Multiple Sclerosis (MS) has a highly heterogeneous disease course with unpredictable clinical outcomes. Variables such as relapse rate and severity, clinical symptoms, and magnetic resonance imaging (MRI) findings, may predict long-term disability outcomes. The current lack of biomarkers and an universal algorithm underscores the need for education of the early signs and symptoms of disease progression (including relapse assessment criteria as set forth by Freedman and colleagues). The aim of this study was to measure knowledge gained from an online 20-minute video-following medical education (CME) program on MS progression among neurologists.

**RESULTS**

- Knowledge significantly improved among US neurologists who completed the entire CME activity and answered all 4 questions pre-activity and post-activity (n = 113, P < 0.001) with an overall large effect size (η² = 0.23) (Figure 1).

**METHODS**

- The effect of education focused on predicting disease progression in MS was assessed using a standardized linked pre-assessment/post-assessment study design.

**Instructional Methods:**

- The instruction format consisted of a 20-minute video-based dialogue between 2 faculty persons acting as moderator and providing additional commentary. The program featured synthesized slides and case studies for the target audience of neurologists.

- For learners wishing to view the program offline, a transcript and slides were made available for downloading/printing.

- In addition, the activities were available on the Medscape Mobile application, ensuring real-time access by the many clinicians who rely on mobile devices for education.

**Assessment Methods:**

- This study design compared participants’ responses to questions before exposure to educational content (pre-assessment measurement) with the same participants’ responses to the same questions placed after the activity and 40% after the activity. Therefore, even after the activity, significant improvements were observed in specific areas of: Knowledge of risk factors for progression (46% improvement, Figure 3) and Identifying effects of long-term treatment (21% improvement, Figure 4).

- As a result of participating in this educational program, significant improvements were observed in specific areas of:

  - Knowledge of risk factors for progression (46% improvement, Figure 3)
  - Identifying effects of long-term treatment (21% improvement, Figure 4)
  - Relapse assessment (21% improvement, Figure 5)

- Most neurologists understood the significance of gadolinium-enhancing lesions on MRI in patients receiving interferon beta; 82% answered correctly pre-assessment and 88% post-assessment (P = .551; Figure not shown).

**CONCLUSIONS**

Neurologists who participated in the CME activity, and completed the linked pre-assessment and post-assessment questions demonstrated statistically significant increases in knowledge related to disease progression in MS, including risk factors for disease progression, the effects of long-term treatment, and relapse assessment. This shows the effectiveness of a short video and slide online educational intervention, specifically designed to address identified knowledge gaps. Although there were significant positive results, the pre-assessment and post-assessment design only allows for an evaluation of knowledge gained. Although results show a significant increase in knowledge of what constitutes disease progression criteria, only 26% correctly identified the criteria from the answer options before the activity and 40% after the activity. Therefore, even after the activity the substantial percentage of neurologists remained unaware of what level of activity constitutes relapse and disease progression according to the Freedman criteria. This is an important area for future MS CME activities.

**REFERENCES**


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