The effects of Brief Strategic Family Therapy (BSFT®) on parent substance use and the association between parent substance use and adolescent substance use

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Abstract

Parent substance use significantly affects adolescent substance use. Dysfunctional family structure and inadequate parenting practices can result from parental substance use and are associated with adolescent substance use. This poster presents the effects of Brief Strategic Family Therapy (BSFT®) on parent substance use, and the association between parent substance use and adolescent substance use. 480 adolescents and parents were randomized to BSFT or Treatment as Usual (TAU) across eight outpatient treatment programs. Parents in BSFT significantly decreased their alcohol use from baseline to 12 months. Change in family functioning mediated the relationship between BSFT and change in parent alcohol use. Children of parents who reported any drug use at baseline had three times as many days of reported substance use at baseline compared with children of parents who did not use or only used alcohol ($\chi^2_{(2)} = 7.58$, $p = .02$). Adolescents in BSFT had a significantly lower trajectory of substance use than those in TAU ($\beta = -7.82$, $p < .001$) if their parents used drugs at baseline. BSFT is effective in reducing alcohol use in parents, and in reducing adolescents' substance use in families where parents were using drugs at baseline. BSFT may also decrease alcohol use among parents by improving family functioning.

Introduction

Substance abuse continues to be one of the most pressing public health issues affecting approximately 8.9 % of the population and costing the US economy almost 468 billion dollars in healthcare annually. Forty six percent of children under age 18 live in a household where an adult is smoking, drinking excessively, misusing prescription drugs or using illegal drugs. Seventeen percent of children live with a parent who has a substance use disorder. And, one of every 4 Americans who are addicted to drugs started their substance use before 18 years of age (CASA, 2011).

Family interventions for substance using parents have shown promising results for adult drug use (Mitrani et al., 2009). The positive effects of family therapy on family functioning and adolescent drug abuse have shown remarkably consistent outcomes across four clinical models: Multidimensional Family Therapy (Liddle et al., 2001), Functional Family Therapy (Waldron et al., 2001), Multisystemic Therapy (Henggeler et al., 2002) and Brief Strategic Family Therapy (Santisteban et al., 2006). To date none of these 4 adolescent drug abuse treatment models have examined the effects of family therapy on the parents' substance use nor the associations between parent substance use and adolescent substance use. The purpose of this poster is to examine the effects of BSFT in reducing parental substance use and to evaluate the associations between parent use and adolescent substance use.

This poster presents a secondary analyses from the BSFT effectiveness study conducted in the National Drug Abuse Treatment Clinical Trials Network. The BSFT effectiveness study randomized 480 drug abusing adolescents and their families to Treatment as Usual (TAU) or BSFT in 8 national outpatient community treatment centers (CTPs). Adolescents and their families were followed for 12 months after randomization.

Methods

Interventions:

BSFT. Adolescents and their family members received 12 to 16 sessions and up to 8 "booster" sessions of a manualized structural-strategic theory based intervention to address systemic (primarily family) interactions associated with adolescent substance use and related behavior problems. BSFT operates according to the principle that transforming family interactions will help improve the youth's presenting problem by strengthening adaptive interactions and changing maladaptive ones.

TAU. Adolescents randomized to TAU received a variety of services depending on the treatment programs available at participating CTPs. TAU included individual and/or group therapy, parent training groups, non-manualized family therapy, and case management. TAU had to include at least12-16 scheduled sessions to ensure that differences in dose between BSFT and TAU were not due to differences in planned treatment parameters.

Measures:

ASI lite was used to assess lifetime and current **alcohol and drug use in parents** at baseline and at 12 months post-randomization. Composite scores for drug and alcohol use were calculated following the ASI lite scoring manual.

Timeline Follow Back was administered to adolescent participants at baseline and then monthly for 12 months post randomization to assess **adolescent substance use.**

Parenting Practices Questionnaire and the Family Environmental Scale were administered to parents and adolescents at baseline, 4, 8 and 12 months post-randomization. A composite scale from these measures was used to assess **family functioning.**

Analyses:

Generalized estimating equations (GEE) were used to determine whether changes in parental current alcohol or drug use differed by treatment group using the ASI alcohol and drug composite scores. The distribution of the alcohol and drug composite scores were non-normal, and a Poisson distribution was used.

Wilcoxon analyses were used to assess the impact of parental substance use on adolescent substance use at baseline.

Parents were classified into three categories based on reported substance use at baseline:

- **Group 1 –** did not report any alcohol or drug use (no use; N=216)
- **Group 2 –** reported alcohol, but not drug use (alcohol only; N=198)
- **Group 3 –** reported drug use (drugs; N=66). Of these, 39 also reported alcohol use.

Mixed model longitudinal analyses were used to asses for differences in the trajectory of adolescent substance use based on parental substance use group and treatment condition. This study tested differences in linear and quadratic trajectories. The intercept in these models represents the between-groups effect across time.

