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Diagnosis and Placement Variables Affecting the Outcome of Adolescents with Behavioral Disorders

Mary Peterson, PhD
Mark Scanlan, MD

SUMMARY. The treatment of adolescents with behavior disorders represents significant challenges. This article reviews some of the most effective behavioral and pharmacological treatments identified in the research. The study used outcome data from a residential treatment program to identify variables that predicted level of functioning post-discharge. Significant variables included diagnosis (mood vs. behavior disorder spectrum), co-morbidity and discharge placement. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <getinfo@haworthpressinc.com> Website: <<http://www.HaworthPress.com>> © 2002 by The Haworth Press, Inc. All rights reserved.]*

KEYWORDS. Behavior disorders, mood disorders, outcome variables

INTRODUCTION

Adolescents with a diagnosis of conduct disorder represent a significant challenge in assessment and treatment. A multi-agency task force recently reviewed the data from adolescent referrals in the Medicaid

population in the state of Nebraska. Data revealed that the larger spectrum of conduct disorder behaviors accounted for approximately 50% of clinical referrals. These referrals utilized approximately 63% of the treatment dollars spent during 1999 (Lyons & Leon, 1999). Most of these referrals were for a level of care that necessitated residential treatment.

Conduct Disorder (CD) is a diagnosis that is easy to make and difficult to treat. In contrast to DSM-III R criteria, DSM-IV criteria allow for subtyping CD according to age of onset (before or after age 10) and severity (mild, moderate or severe.) The age based amendment reflects empirical findings that show a different co-morbidity profile between childhood- v. adolescent-onset CD. Also, children with childhood-onset CD seem to have a greater frequency of neuropsychiatric disorders, including low IQ, ADHD, aggression and familial clustering of externalizing disorders.

There are many studies documenting the extensive comorbidities found with CD (Loeber & Keenan, 1994; Pfeffer, Klerman, Hurt, Kakuma, Peskin, & Siefker, 1993; Soltys, Kashani, Dandoy, & Vaidya, 1992). Of the externalizing disorders, ADHD is a common comorbid condition, along with ODD and substance abuse. Among internalizing disorders, mood and anxiety disorders are common. Some studies also show a high frequency of PTSD in confined adolescent males (Burton, Foy, Bwanuasi, & Johnson, 1994; Steiner, Williams, Benton-Hardy, Kohler, & Duxbury, 1998).

A thorough multi-dimensional assessment across situations and reporters is necessary to accurately identify CD in adolescence. Self-report may minimize the problems and omit events that show disturbance (Bank, Duncan, Patterson, & Reid, 1993; Kazdin, 1992; Luiselli, 1991). A detailed and comprehensive neuropsychiatric evaluation should be completed with close attention to the medical history, including accidents, injuries and corresponding deficits and dysfunction. There is wide agreement in the field that the best treatment of CD is multi-modal which includes the medical, cognitive, behavioral, educational, family and environmental vulnerabilities of each child.

The literature demonstrates a positive response for comorbid ADHD symptoms using CNS stimulants. In addition to their effectiveness, they are well studied, effective and safe when appropriately monitored and show substantial short term beneficial effects (American Academy of Child and Adolescent Psychiatry, 1991, 1997; Hinshaw, Buhrmester, & Heller, 1989; Hinshaw, Heller, & McHale, 1992). There are additional medication options based on the comorbid condition or specific target symptoms. These include neuroleptics for paranoia, psychotic ideation and aggression, although side-effects can potentially outweigh benefits

(Aman, Marks, Turbott, 1991; Campbell, Gonzalez, Ernst, 1992; Campbell, Gonzalez, & Silva, 1993). Antidepressants, particularly the SSRI's, are used to target depressive and anxiety disorders along with impulsivity. Clonidine and guanfacine are used for hyperarousal symptoms, commonly in tandem with stimulants.

Anti-convulsants or mood stabilizers are used for bipolar disorder and states of mood lability or severe impulsivity. Sedative and anxiolytics (especially benzodiazepines and antihistamines) generally showed limited usefulness and their problematic side-effects on memory and cognition, along with abuse potential, precluded any regular therapeutic usage (Vieselmann, Yaylayan, Weller, 1993).

