more than two-thirds of the procedures. This risk remains, however, to be evaluated more specifically for spinal and combined spinal-epidural techniques.

The RESPONSE study is a French national pregnancy registry, nested within the OFSEP cohort.<sup>5</sup> Launched in September 2019, it aims to collect data on any women with MS during and after pregnancy, including data on analgesia and anesthesia for labor and delivery. Data will be collected prospectively through a specific and detailed questionnaire to anesthesiologists. We should, therefore, be able to better address in the near future the question of the impact of the different techniques used for neuraxial analgesia/anesthesia.

## **Declaration of Conflicting Interests**

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: S.V. has received consulting and lecturing fees, travel grants, and research support from Biogen Idec, Celgène, Geneuro, Genzyme, Novartis, MedDay, Merck Serono, Roche, Sanofi Aventis, and Teva Pharma. F.D.-D. has received lecturing fees, travel grants, and research support from Bayer-Schering, Biogen Idec, Genzyme, Novartis, Merck Serono, Roche, Sanofi Aventis, and Teva Pharma. R.M. has received consulting and lecturing fees, travel grants, and research support from, Biogen, Genzyme, Novartis, Merck, Roche, Sanofi, and Teva Pharma.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## **ORCID** iD

Sandra Vukusic D https://orcid.org/0000-0001-7337 -7122

# Cognition and its relation to brain health in patients with MS

Date received: 5 December 2019; accepted: 15 December 2019

## Dear Editor,

We would like to refer to the recently published paper on quality standards for brain health in people with

#### References

- Confavreux C, Hutchinson M, Hours MM, et al. Rate of pregnancy-related relapse in multiple sclerosis. N Engl J Med 1998; 339(5): 285–291.
- Vukusic S, Ionescu I, El-Etr M, et al. The prevention of post-partum relapses with progestin and estradiol in multiple sclerosis (POPART'MUS) trial: Rationale, objectives and state of advancement. *J Neurol Sci* 2009; 286: 114–118.
- Pasto L, Portaccio E, Ghezzi A, et al. Epidural analgesia and cesarean delivery in multiple sclerosis post-partum relapses: The Italian cohort study. *BMC Neurology* 2012; 12: 165.
- http://www.epopé-inserm.fr/wp-content/ uploads/2017/11/ENP2016\_rapport\_complet.pdf
- Vukusic S, Casey R, Rollot F, et al. Observatoire Français de la Sclérose en Plaques (OFSEP): A unique multimodal nationwide MS registry in France. *Mult Scler* 2020; 26: 118–122.

# Sandra Vukusic<sup>1,2,3,4</sup>, Françoise Durand-Dubief<sup>1</sup>, Romain Marignier<sup>1,3,4</sup>

<sup>1</sup>Service de Neurologie A, Hôpital Neurologique Pierre Wertheimer, Hospices Civils de Lyon, Lyon, France

<sup>2</sup>Observatoire Français de la Sclérose en Plaques (OFSEP), Lyon, France

<sup>3</sup>Centre des Neurosciences de Lyon, INSERM 1028 et CNRS UMR5292, Equipe Neuro-oncologie et Neuroinflammation, Lyon, France <sup>4</sup>Université Claude Bernard Lyon 1, Lyon, France

#### Correspondence to:

MS-related outcomes.

#### S Vukusic

Service de neurologie, sclérose en plaques, pathologies de la myéline et neuro-inflammation, Hôpital Neurologique Pierre Wertheimer, 59 boulevard Pinel, BRON cedex, 69677, France. sandra.vukusic@chu-lyon.fr

multiple sclerosis (MS) by Hobart and colleagues.<sup>1</sup>

The authors comprehensively describe the core,

achievable and aspirational care aspects that are most

relevant for people with MS, specifically when it

comes to preserving brain health. In this regard, time

is of the essence and it can be hypothesized that ade-

quate and timely care will substantially improve

Surprisingly, monitoring of cognitive functioning in

people with MS only reached the status of aspirational

Visit SAGE journals online journals.sagepub.com/ home/msj

SAGE journals

Multiple Sclerosis Journal

2020, Vol. 26(12) 1611-1613

DOI: 10.1177/ 1352458520907906

© The Author(s), 2019.

