The Social Media Trend of TikTok Tics: The Rise of Functional Tic-like Disorders During the COVID Pandemic

Allison N. Chang, MD, Janette Abramowitz, MD

Alicia (fictional patient name) was a 14-year-old female admitted to the inpatient child psychiatry unit due to suicidal ideation and a complex past psychiatric history that included self-harming behaviors, depression, and anxiety. During the hospitalization, the patient was seen irregularly jerking her arms, bobbing her head, and making vocalizations that included whistling and swearing. She had not been previously diagnosed with tics, and her parents explained these were new phenomenon. Her mother worried that Alicia had developed Tourette's syndrome (TS). During this time, TikTok videos with the hashtag #tourettes were trending. Popular influencers, with millions of likes, filmed themselves with their "Tourette's", with movements including arm and head jerking, as well as sudden vocalizations, all perfectly matching what Alicia was exhibiting.

While this is a fictional vignette, it highlights that since the onset of the COVID-19 pandemic, there has been an increasing number of young teenagers, like Alicia, presenting with tic-like behaviors that share similar phenomenology (motor tics primarily involving head and neck; phonic tics, such as coprolalia.) These behaviors disrupt voluntary movements and speech, and are viewed widely on the popular social media site, TikTok[1]. Colloquially also known as "TikTok tics," they are part of functional tic-like disorders (FTLDs), a subtype of functional movement disorders, in which patients experience involuntary motor symptoms that cannot be attributed to an underlying medical cause1. Clinically, TikTok tics can be difficult to distinguish from tics seen in TS. In addition to sharing some phenomenological features, both types of tics worsen during periods of stress, can improve with distraction, and have elements of suggestibility.[1]

However, it is important to delineate the two conditions, as diagnosis determines treatment. TS affects about 1% of the population, primarily boys, with an onset usually before the age of 10.[2] Patients will experience an urge, followed by repetitive non-rhythmic brief vocalizations or movements, typically in a rostrocaudal pattern.[2] (Sentence saying something like the urge is known as premonitory, with definition) In contrast, FTLDs will present with a rapid onset, usually affecting adolescent females.[2] FTLDs will lack the premonitory urge, and the tics primarily impact the arms or the trunk rather than the face.[2] In addition, patients will often have other comorbid functional neurologic symptoms[2]. FTLDs will not respond to medications commonly used to treat tics.[2] Overall, FTLDs only represents a minority of functional movement disorders. However, recently the CDC found that the proportion of ED visits for tic-like disorders among adolescent females approximately tripled from 2019 to 2022.[3] Why then, during the COVID pandemic, was there a substantial increase in the reports of FTLDs? And how has social media played a role in this phenomenon?

The COVID-19 pandemic was an unprecedented event in which many children struggled with psychosocial stressors and social isolation. During the pandemic, social media viewing, including the #tourettes TikTok webpage, significantly increased. Research was conducted to assess the quality and types of tics exhibited in the videos of TikTok #tourettes[2]. While the video reviews were not necessarily complete clinical exams, researchers were concerned that these videos showed more functional tic-like behaviors rather than primary tic disorders.[2] With the rapid spread of FTLDs globally, this dissemination of "TikTok tics" can be considered part of a mass sociogenic or psychogenic illness, in which groups of people will exhibit symptoms of a disease during times of stress and anxiety. This is not a new phenomenon. In 2012, 19 teenagers developed

symptoms including tic-like behaviors and nonepileptic seizures at Le Roy High School[4]. This was later classified as a mass sociogenic illness as the adolescents, under numerous psychosocial stressors, were exposed to two children who had TS.[4] Today, with the rampant use of social media, TikTok tics have the ability to be viewed throughout the world, introducing tic-like behaviors to adolescents and children on a much larger scale than at Le Roy High School. The COVID-19 pandemic has been a unique situation; although children were already spending time online pre-pandemic, the pandemic resulted in increased stress for children, but also more online time. Therefore, both increased social media time and pandemic stress can be considered the main contributors for the notable increase in FTLDs.

> However, recently the CDC found that the proportion of ED visits for tic-like disorders among adolescent females approximately tripled from 2019 to 2022.[3]

It is not entirely clear how this phenomenon occurs, but it is understood that many of these patients struggle with comorbid psychiatric conditions or are predisposed to developing depression and anxiety.[4] The additional stress of the COVID pandemic may have led to the development of FTLDs as a maladaptive response to the psychological burdens.[4] It is thought that through modeling, or adoption of behaviors and motor patterns by observing others, teens watching social media may be unconsciously and involuntarily producing FTLD movements from influencers[1]. This is further supported with functional brain imaging studies in which connectivity abnormalities have been associated with patients with FTLDs. Specifically, patients exhibit defective activation in the motor and limbic cortex areas as a response to an emotional stimulus, suggesting an association with emotional dysregulation and a lack of motor ownership; patients are aware that they are producing increased movements, but perceive them as involuntary[4]. Therefore, with increased genetic susceptibility along with environmental stressors such as the pandemic, these patients are at higher risk for developing not only FTLDs but likely also other functional movement disorders.