In looking at the behavioral treatment, it is important to note the research findings regarding the treatment of adolescents with CD. Dishion, McCord and Poulin (1999) highlight the problems related to the iatrogenic effects that occur in peer-group interventions. Their longitudinal research showed that the "deviancy training" which happens in long-term treatment group settings, increases adolescent problem behavior and negative life-time outcomes. Other research has supported the negative influence of deviant peers on the psychosocial development of adolescents (Patterson, 1993; Elliott, Huizinga & Ageton, 1985).

The research has identified the most effective interventions to treat the adolescents with a conduct disorder. One of the most effective alternatives identified in the research (Kazdin & Weisz, 1998) appears to be Multi-Systemic Therapy (MST). MST develops interventions and support within the family and uses the family/systemic strengths as treatment "levers" to help move and shape the adolescent's behavior. Other empirically supported treatments include cognitive-problem-solving skills (Crick & Dodge, 1994; Spivack & Shure, 1982) and Parent Management Training (Graziano & Diament, 1992). The cognitive problem-solving skills training (PSST) approach trains youth to identify appropriate, pro-social ways to achieve their goals, as well as to identify potential negative consequences to their behavior. The Parent Management Training (PMT) helps parents to attend to appropriate behavior while responding directly and consistently to disruptive or deviant behavior. All three of these treatment approaches (MST; PSST and PMT) have been documented as effective and appropriate treatments for children and adolescents with conduct disorders (Kazdin & Weisz, 1998). Importantly, none of these treatments involve the aggregation of youth with conduct disorder.

Residential treatment level of care is often considered essential for high-risk adolescents. Residential treatment is required for those adolescents who represent significant risk to themselves or others and who

cannot be maintained in a community setting. Many of these adolescents have a diagnosis within the behavior disorder spectrum. The adolescents within this spectrum present a unique challenge, because the group environment of a residential program may be at odds with the concept of family and home interventions that have been identified as successful strategies in the research.

METHODS

Following the review of the literature we decided to conduct an outcome study that analyzed the outcome of our population according to the variables suggested in the literature, including diagnosis, comorbidity and living environment. We were interested in learning whether post-discharge success (as measured by GAF) was influenced by the variable of diagnosis type (conduct disorder spectrum vs. mood disorder spectrum), comorbidity (number of diagnoses on discharge) or discharge placement (home, foster care, treatment group home).

Participants

The subject population included 37 males drawn randomly from the total population of 92 males, who participated in the Residential Treatment Center (RTC) program at Regional West Medical Center (RWMC) in Scottsbluff, Nebraska during the time period between June, 1999, to January, 2001. The RTC program at RWMC is a small, 8-bed program in a rural community in western Nebraska. The program uses a combination of positive peer-culture and a structured behavior modification program.

The subject population had a wide variety of diagnoses: 17 subjects had primary mood disorder diagnoses and 20 subjects had primary behavior disorder diagnoses. Comorbidity was high: only 2 subjects had a single diagnosis; 15 subjects had two diagnoses; 11 had three diagnoses; 4 had four diagnoses; and 5 had five diagnoses.

Discharge placements varied along the continuum of care and included 12 subjects returning to their homes, 13 to a level of care consistent with treatment group homes, 7 to levels of care consistent with therapeutic foster care, and 5 to other residential treatment centers.

Procedures

Data collection involved contacting the caregivers of a cross-section of our treatment population ($n = 37$) to identify the adolescent's level of

functioning at 6 to 12 months post-discharge. A variety of people performed the role of caregiver and included parents, case-managers, therapists, and other program staff according to discharge placement. The contact was made by telephone by either a clinical psychologist or master's degree level intern using the same protocol. The length of time post-discharge varied between 6 and 12 months with a mean of 8.1 months post-discharge.