Results

Parental Drug Use. Parents in BSFT significantly decreased their alcohol score from baseline to the 12 month assessment at a rate of 0.74 (IRR = 0.74, 95% CI [0.59, 0.93]), a 26% reduction. Parents in TAU had no significant change in ASI score over the same time period. At the 12 month assessment, parents in TAU had an average ASI score that was 69% higher than that of BSFT (IRR = 1.69, 95% CI [1.16, 2.46]). There were no significant differences between the two treatment conditions on composite score for drug use.

Adolescent Drug Use. Baseline adolescent substance was significantly different depending on the group of the parent ($\chi^2_{(2)} = 7.58$, $p = .02$). Children of parents who reported drug use at baseline had 3 times as many median days of reported substance use at baseline (median = 6) compared with children of parents who did not use (Group 1; median = 2) or only used alcohol (Group 2; median = 2). Mixed model longitudinal analyses controlling for baseline substance use showed that adolescents of parents in group 3, if they were in BSFT, had a significantly lower trajectory of substance use than those in TAU ($\beta = -7.82$, $p < .001$). (Figure 1) No significant differences were observed in the drug use trajectories for BSFT versus TAU for adolescents of parents in Group 2 or 3. Further analyses also showed a significant treatment difference in the linear parameter for adolescents whose parents were in group 3, indicating that adolescents in TAU were significantly increasing their substance use over time relative to BSFT in that group ($\beta = 5.01$, $p = .01$).

Mediation Analysis. Additional analyses were conducted to examine if parent reports of family functioning mediated effect between BSFT and parent alcohol use. The Mediation model in Figure 2 was mapped using a latent growth model since family functioning was assessed at 4 time points. The linear model was a good fit ($\chi^2_{(14)} = 23.84$, $p = .05$; CFI = .99; RMSEA = .039), and the latent linear slope was used as the mediating variable. The model provides evidence that change in family functioning significantly predicts parental alcohol use, but parental alcohol use does not predict change in family functioning.

Figure 1: Trajectory of substance use for adolescents whose parents reported baseline drug use *(N=66)*

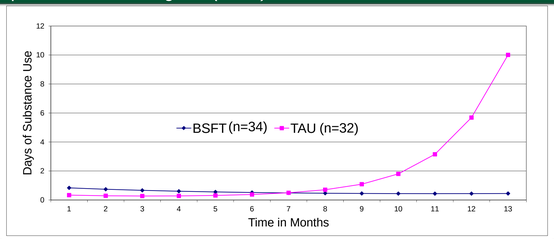
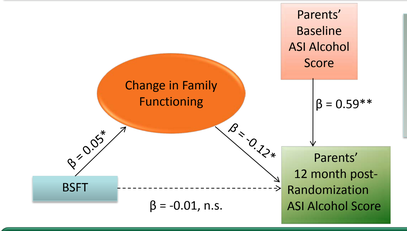


Figure 2: Post-Hoc Mediation Analysis *(N=458)* for parents' 12-month ASI alcohol score



Conclusions & Discussion

The impact of BSFT on family functioning has been consistently observed in multiple studies, but this is the first study that has shown the positive effects of treatment on substance use outcomes for parents. BSFT may achieve reductions in parent alcohol use by improving critical aspects of family functioning, such as reducing family conflict, which may be associated with parental use. It is also possible that reductions in parent alcohol use are associated with similar improvements in adolescent substance use. Equally, it is possible that the individual improvements (both parent and adolescent) contribute to and are influenced by changes in family functioning.

Adolescents of parent drug users represent a distinct sub-group that are particularly challenging for family therapists that must address more severe problem levels among multiple family members. It is possible that the effect of BSFT in this subgroup of adolescents was by helping the using parent to be more effective in communication, parenting strategies and in resolving conflict. Limitations include limited assessment points (only pre-post examination), 31.8% loss to follow up, and high variability of TAU and associated services, which were not tracked for parents.

References Cited

Henggeler, S. W., et al. (2002). Four-year follow-up of multisystemic therapy with substance-abusing and substance-dependent juvenile offenders. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 868-874.

Liddle, H. A., et al. (2001). Multidimensional family therapy for adolescent drug abuse: Results of a randomized clinical trial. *The American Journal of Drug and Alcohol Abuse, 27*(4), 651-688.

Mitrani, V. B., et al. (2009). Examining family networks of HIV+ women in drug recovery: Challenges and opportunities. *The Journal of Collaborative Family Healthcare, 27*(3), 267-283.

The National Center on Addiction and Substance Abuse at Columbia University. (2011). *Adolescent Substance Use: America's #1 Public Health Problem*, Press Release. http://www.casacolumbia.org/templates/PressReleases.aspx?articleid=641&zoneid=87

Santisteban, D. A., et al. (2006). Brief strategic family therapy: Lessons learned in efficacy research and challenges to blending research and practice. *Family Process*, 45(2), 259-271.

Waldron, H. B., Slesnick, N., Brody, J. L., Turner, C. W., & Peterson, T. R. (2001). Treatment outcomes for adolescent substance abuse at 4- and 7-month assessments. *Journal of Consulting and Clinical Psychology, 69*(5), 802-813.

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