

Fellowship training: a collateral damage of Covid-19 pandemic

Rodríguez-Violante Mayela ^{1,2} | Abundes-Corona Arturo ¹ | Cervantes-Arriaga Amin ¹

1. Clinical Neurodegenerative Research Unit, National Institute of Neurology and Neurosurgery, Mexico City, Mexico.
2. Movement Disorder Clinic, National Institute of Neurology and Neurosurgery, Mexico City, Mexico.

Correspondence

Mayela Rodríguez-Violante
Clinical Neurodegenerative Research Unit, National Institute of Neurology and Neurosurgery.

✉ mrodriguez@innn.edu.mx

Abstract

Introduction. The COVID-19 pandemic has affected the delivery of healthcare to people with chronic diseases such as movement disorders. Movement disorders specialists were compelled to adapt to this unprecedented situation. The objective of this study is to assess this impact in terms of the reduction in the number of in-office consultations of a high-specialty fellowship program as a result of the pandemic restrictions, and to evaluate the overall satisfaction with the fellowship. **Methods.** Out-patient records of the Movement Disorders clinic from March 1st, 2020, to February 28th, 2021, were collected. Data from this period was compared to that from the previous eight years. A satisfaction survey along with a visual analog scale was applied to both the patients and the specialty fellows. **Results.** During the study period a total of 1,742 consultations were given, which represent a 60% drop in comparison to the previous year. Moreover, 38% of those consultations were carried out by telemedicine. Both fellows' self-reported satisfaction and patient satisfaction with teleconsultation was high (90% and 96%, respectively). **Conclusions.** Despite the decrease of in-office visits, fellows reported an acceptable satisfaction regarding the learning objectives of the program and patient satisfaction was not compromised.

Keywords: *Movement disorders training, fellowship, pandemic, COVID-19*

Introduction

The COVID-19 pandemic has affected the delivery of healthcare to people with movement disorders (MD). Also, movement disorders specialists were compelled to adapt to this unprecedented situation. Academic hospitals had to adapt and cope with the emerging public health needs. The National Institute of Neurology and Neurosurgery in Mexico City underwent a partial reconversion in order to treat patients with neuro-covid as well as neurological patients with SARS-Cov-2 co-infection.¹ This resulted in changes in outpatient clinic scheduling and the reallocation of fellows and residents – regardless of the specialty – to the emergency room, intensive care unit and “patient pre-screening stations”.

Despite the imperative nature of such adaptation, negative consequences were expected in education. Most of the MD Clinic's outpatient visits were postponed indefinitely, and telemedicine-based consultations were implemented as an alternative. Teleconsultations had not been previously carried out in the context of movement disorders in said center, resulting in a steep learning curve for fellows along with patients, who

had to learn to overcome technological difficulties as well as to confidently undergo a “virtual” physical examination. Because of the mandatory measures to limit the spread of SARS-Cov-2, in-person seminars and meetings were cancelled or limited in most academic medical centers. The objective of this study is to assess the effect of said restrictions in terms of the reduction in the amount of in-office consultations of a high-specialty fellowship program (Movement disorders), as well as to evaluate the overall satisfaction with the fellowship.

Methods

Out-patient records of the Movement Disorders clinic from March 1st, 2020, to February 28th, 2021, were collected; both in-office and telemedicine consultations were considered. Data from this period was compared with that of the previous eight years, and is presented as frequencies and percentages. In the case of telemedicine consultation, a satisfaction survey was applied to both the patients and the specialty fellows² as



follows: Patient post-telemedicine visit questionnaire item 17, using a scale from 0 (highly disagree) to 100 (highly agree), "I am pleased with the outcome of my telemedicine visit"; and Physician post-telemedicine visit questionnaire item 14, using a scale from 0 (highly disagree) to 100 (highly agree), "I am pleased with the outcome of this telemedicine visit". Also, a visual analog scale (VAS) – ranging from 0 (very unsatisfied) to 100 (very satisfied) – was applied to the fellows at the end of their training to evaluate the satisfaction with the achieved learning objectives. The VAS is a reliable instrument used as a psychometric response scale that measures subjective characteristics or attitude, permitting an infinite number of gradations between endpoints, which offers an advantage over Likert-scales or similar, that need to be exhaustive in order to cover the entire spectrum of possible answers.³

The study was approved by the local Ethics Committee (61/20) and informed consent was obtained for the satisfaction surveys.

Results

During the study period a total of 1,742 consultations were given. The Movement Disorders Fellowship Program at the Institute began in 2012. Table 1 shows the number of outpatient clinic consultations in the last eight years. The number of consultations showed an upward trend until 2019; except for 2020, when a 60% drop is observed. The decrease in the number of consultations given by fellows had a similar reduction; nevertheless, 38% of those consultations were carried out by telemedicine, resulting in an 80% reduction of in-office consultations for the 2020 class in comparison to the 2019 class. This trend was also present for procedures such as botulinum toxin injection or deep brain stimulation programming. Both fellows' self-reported satisfaction and patient satisfaction with teleconsultation percentages were high (90% and 96%, respectively). All four fellows of the 2020 class rated their satisfaction regarding the learning objectives as a 90 in the VAS.

