Brake Shop Clinic Program Evaluation

CPRI, Applied Research & Education — October 2007

Background

Tourette Syndrome (TS) affects approximately 1% of the population (Scahill, Tanner & Dure, 2001). Behavioural and emotional problems associated with TS include Attention Deficit Hyperactivity Disorder (ADHD), Obsessive-Compulsive Disorder (OCD), Anxiety and Mood Disorders, Depression, general adjustment problems, and developmental and school learning disorders (Singer, Schuerholz & Denckla, 1995). As the prevalence of multiple issues is high in children with TS, this small population has a significant need for resources and treatment.

Compared to those without TS, children with TS (and associated disorders), have significantly lower grades, more behavioural problems, fewer friends, and more impaired parent-child relations.

About the Program

The "Brake Shop" service for TS and Associated Disorders is a highly specialized, tertiary care outpatient clinic at the Child and Parent Resource Institute (CPRI) in London, Ontario. CPRI serves children and adolescents, their families, schools, and community partners within a 17-county catchment area across South-Western Ontario.

All children/youth referred to the Brake Shop Clinic completed assessment measures. Clinic participants were divided into two groups:

1. *Exposure & Response Prevention (ERP)*: TS & OCD
2. *Self-Management (SM)*: TS and "explosive anger" (Intermittent Explosive Disorder)

What the Evaluation Involved

The ERP group met weekly for 8 weeks. The children/youth completed the National Institute of Mental Health – OCD (NIMH-OCD) scale on weeks 1, 3, 5, and 8 as well as 6 weeks and 6 months post-treatment. Parents were asked to complete a satisfaction questionnaire at the end of treatment (week 8).

The SM group met bi-weekly for 8 weeks. Caregivers completed the Rage Episodic Dyscontrol Scale (REDS) on weeks 1 and 8 as well as at 6 weeks and 6 months post-treatment. They also completed a satisfaction questionnaire at the end of treatment (week 8).

Both ERP and SM participants also completed the following measures pre- and post-treatment:

- Brief Child & Family Phone Interview (BCFPI): measures the type and severity of children's problems
- Conners' Parent Rating Scale – Revised (L) (CPRS-L): assesses psychopathology and problem behaviors in children and youth

Given the chronic nature of symptoms experienced by children/youth with TS, measurement of outcomes focused on quality of life and symptom reduction.

Participants

Of those who participated in the ERP group, 13 completed pre- and post- data. Pre-and post-data was collected for 27 of those who participated in the SM group. At admission, participants' ages ranged from 9.1-17 years. Ages at discharge ranged from 9.3-18.2 years. The majority (84%) of children/youth involved in the Brake Shop Clinic were male. This proportion is somewhat representative of the TS population in general (Swain, Scahill, Lombroso, King & Leckman, 2007).

The Findings

Statistical analyses were performed to assess the differences between average responses provided initially and at follow-up.

ERP Group Only

Among those who participated in the ERP group, there was a significant reduction in obsessive-compulsive symptoms from pre- to post-treatment. At the start of treatment, obsessive-compulsive tendencies significantly interfered with the child/youth's life. Help from others was required for daily functioning. By the end of treatment, symptoms caused only mild

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interference in the child/youth's life.

Compared to pre-treatment scores, the scores of ERP participants post-treatment indicated they became more functional in the home. Areas of improvement included reductions in:

- non-compliance
- irresponsible behaviour
- property damage
- vindictive/annoying/impulsive behaviours
- risky and angry outbursts

Social participation also improved for ERP group participants, suggesting reduced anxiety, isolation and withdrawal, and improved social involvement with peers and quality of social life.

SM Group Only

Families of participants in the SM group reported reduced impairment at school, resulting in fewer episodes of repeated disruptiveness in the classroom and a decline in non-compliant, truant and defiant behaviours.

Contrary to expectations, Family Comfort (measured by the Child and Adolescent Functional Assessment Scale) in the SM group became more problematic with treatment. For example, from pre- to post-treatment, families reported greater concerns about their child doing well and reported that other individuals raised concerns about their child's behaviour. A potential cause for this increase could be the awareness, on the part of family members, of the chronic nature of their child's skill deficits, potentially resulting in increased feelings of helplessness and/or conflict with others with less awareness. Hence, it may be important to teach parents ways to remind themselves that certain child behaviors are unintentional and outside of the children's control while simultaneously working toward increasing parental efficacy and improved coping strategies to modulate the affective response toward negative child behaviors (Gerdes & Hoza, 2006). By enhancing parents' knowledge of their child's needs, the parent can produce better coping styles, resulting in positive parental responses to their child (Donovan, Taylor & Leavitt, 2007).

When reports at the first and last week of treatment were compared, there was a significant reduction in the frequency of rage exhibited by SM participants; Episodes reduced from 1 to 3 per week down to 1 to 3 per month. This improvement was still evident at the 6-week follow-up. SM participants also reported feeling less guilty about the rage attacks they did exhibit.

At home, SM participants functioning improved with respect to attention regulation, impulsivity, conduct problems, and externalizing behaviours.

ERP and SM Groups Combined

Those children/youth who were rated on the Child and Adolescent Functional Assessment Scale (CAFAS) improved from a rating of moderately impaired at entry to a rating of mildly impaired at follow-up.

Specific improvements at school included:

- More compliant behaviours
- Less disruptiveness with classroom routine
- Increased attentiveness
- Improved grades
- Better attendance

At home, improvements included:

- More responsible behaviour
- Increased compliance with reasonable rules and expectations
- Fewer tantrums, angry outbursts
- Better relations with peers
- Less intense and abrupt mood swings
- Reduced fears, worries, anxieties

Implications

For service providers→ It is important that multi-dimensional approaches to treatment are used that are based on the needs of both the child/youth and family. Evidence regarding psychological treatment and family support is scarce, therefore the results of this evaluation will be extremely useful in treatment planning.

For families→ Significant improvements were evident in symptoms associated with TS among the children/youth who participated in this evaluation. This evidence suggests that family-centred treatment has the potential to reduce stress and improve quality of life for those with TS and their families.

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