Article reuse guidelines: sagepub.com/journalspermissions care. According to the author panel, composed of 21 MS neurologists, this is a consequence of not knowing how to measure and monitor cognitive status over time as well as a lack of agreement among the MS community. In their view, agreement on which test or screening battery to use for this particular purpose would encourage acceptance of cognitive screening as a standard of MS care.

Luckily, we have good news in that regard. Just around the same period as the acceptance of the Hobart paper, recommendations on how to measure and monitor cognitive decline were published in *Multiple Sclerosis Journal*.<sup>2</sup> These recommendations were endorsed by the International Multiple Sclerosis Cognition Society (IMSOCGS) and the Consortium of Multiple Sclerosis Centers (CMSC). Based on a large body of literature, a selection of appropriate neuropsychological tests for cognitive screening in MS was provided (see Table 3 of the article).<sup>2</sup>

Following these international recommendations, a *minimal* cognitive assessment was determined as consisting of a baseline screening with a test for information processing speed (in clinically stable patients) and annual re-assessment with the same instrument. A good example is the Symbol Digit Modalities Test (SDMT), which has been demonstrated to have limited learning effects and to be able to detect clinically meaningful change.<sup>3</sup> In our opinion, this recommendation could have been incorporated as core care within the brain health consensus guidelines.<sup>1</sup> Next to cognitive functioning, patient-reported outcomes on mood, anxiety, fatigue, and subjective cognitive complaints should also be part of the core care.

A more elaborate neuropsychological evaluation may be incorporated as *achievable* care and for this, one could use the BriefInternational Cognitive Assessment for Multiple Sclerosis (BICAMS)<sup>4</sup> or other more detailed neuropsychological test measures.<sup>2</sup>

With regard to cognitive decline and (response to) cognitive rehabilitation, brain health, cognitive reserve and time are of utmost importance. Recently, it has been demonstrated that functional training is most effective in improving cognitive functioning in patients with a relapsing remitting disease course and patients with higher grey matter volume, for example, patients that are most likely to be relatively early in their disease course.<sup>5</sup> Components of a brain-healthy lifestyle (e.g. exercise) might have positive effects on cognitive functioning as well.

Timely identification of patients that are worsening in cognitive functioning is therefore key, allowing them the opportunity to benefit most from psychological care or lifestyle advice.

## **Declaration of Conflicting Interests**

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Hanneke Hulst received honoraria for speaking at scientific meetings, serving at scientific advisory boards and consulting activities from Biogen, Celgene, Genzyme, Merck and Roche. She has received research support from the Dutch MS Research foundation and serves on the editorial board of Multiple Sclerosis Journal (MSJ). Iris-Katherina Penner received honoraria for speaking at scientific meetings, serving at scientific advisory boards and consulting activities from Adamas Pharma, Almirall, Bayer Pharma, Biogen, Celgene, Desitin, Genzyme, Merck, Novartis, Roche and Teva. She has received research support from the German MS Society, Celgene, Teva and Novartis.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## References

- Hobart J, Bowen A, Pepper G, et al. International consensus on quality standards for brain healthfocused care in multiple sclerosis. *Mult Scler* 2019; 25(13): 1809–1818.
- Kalb R, Beier M, Benedict RH, et al. Recommendations for cognitive screening and management in multiple sclerosis care. *Mult Scler* 2018; 24(13): 1665–1680.
- Benedict RH, DeLuca J, Phillips G, et al. Validity of the Symbol Digit Modalities Test as a cognition performance outcome measure for multiple sclerosis. *Mult Scler* 2017; 23(5): 721–733.
- Langdon DW, Amato MP, Boringa J, et al. Recommendations for a Brief International Cognitive Assessment for Multiple Sclerosis (BICAMS). *Mult Scler* 2012; 18(6): 891–898.
- Fuchs TA, Ziccardi S, Dwyer MG, et al. Response heterogeneity to home-based restorative cognitive rehabilitation in multiple sclerosis: An exploratory study. *Mult Scler Relat Disord* 2019; 34: 103–111.