Discussion and conclusion

Before the COVID-19 pandemic, novel tools for education had not been part of many medical educational programs; nonetheless, dramatic adaptations to these traditional didactic methods had to be implemented with urgency to limit the negative effects of the pandemic restrictions. The surveys applied in this study have attempted to evaluate the effectiveness of e-learning in this context.

Table 1. Number of outpatient consultations in the Movement Disorders Clinic per academic year.

Academic year	MD outpatient consultations	Percentage change	Fellowship outpatient consultations
2012	3,155	-5.54%	1,535 (48.6%)
2013	3,281	+3.99%	1,685 (51.36%)
2014	3,584	+9.23%	1,666 (46.48%)
2015	3,783	+5.55%	1,457 (38.51%)
2016	3,838	+1.45%	1,496 (38.94%)
2017	3,868	+0.78%	1,543 (39.89%)
2018	4,124	+6.62%	1,609 (39.01%)
2019	4,414	+7.03%	1,874 (42.5%)
2020	1,742	-60.53%	633* (36.3%)

* Including 240 teleconsultations

In general, knowledge acquisition and perceived fellow satisfaction were maintained despite the substantial change in delivery of education.⁴ Feasibility of a Movement Disorders Virtual Fellowship Training has been recently reported. Obvious caveats include clinical aspects not evaluable by virtual consultations, including tone, reflexes, and sensitivity testing.⁵ Advantages included increased patient access and a decrease in scheduling barriers.

Fellow satisfaction was in general positive (69%) albeit not optimal.⁵ In our center, despite the dramatic decrease of in-office visits, fellows reported an acceptable satisfaction regarding the learning objectives of the program. Moreover, both fellows' self-reported satisfaction and patient satisfaction with teleconsultation percentages were high (90% and 96%, respectively).

The pandemic has promoted adaptations resulting in the improvement of the fast-evolving field of telehealth.⁶ COVID-19 vaccine roll-out will probably result in a partial normalization of in-office visits, but lessons regarding fellow training and how their competencies need to be expanded should not be forgotten.

References

1. Díaz-Bello S, Hernández-Hernández A, Guinto-Nishimura GY, Mondragón-Soto MG, Lem-Carrillo M, González-Aguilar A, et al. Reconversion of neurosurgical practice in times of the SARS-CoV-2 pandemic: a narrative review of the literature and guideline implementation in a Mexican neurosurgical referral center. *Neurosurg Focus*. 2020; 49(6):E4. doi: 10.3171/2020.9.FOCUS20553
2. Hanson RE, Truesdell M, Stebbins GT, Weathers AL, Goetz CG. Telemedicine vs Office Visits in a Movement Disorders Clinic: Comparative Satisfaction of Physicians and Patients. *Mov Disord Clin Pract*. 2019; 6(1):65-9. doi: 10.1002/mdc3.12703
3. Klimek L, Bergmann KC, Biedermann T, Bousquet J, Hellings P, Jung K, et al. Visual analogue scales (VAS): Measuring instruments for the documentation of symptoms and therapy monitoring in cases of allergic rhinitis in everyday health care: Position Paper of the German Society of Allergology (AeDA) and the German Society of Allergy and Clinical Immunology (DGAKI), ENT Section, in collaboration with the working group on Clinical Immunology, Allergology and Environmental Medicine of the German Society of Otorhinolaryngology, Head and Neck Surgery (DGHNOKHC). *Allergo J Int*. 2017; 26(1):16-24. doi: 10.1007/s40629-016-0006-7
4. Cuffaro L, Carvalho V, Di Liberto G, Klingelhofer L, Sauerbier A, Garcia-Azarin D, et al. Neurology training and research in the COVID-19 pandemic: a survey of the Resident and Research Fellow Section of the European Academy of Neurology. *Eur J Neurol*. 2020. doi: 10.1111/ene.14696. Epub ahead of print.
5. Esper CD, Scorr L, Papazian S, Bartholomew D, Esper GJ, Factor SA. Telemedicine in an Academic Movement Disorders Center during COVID-19. *J Mov Disord*. 2021. doi: 10.14802/jmd.20099. Epub ahead of print.
6. Suarez-Cedeno G, Pantelyat A, Mills K, Murthy M, Alshaikh J, Rosenthal L, et al. Movement Disorders Virtual Fellowship Training in Times of Coronavirus Disease 2019: A Single-Center Experience. *Telemed J E Health*. 2021. doi: 10.1089/tmj.2020.0419. Epub ahead of print.

Artículo sin conflicto de interés

© Archivos de Neurociencias