

# Impact of drug diversity on patient care in RRMS in Germany between 2010 and 2018

Bergmann A, Braune S, Dikow H, Rossnagel F, NeuroTransData Study Group

## Objective:

Adherence, relapse activity and 6months-confirmed-disability-progression (6mCDP) were compared between time periods 2010-2012, 2013-2015 and 2016-2018 overall and for strata injectable/oral/infusion DMTs.

## Background:

The impact of the increasing number of disease-modifying-therapies (DMTs) in RRMS on clinical efficacy and adherence is unknown.

## Methods:

Data were extracted from the German NeuroTransdata (NTD) doctor's owned MS-registry including 17.460 RRMS patients between 2010-2018. Means, percentages and risk rates (cumulative incidence) were analyzed.

## Results:

Results per 3years-periods 2010-2012/2013-2015/2016-2018 and % difference between means of 2010-2012 and 2016-2018:

- Percentage of patients on DMT: 68%/75%/77%/+13%
- Percentage of patients with DMT switch: 16%/24%/13%/NA
- Annualized relapse rate (mean):
  - all 0.23/0.17/0.14/-39%,
  - injectables 0.25/0.21/0.15/-39%,
  - orals 0.20/0.16/0.14/-30%,
  - infusions 0.11/0.16/0.11/ 0%.
- Percentage with 6mCDP reaching EDSS  $\geq$ 3-5: all 0.77%/0.67%/0.71%/ -8%,
- Percentage with 6mCDP reaching EDSS  $\geq$ 5: all 0.25%/0.20%/0.21%/-16%
- Months until 6mCDP and EDSS  $\geq$ 3-5 (mean): all 129/126/171/+33%,  
EDSS  $\geq$ 5 (mean): all 178/225/224/+26%
- Months until NEDA 2 failure on DMT (mean): all 6.9/7.0/7.3/+5.2%,  
NEDA 3 failure on DMT (mean): all 6.7/7.1/7.3/+9.3%.
- Percentage of patients on DMT progressing to SPMS: all 4.2/1.8/1.2/-70%
- Months from diagnosis RRMS until SPMS (mean): all 203/219/219/+7.8%

Risk rates for injectables/orals/infusion per 3years-periods 2010-2012/2013-2015/2016-2018

- first relapse on DMT
  - injectables 0,46/0,34/0,26
  - orals 0,48/0,32/0,24
  - infusions 0,31/0,28/0,20
- 6mCDP
  - injectables 0,03/0,03/0,02
  - orals 0,05/0,04/0,01
  - infusions 0,02/0,03/0,01
- Progression to SPMS

injectables 0,004/0,003/0,004  
orals 0,006/0,005/0,004  
infusions 0,009/0,000/0,009

- Discontinuation of DMT

injectables 0,59/0,54/0,33  
orals 0,45/0,32/0,18  
infusions 0,59/0,37/0,17

**Conclusion:**

In parallel with increasing numbers of DMTs higher proportion of patients were treated, clinical efficacy improved for ARR, progression to 6mCDP, worsening of EDSS higher than 3 and 5, respectively, duration until NEDA 2 and 3 failure and progression to SPMS. Overall improvements were similar for all types of DMTs indicating better allocation of single DMTs in individual patients showing a trend to level in the latest period. Additional initiatives are required to further improve personalized efficient allocation of DMTs.