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# Treatment of Gilles de la Tourette Syndrome with Cannabis-Based Medicine: Results from a Retrospective Analysis and Online Survey.

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## Abstract

**Introduction:** Gilles de la Tourette syndrome (GTS) is a neuropsychiatric disorder that is characterized by motor and vocal tics and psychiatric comorbidities, including attention deficit/hyperactivity disorder (ADHD) and obsessive-compulsive behavior/disorder (OCB/OCD). From anecdotal reports and preliminary controlled studies, it is suggested that cannabis-based medicine (CBM) may improve tics and comorbidities in adults with GTS. This study was designed to further investigate efficacy and safety of CBM in GTS and

specifically compare effects of different CBM. **Materials and Methods:** First, we performed a retrospective data analysis including all those adult patients seen at our clinic, who had used CBM for the treatment of GTS at some time. All these patients were asked to complete an online survey (second study part) to receive more detailed data about treatment with CBM. **Results:** From medical records, we identified 98 patients who had used CBM (most often street cannabis followed by nabiximols, dronabinol, medicinal cannabis) for the treatment of GTS: Of the 38 patients who were able to judge, 66% preferred treatment with medicinal cannabis, 18% dronabinol, 11% nabiximols, and 5% street cannabis. Altogether, CBM resulted in a subjective improvement of tics (of about 60% in 85% of treated cases), comorbidities (55% of

treated cases, most often OCB/OCD, ADHD, and sleeping disorders), and quality of life (93%). The effects of CBM appear to persist in the long term. Adverse events occurred in half of the patients, but they were rated as tolerable. Dosages of all CBM varied markedly. Patients assessed cannabis (with a preference for tetrahydrocannabinol [THC]-rich strains) as more effective and better tolerated compared with nabiximols and dronabinol. These data were confirmed by results obtained from the online survey ( $n=40$ ). **Conclusion:** From our results, it is further supported that CBM might be effective and safe in the treatment of tics and comorbidities at least in a subgroup of adult patients with GTS. In our sample, patients favored THC-rich cannabis over dronabinol and nabiximols, which might be related to the entourage

effect of cannabis. However, several limitations of the study have to be taken into considerations such as the open uncontrolled design and the retrospective data analysis.

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**KEYWORDS:** Gilles de la Tourette syndrome; cannabis; cannabis-based medicine; tics

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**Conflict of interest statement**

