Psychiatric comorbidities in patients with mass social media-induced illness presenting with Tourette-like behavior

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BACKGROUND

For the past 3 years we are faced with an outbreak of a new type of mass sociogenic illness (MSI) presenting with functional Tourette-like behaviors (FTB). Remarkably, symptoms spread solely via social media, while so far it was believed that for an outbreak of MSI personal contact among affected individuals is needed. We identified the protagonist of the German YouTube channel “Gewitter im Kopf” (English: “Thunderstorm in the brain”) who acts as the virtual index person of this outbreak in Germany, since patients presenting in our specialized outpatient clinic showed similar or even identical symptoms. Meanwhile, FTB became a global phenomenon presumably spread via numerous influencers on several social media channels including YouTube and TikTok. Here, we present a detailed clinical characterization of psychiatric comorbidities in patients with mass social media-induced illness (MSMI-FTB) presenting with FTB.

METHODS

Based on a thorough neuropsychiatric examination, and a newly developed semi-structured interview, we prospectively collected data of patients with regard to FTB, psychopathology, and diagnostic criteria for Tourette syndrome (TS) as well as medical history.

RESULTS

Comorbidities overall

In all but two patients (n=30; 93.8%), further comorbid psychiatric and psychological symptoms were found (mean: 4.3, range: 0-9, median: 4). In 24 patients (75%; mean: 2.4, range: 0-12, median: 2) coexisting somatic diseases were identified.

Psychiatric comorbidities

- Tourette syndrome (n=; 53%)
- Obsessive-compulsive behavior (OCB) (n=15, 46.9%)
- Anxiety (n=13, 40.6%)
- Depression (n=10, 31.3%)
- Autism spectrum disorder (ASD) (n=5, 15.6%)
- Personality disorders (n=6, 18.8%)
- Suicidal ideation (n=5, 15.6%)
- Pre-existing FTB (n=2, 6.3%)
- Pre-diagnosed mental retardation and comorbid conduct disorder (n=3, 9.4%)
- Post-traumatic stress disorder (PTSD) (n=2, 6.3%)

Other psychological abnormalities

Social behavior abnormalities (n=26, 81.3%) such as difficulty fitting into social groups and problems making friends.

Bullying experiences (n=15, 46.9%)

Sleeping problems (n=8, 25.0%)

Coexisting somatic diseases

Pre- or perinatal complications (n=10, 31.3%)

Past invasive surgery (n=9, 28.1%)

Allergies, headache, developmental delay, and physical disability requiring use of wheelchair or rolling walker (n=3, 9.4%, each)

Global clinical impression

Disregarding social media induced FTB, 13 patients (40.6%) were considered severely mentally ill, four (12.5%) severely physically ill, eight (25.0%) as both, and seven (21.7%, all females) as neither as shown in the figure.

Patients with MSMI-FTB and with TS

A comparison of comorbidities in patients with comorbid TS (n=15), in those patients without TS (n=17) can be found in table 1.

<table>
<thead>
<tr>
<th>Table 1: Comorbidities of patients with MSI-FTB with comorbid TS compared to those without comorbid TS (n=17)</th>
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</thead>
<tbody>
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<td>Sex (male/female)</td>
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<td>Comorbidities</td>
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<td>ADHD (n, %)</td>
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<td>OCB (n, %)</td>
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<td>Depression (n, %)</td>
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<td>ASD (n, %)</td>
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Further psychiatric disorders/symptoms

Abnormalities in social behavior

13 (86.7%) | 17 (76.5%) | 0.659

Personality disorder

4 (26.7%) | 2 (11.8%) | 0.383

Sleeping problems

5 (33.3%) | 3 (17.7%) | 0.424

Suicidal ideation

3 (20.0%) | 2 (11.8%) | 0.645

Exposure to bullying

7 (46.7%) | 8 (47.1%) | 1

Patients with MSMI-FTB and with primary tic disorder

A comparison of comorbidities of patients with MSMI-FTB to a large sample of patients with primary tic disorders patients can be found in table 2.

<table>
<thead>
<tr>
<th>Table 2: Comparison between patients with social media-induced functional Tourette-like behaviour (FTB) (n=32) and a large sample of patients with chronic tic disorders (CTD) (n=1032)</th>
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<tbody>
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<td>Age at evaluation (year, mean±SD)</td>
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<td>Age at onset (year, mean±SD)</td>
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<td>Sex ratio (male/female)</td>
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<td>Comorbidities</td>
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<td>ADHD (n, %)</td>
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<td>OCB/ODD (n, %)</td>
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<td>Depression (n, %)</td>
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CONCLUSIONS

- Additional psychiatric symptoms and abnormalities were found in 94% of patients
- Factors like further psychiatric symptoms, somatic diseases and experience of bullying seem to be predisposing factors for MSI-FTB
- When diagnosing MSMI-FTB – with or without ‘‘comorbid’’ TS – based on our data it is important to explore all patients individual and should be addressed in psychotherapy.
- Significantly higher numbers of OCB in patients with MSMI-FTB plus comorbid TS and significantly higher numbers of ADHD and OCB/ODD in comparison to a sample of patients with TS only