# Hanneke E Hulst<sup>1</sup> and Iris-Katharina Penner<sup>2</sup>

<sup>1</sup>Department of Anatomy and Neurosciences, Amsterdam Neuroscience, MS Center Amsterdam, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands <sup>2</sup>Department of Neurology, Medical Faculty, Heinrich-Heine-University, Dusseldorf, Germany Correspondence to: **HE Hulst** Amsterdam UMC, Department of Anatomy and Neurosciences - O2 Building, 13th Floor De Boelelaan 1108, 1081 HZ, Amsterdam The Netherlands **he1.hulst@amsterdamumc.nl** 

Visit SAGE journals online journals.sagepub.com/ home/msj

SAGE journals

# Cognition and its relation to brain health in patients with MS: Response to letter

Jeremy Hobart and Gavin Giovannoni

## Dear Editor of MSJ,

We agree that measuring and monitoring cognition are important aspects of multiple sclerosis (MS) care and ought to be standard, as proposed by Hulst and Penner.<sup>1</sup> The timing of publication was unfortunate in that our manuscripts were submitted, revised and accepted within a few days of each other. During our modified Delphi process and manuscript preparation, we were not aware of Rosalind Kalb's work<sup>2</sup> – hence our omission. When our guidelines are updated, cognition measurement will certainly be revisited.

We hope the MS community will continue to debate standards, their content, parameters and how they might be refined until we have the internationally adopted, clinically meaningful, globally endorsed set of standards that people with MS desperately need. In this regard, we believe the MS Brain Health consensus on quality standards<sup>3</sup> provides a firm start. We define metrics the wider MS community needs in order to measure their care provision within a global frame of reference. We provide scope to develop and broaden this consensus in the future. We welcome collaborations with those seeking to raise MS care standards and provide evidence-based direction for MS management. As part of this wider process, the MS community should review Kalb's work and consider how best to incorporate it within a unified set of guidance. Likewise, Soelberg Sorensen's proposal of MS Care Units4 provides another opportunity for collaboration and the implementation of globally recognised standards.

Developing standards is the necessary first step, but we recognise it is not, in itself, sufficient to ensure successful adoption. This requires processes that enable painless data collection in routine, hectic, daily clinical care. For this reason, we are developing, testing and refining a clinical tool.<sup>5</sup>

Gratifyingly, the standards recommended by MS Brain Health appear to be gaining traction. The publication's *Altmetric* score in *MSJ* is 63, meaning it ranks in the top 5% of all research outputs scored by *Altmetric*. Interestingly, but not surprisingly to us, 81% of the readers of our paper<sup>3</sup> are 'members of the public', implying that people with MS want to understand the standards. Part of MS Brain Health's continuing work will be to encourage MS healthcare professionals and people with MS globally to embrace an acceptable and realistic care standard – whether at a 'core', 'achievable' or 'aspirational' level, depending on local circumstances.

#### **Declaration of Conflicting Interests**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The drafting of this response was supported by Oxford Health Policy Forum and Oxford PharmaGenesis, under the direction of the authors and on behalf of the MS Brain Health initiative. Grants to support MS Brain Health since its inception have been provided to Oxford PharmaGenesis and Oxford Health Policy Forum by AbbVie, Actelion Pharmaceuticals, Biogen, Celgene, F. Hoffmann-La Roche, Merck KGaA, Novartis and Sanofi Genzyme, none of whom had any role in the writing of this response or in the decision to submit it for publication. The corresponding author had the final responsibility for the decision to submit for publication.

Multiple Sclerosis Journal 2020, Vol. 26(12) 1613–1614 DOI: 10.1177/ 1352458520918376

© The Author(s), 2019.

Article reuse guidelines: sagepub.com/journalspermissions