

How the COVID-19 emergency changed our modality to treat patients with migraine: a positive aspect of the pandemic

Licia Grazzi¹  · Paul Rizzoli²  · Alberto Raggi³ 

Published online: 28 December 2022

© Fondazione Società Italiana di Neurologia 2022

Migraine patients experienced a significant impact due to the coronavirus 2019 disease (COVID-19) pandemic; maintaining optimal access to needed care was challenging. Migraine management, which is often difficult under normal circumstances, became very complex during the COVID-19 pandemic, mainly due to the widespread limitations on mobility. As a result, providers implemented telemedicine and other web-based modalities for maintaining patient care, together with the development of new, rigorous, and effective systems to remotely evaluate patients and to deliver therapeutic modalities, including psychotherapy and other behavioral therapies.

In the past decades, various treatment programs have been developed at our headache center to educate and support both adolescents and adult patients with migraine. Besides outpatient management, an in-hospital withdrawal program was developed for those with the diagnosis of Chronic Migraine and Medication Overuse Headache (CM-MOH). This program is often combined with behavioral treatments, in particular mindfulness.

These behavioral approaches were traditionally conducted at the hospital with 5- to 8-day hospital-based withdrawal program and weekly face-to-face sessions in small groups of patients. Of course, the pandemic forced us to significantly change the regular clinical practice adopted for patients with migraine, as patients could not attend the hospital. Therefore, we proposed a pilot study of the application of a

home-based program for the withdrawal procedure. These were performed with the use of secure video smartphone/PC applications that allowed for continuity of care. Ultimately, we were able to report the results of this approach, but we remember very well that it was a “learning by doing” experience, which we went through different steps.

Our first priority was to find a behavioral treatment solution for our current patients. For these patients, we developed a specific “emergency” protocol through use of smartphone and instant message applications [1]. Fifteen patients with CM-MOH regularly attended the in-hospital withdrawal program and were waiting for the mindfulness sessions at the institute at the onset of the pandemic emergency. These patients were instructed to use their smartphone to follow the mindfulness program. Regular daily sessions of 12 min and one weekly 1-h session with the mindfulness trainer were implemented. The adherence of patients was high, and for patients attending regularly these smartphone sessions, an innovation for both them and us, patients improved significantly over 1 year [1].

The second step concerned the management of patients with CM-MOH during the pandemic who could not attend the usual in-hospital withdrawal treatment due to mobility restrictions. For these patients, we developed the BeHome program, a home-based withdrawal program which also included a mindfulness-based treatment delivered by web (the study was approved by the institute’s ethical committee (protocol no. 75.01/2020). We tested its feasibility and long-term effectiveness with a specific study, designed during the COVID-19 pandemic emergency. Twenty patients with diagnosis of CM-MOH were enrolled. They performed the withdrawal program at home: it comprised oral administration of steroids and benzodiazepine for 5 days, education on pain management, and six weekly-1-h video mindfulness sessions delivered with a dedicated web-based platform [2]. Home practice was encouraged: a 12-min-specific mindfulness session was recorded and provided to patients for use on a PC or smartphone. Follow-up visits were scheduled at

✉ Licia Grazzi
licia.grazzi@istituto-besta.it

¹ UO Neuroalgologia – Centro Cefalee, Fondazione IRCCS Istituto Neurologico Carlo Besta, Via Celoria 11, 20133 Milan, Italy

² John Graham Headache Center, Brigham & Women’s Faulkner Hospital, Harvard Medical School, Boston, MA, USA

³ UO Neurologia Salute Pubblica E Disabilità, Fondazione IRCCS Istituto Neurologico Carlo Besta, Milan, Italy

3, 6, and 12 months after withdrawal. At 6 months, large reductions were observed in migraine days/month (from 15.0 ± 6.4 to 8.0 ± 4.1 ; Cohen's effect size 1.09) and in medications/month (from 18.0 ± 8.3 to 6.0 ± 3.8 ; Cohen's effect size 1.44), and none of the patients was still overusing medications.

In both these two groups of patients, tailored prophylaxis was prescribed: in most cases, β -blockers were prescribed to those with signs of raised blood pressure and amitriptyline to those showing a mixture of tension-type headache features and with mild to moderate symptoms of anxiety or depression.

The third step was an expansion of the BeHome program to adolescents, who are generally not submitted to a structured withdrawal. A total of 20 adolescents with migraine without aura at high frequency (HEFM) and CM were in the waiting list to start the mindfulness sessions and were managed by a specific web-based program. They received six sessions of a mindfulness-based treatment and were followed up for 6 months as part of a larger study. Repeated measure analyses comprised 12 patients who completed the 6-month follow-up and who showed a significant improvement for headache frequency, symptoms of depression, and catastrophizing [3].

Our conclusion is that the BeHome program seems to have been feasible, effective, and sustainable during the COVID-19 pandemic emergency, but could also be very helpful in regular clinical practice as an innovative approach to the management of adults with CM-MOH and adolescents with HEFM and CM. Although this analysis was conducted on a portion of the sample and on interim time points, it has to be noted that none of the patients was lost to follow-up.

Limitations to the experiences herein reported include small sample size, short-term of follow-up, and absence of a control condition. Despite this, our pilot studies showed feasibility and effectiveness of a web-based delivery of non-pharmacological therapies in both adults and adolescents. These approaches can be expanded in regular times for patients with migraine and might be tested also with patients suffering from different kinds of chronic pain to enhance the effectiveness of pharmacological treatments.

As clinicians involved in this field, we learnt a lot from the dramatic experience of COVID-19, which pushed us to find new ways to deliver our routine clinical practice, with modalities that we would not probably have considered in the short-medium term. Policy-makers, members of interdisciplinary migraine teams, and patient advocates should learn from this lesson too and put together their expertise and their knowledge to ameliorate our system to take care of patients with migraine.

Acknowledgements The BeHome project was sponsored by the Neurological Institute C. Besta IRCCS Foundation.

Data availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Conflict of interest The authors declare no competing interests.

References

1. Grazzi L, Rizzoli P (2020) The adaptation of management of chronic migraine patients with medication overuse to the suspension of treatment protocols during the COVID-19 pandemic: lessons from a Tertiary Headache Center in Milan. Italy Headache 60:1463–1464. <https://doi.org/10.1111/head.13825>
2. Grazzi L, Telesca A, Rizzoli P (2022) Management of chronic migraine with medication overuse by web-based behavioral program during the COVID-19 emergency: results at 12 months. Neurol Sci 43:1583–1585. <https://doi.org/10.1007/s10072-021-05836-5>
3. Grazzi L, Montisano DA, Raggi A, Rizzoli P (2022) Feasibility and effect of mindfulness approach by web for chronic migraine and high-frequency episodic migraine without aura at in adolescents during and after COVID emergency: preliminary findings. Neurol Sci 43:5741–5744. <https://doi.org/10.1007/s10072-022-06225-2>

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.