Development in pharmacological treatment of children with chronic tic disorders during the last two decades in Denmark

TAKE HOME MESSAGES:
• The percentage of patients treated with pharmacological treatment has been halved during the last two decades e.g., 60.5% (n=190) in cohort 1 and 30.5% (n=74) in cohort 2
• Non-pharmacological treatment (CBT) has become available since the collection of cohort 1
• A shift has been made from pimozide and risperidone as tics suppressing medications toward medications with more favorable side effects, e.g., aripiprazole and clonidine
• With comorbid ADHD the participants, in both cohorts, received more medical treatment and tried a greater number of medications than participants without ADHD
• During the last two decades, treatment with melatonin has increased and in cohort 2, sleep-problems was the most common reason for start of medical treatment

BACKGROUND:
The objective of this study was to investigate the development in pharmacological treatment of children with chronic tic disorders (CTD) during the last two decades in Denmark by comparing two clinical cohorts.

METHODS:
Cohort 1 was collected in 2005-2007 and included 314 participants with Tourette Syndrome (TS). Inclusion criterion consisted of: TS-diagnosis on September 1st 2005, according to the DSM-IV.
Cohort 2 was collected in 2019-2021 and included 243 participants with CTD. Inclusion criterion: TS-diagnosis or Persistent Motor or Vocal Tic Disorder on Maj 1st 2022, according to the DSM-V.

Both cohorts were divided into four phenotype subgroups, TS-only, TS+ADHD, TS+OCD and TS+ADHD+OCD. The YGTSS and CY-BOCS were used in both cohorts to assess the tic severity and presence of OCD, respectively. In cohort 1, DSM-IV criteria were used to diagnose ADHD, and in cohort 2, ADHD-rs.

RESULTS:

Comparison between the 4 subgroups in each cohort

<table>
<thead>
<tr>
<th></th>
<th>TS-only</th>
<th>TS+ADHD</th>
<th>TS+OCD</th>
<th>TS+ADHD+OCD</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medical treatment</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Cohort 1</td>
<td>36.4%</td>
<td>77.6%</td>
<td>57.9%</td>
<td>88.2%</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Cohort 2</td>
<td>16.9%</td>
<td>48.3%</td>
<td>30.0%</td>
<td>45.9%</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td><strong>Number of tried medications</strong></td>
<td></td>
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<tr>
<td>Cohort 1</td>
<td>0.77</td>
<td>1.97</td>
<td>1.42</td>
<td>2.57</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Cohort 2</td>
<td>0.27</td>
<td>1.08</td>
<td>0.63</td>
<td>1.02</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

*Only participants who received or had received medical treatment were included in this analysis.

Comparison of prescribed medications between the two cohorts

Reason for start of medical treatment in the two cohorts

*Only participants who received or had received medical treatment were included in this analysis.