Clinicians should understand that the treatment for FTLDs is different from TS. If the patient is diagnosed with FTLD and not TS, common medications for TS should be discontinued, and the focus should be on interventions known to be effective in functional movement disorders[2]. For example, there should be minimal attention given to the tic behaviors.[2] Increased attention to the behaviors can exacerbate FTLDs. Likewise, negative reactions to these tics, including shaming, are discouraged[2]. The tic-like behaviors can be distressing to the patient, and it is important to remember that the patient considers the tics to be involuntary. Rather, the clinician should validate that FTLDs is a true medical issue and offer reassurance to patients and families with regards to treatment options and outcomes. It is also recommended that patients avoid watching #Tourettes via TikTok or other social media sites that highlight other neurological symptoms for at least 4 weeks[2]. Behavioral interventions including cognitive behavioral therapy and habit reversal therapy can also be helpful in treatment.[2] Patients with FTLDs often have comorbid psychiatric conditions including anxiety and mood disorders. These mental health concerns should also be addressed and treated.

Interestingly, due to the heightened viewership of TikTok especially by adolescents during the COVID pandemic, TikTok, along with other popular social media platforms, have become important sources of information for many adolescents seeking medical advice[5]. In fact, #MentalHealth on TikTok received over 17 billion views on tagged videos.[5] However, the quality of information provided is questionable. One study that evaluated the medical information on acne-related social media videos identified that the top 100 videos with #acne had "information with serious to potentially important shortcomings."[5] Although more research is needed to understand

social medias' roles in dissemination of medical advice, providers should ask patients about their social media use and be aware of popular TikTok trends and influencers who are providing medical advice. This will give the patient an opportunity to ask further questions and the clinician an opportunity to provide clarifying information.

Ultimately, for patients like Alicia, FTLD is a distressing disorder, and for patients and their families, its etiology is unclear. For clinicians, many will continue to see such presentations with continued stressors, such as the continuation of the COVID pandemic, and with the spread of social media. It's important for clinicians to understand the differences between FTLD and TS, the underlying neurological and psychopathologies underlying the development of FTLD, and the appropriate treatments for FTLD.

Take Home Summary

TikTok tics is a subtype of functional movement disorders and considered a maladaptive response to the psychological stressors such as the pandemic. FTLDs has become a global phenomenon due to social media's ability to spread mass sociogenic/psychogenic illness burdens.

References

1. Hull M, Parnes M. Tics and TikTok: functional tics spread through social media. *Movement Disorders Clinical Practice.* 2021; 8(8): 1248–1252. https://doi.org/10.1002/mdc3.13267
2. Zea Vera A, Bruce A, Garris J, et al. The phenomenology of tics and tic-like behavior in TikTok. *Pediatric Neurology.* 2022; 130:14-20. https://doi.org/10.1016/j.pediatrneurol.2022.02.003
3. Radhakrishnan L. Pediatric emergency department visits associated with mental health conditions before and during the COVID-19 pandemic - United States, January 2019–January 2022. *Centers for Disease Control and Prevention*. https://www.cdc.gov/mmwr/volumes/71/wr/mm7108e2.htm. Published February 24, 2022. Accessed February 4, 2023.
4. Amorelli G, Martino D, Pringsheim T. Rapid Onset Functional Tic-Like Disorder Outbreak: challenging differential diagnosis in the COVID-19 pandemic. *Journal of the Canadian Academy of Child and Adolescent Psychiatry Journal de l'Academie canadienne de psychiatrie de l'enfant et de l'adolescent*. 2022;31(3):144-151. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9275373/
5. Zenone M, Ow N, Barbic S. TikTok and public health: a proposed research agenda. *BMJ Global Health*. 2021;6(11):e007648. http://dx.doi.org/10.1136/bmjgh-2021-007648

About the Authors

Allison N. Chang, MD, is a first-year resident in psychiatry at the University of Hawaii, Honolulu. She is interested in child and adolescent psychiatry.

Janette Abramowitz, MD, is the Assistant Professor of Psychiatry at the John A. Burns School of Medicine and is the Associate Program Director for the General Psychiatry Residency Program. She specializes in neuropsychiatry and is board-certified in both Psychiatry and Neurology.

The authors have reported no funding for this work.

Disclosure: Drs. Chang and Abramowitz have reported no biomedical financial interests or potential conflicts of interest.

Correspondence to Allison N. Chang, MD; e-mail: **acchang20@gmail.com**

This article was edited by Andrés Martin, MD, PhD.