Measures

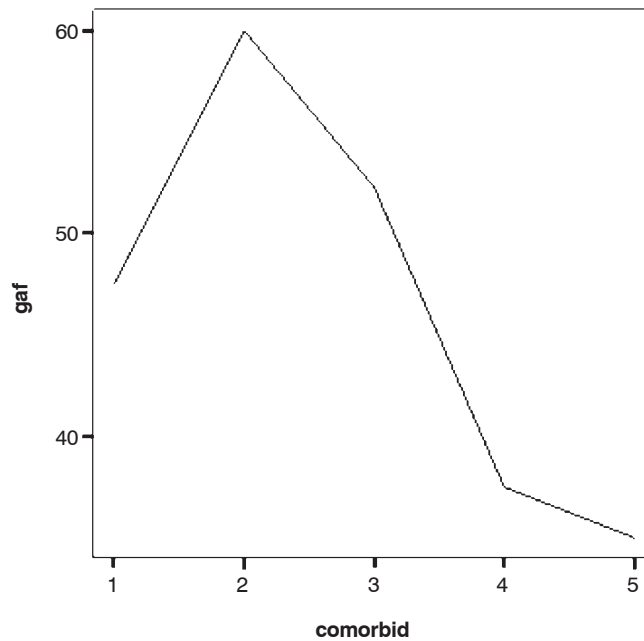
The diagnoses were made by the Medical Director of the RTC program at RWMC after an initial 2-week assessment and observation period, with input from a multi-disciplinary team. Diagnoses that had "rule-out" status were not included. The Global Assessment of Functioning score was used to assess overall functioning. This measure provided a "common language" across providers to assess functioning in a wide variety of domains, including home, school and social. The protocol prompted the caregiver to consider functioning across all domains.

RESULTS

We found that the three variables of diagnosis type (conduct disorder spectrum vs. mood disorder spectrum), comorbidity and discharge placement all contributed to a significant part of the variance when predicting GAF at post discharge follow-up. When we compared the data between those residents with a conduct disorder spectrum diagnosis with those given a mood disorder spectrum diagnosis, we found a significant difference in their success rates ($F(2, 35) = 22.06$ $p < .0001$). Adolescents with a primary mood disorder were functioning at a significantly higher level than those with a primary behavior disorder.

Our data also indicated significant negative correlation between comorbidity and post discharge success (Figure 1). Again, the effect was greater for those adolescents with the conduct disorder spectrum ($F = (1,35) 26.63 < .0001$.) Discharge placement was the third variable that contributed a significant part of the GAF variance on follow-up. The majority of our residents were discharged to treatment group home level of care. However, those residents that were discharged to either home or treatment foster care had significantly higher GAF scores at follow-up. When we analyzed all variables in a simultaneous regression, the three variables accounted for 63% of the variance of GAF outcome ($R = .815$,

FIGURE 1. GAF Scores as a Function of Number of Comorbid Diagnoses



$R^2 = .664$, $SE = 7.53$. Diagnosis $B = -9.75$, $SE = 2.75$; Discharge placement $B = -2.97$, $SE = 1.10$; Comorbid $B = -4.55$, $SE = 1.29$).

DISCUSSION

In discussing our results, we expected that those residents with a primary mood disorder would function at a higher level than those with primary conduct disorder spectrum diagnosis. The results of the follow-up data indicated that this was an accurate prediction. Adolescents with conduct disorder spectrum may be more treatment resistant, evoke negative responses from peers and caregivers and negatively affect their level of functioning. We also predicted that comorbidity would negatively affect adjustment. Our results also supported that prediction. The multiple diagnoses and complex symptom picture of many of our adolescents interfered with their ability to acquire the behavioral

skills and emotion management that is required in step-down placements.

However, the effect that discharge placement had on the functioning level of these adolescents was unexpected. Adolescents with conduct disorder spectrum diagnoses showed a lower level of functioning when placed in group home environments than in foster or family-home environments.

The data from our small program appears to be consistent with the review of the literature that indicates that a home environment is the best placement in which treatment can occur for an adolescent with a primary or secondary diagnosis of conduct disorder. The reason for that success may be the lack of “deviancy training” or it may be the development of wrap-around services that are anchored to a home environment. However, there is a secondary benefit to RTC programs, as they then are able to treat their adolescent populations without the effect of “deviancy training” by the conduct disordered adolescents. Thus, the axiom of “there’s no place like home” is often true for many reasons.

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BIOGRAPHICAL NOTES

Mary Peterson, PhD, is a clinical psychologist and Clinical Coordinator for the Behavioral Health Center at Regional West Medical Center. She received her undergraduate and master's degrees from the University of Cincinnati and her doctoral degree from the California School of Professional Psychology.

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