the drug.
- No changes were observed in treatment in more than half of the patients, during the follow-up period.
- MS treatment time change depends on EDSS at diagnosis and baseline drug.
- Patients with a better EDSS switched their treatment later.
- Patients in the Betaferon group, as first line treatment, changed their treatment later.