The effect of manualized behavior therapy with disruptive behavior disordered children in everyday clinical practice: a randomized clinical trial

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Samenvatting

On the basis of meta-analytical and other relevant outcome studies, *chapter 1* gives a clinical review of the treatment of school-aged children with Disruptive Behavior Disorders (DBD). The term DBD is used to include Oppositional Defiant Disorders (ODD) and Conduct Disorders (CD) (American Psychiatric Association, 1994), which are highly interrelated in school-age children (Lahey et al., 1992). Meta-analyses of studies of the outcome of parent management training (Serketich & Dumas, 1996) and cognitive-behavioral therapy (Bennett & Gibbons, 2000) with DBD children have shown that these methods are efficacious. These studies, however, are not representative of the effectiveness of treatment in everyday clinical practice. In everyday clinical practice, the following features of psychotherapy are important (Weisz et al., 1995): (a) the patients are referred or are seeking help; (b) the psychopathology of patients is severe and complex (e.g., comorbidity); (c) therapy takes place in service-oriented clinics or clinical agencies; (d) the patients are treated by clinicians with large caseloads, and (e) the clinical interventions are often eclectic and non-behavioral. Under research conditions, in contrast: (a) the clients are recruited at schools or through advertisement in newspapers; (b) the psychopathology of the study volunteers is less severe or complex; (c) research therapy is conducted in research settings (e.g., an university lab or a school); (d) the recruited clients are treated by specifically trained research-assistants with small caseloads, and (e) research therapy is more structured (using treatment manuals) and often behaviorally oriented.

There is a gap between the so-called efficacy studies in research conditions and the effectiveness studies in clinical practice. The mean effect size of the few clinic therapy studies related to various disorders is almost zero. To bridge this gap in relation to DBD children, we wanted to investigate whether the combination of two manualized behavioral methods, parent management training and social problem-solving skills training for children, that have been proven efficacious in the treatment of DBD children in so-called research conditions (research therapy), is also effective in everyday clinical practice (clinic therapy) (Weisz et al., 1995).

Our aim was to study the effect of treatment (per condition) on the disruptive and prosocial behavior of the child, with clinically referred children. Besides studying the effect in terms of statistically significant differences and effect sizes, we also studied improvements in terms of the reduction of problematic behaviors and/or the increase in prosocial behavior to within normative levels (i.e., clinical significance). Moreover, we wanted to investigate whether certain child and parental features would influence (i.e., moderate) the outcome, and we wanted to investigate the processes or mechanisms that might be responsible for (i.e., mediate) therapeutic change. The study had three assessment moments: measures that reflect the domains of interest were administered at pretreatment, posttreatment (after nine months) and at 6-months follow-up. Different sources were used: parent(s), teacher and child. All the instruments are described in *chapters 2* and *3*.

The Coping Power Program (Lochman & Wells, 1996), consisting of a parent management training and a social problem-solving skills training for the child, was adapted for use in outpatients clinics in the Netherlands and was called the Utrecht Coping Power Program (UCPP), described in *chapter 4*. The child component consists of 23 weekly sessions with four children over a 9-months period. The parents of these four children meet 15 times every other week. Specifically trained (over 6 months) but clinically inexperienced young psychologists carried out the manualized treatment. We conducted a pre-randomized clinical trial in which the effect of the Utrecht Coping Power Program was compared with the effect of Care as Usual (C-condition) (e.g., family therapy, individual behavior therapy) given by experienced psychotherapists (mean time of clinical experience: 10 years). For this purpose, 77

children (aged 8-12 years) with an Oppositional Defiant Disorder or Conduct Disorder and their parents were assigned randomly to either the experimental condition or the active control condition. Medication for the treatment of comorbid Attention Deficit Hyperactivity Disorder (ADHD) was given in both conditions where indicated.

The results of the effect study of the period from pretreatment to posttreatment are described in *chapters 5, 6* and *7*. In *chapter 5* (and in chapter 8 likewise), we address the statistical and clinical significance of the treatment effects. From pre- to posttreatment, within both conditions, the outcome measures changed significantly over time. That is, the disruptive behavior decreased and the prosocial behavior increased. In the UCPP-condition the effect sizes ranged from 0.24 to 0.69 and in the C-condition the effect sizes ranged from 0.23 to 0.54. Thus, in both conditions the effect sizes over time (pre- to posttreatment) range from small to moderate and the changes over time are favorable.

Comparing the two conditions at posttreatment, on the basis of difference scores, we found that the two conditions differed significantly only on overt aggressive behavior: children in the UCPP-condition improved more with respect to this behavior than children in the C-condition. Differences between the two conditions in their effect were also calculated using effect sizes, with a positive effect size meaning a larger effect in the UCPP-condition than in the C-condition. At posttreatment, these effect sizes ranged from -0.11 to 0.49. Moreover, the composite effect size for disruptive behavior at posttreatment was 0.18, meaning that for this important outcome measure there was a small effect size in favor of the UCPP-condition. Thus, although at posttreatment there was hardly any significant difference between the two conditions on the outcome measures, the small composite effect size of disruptive behavior demonstrated a small difference between both conditions in favor of the UCPP-condition. This composite ES between the two conditions is small, but relatively large when it is compared with the mean ES of 0.01 of other clinical effect studies related to various disorders (Weisz et al., 1995), in which treatments were compared with a control-condition.

Looking at the clinical significance, we found that at posttreatment the clinical population scores on some outcome measures (in both conditions) reached the non-clinical range. At posttreatment this was true for overt aggressive behavior and prosocial behavior. Thus, outpatient treatment can partly bring the behavior of DBD children within the range of closeness of the behavior of non-clinical children. Moreover, with respect to oppositional behavior and overt antisocial behavior of the child, we found that the proportion of UCPP-cases that fell within the normal range at posttreatment was significantly higher than the proportion of C-cases.

Chapter 6 reports on the mediating factors through which the treatment works and the moderating factors influencing the treatment effect. Moderators and mediators were studied by developing a model with estimated path coefficients by means of LISREL analyses. Of all the various mediators, i.e., parenting skills of the mother, parenting skills of the father and social problem-solving skills of the child, only some of the parenting skills of the mother were related to the disruptive and/or prosocial behavior of the child at posttreatment. First, there was a positive and significant relation between the positive involvement of the mother at posttreatment and the prosocial behavior of the child at posttreatment, meaning that overall (i.e., in both conditions) more positive involvement of mother was related to more prosocial behavior at posttreatment. Moreover, at posttreatment the mothers in the UCPP-condition had become more involved than the mothers in the C-condition. Second, for the mothers (in both conditions) less inconsistency at posttreatment was related to less disruptive behavior at posttreatment, and less inconsistency at posttreatment was related to more prosocial behavior at posttreatment. Moreover, at posttreatment the mothers in the UCPP-condition had become more consistent in their discipline compared with the discipline of the mothers in the C-condition. We therefore anticipate that the children in the UCPP-condition change in their behavior through the mothers' change in Positive Involvement (i.e., increase) and change in Inconsistent Discipline (i.e., decrease).

Of all the various moderators, i.e., age, intelligence, severity of the problem behavior, comorbidity with ADHD, attention, psychoneuroticism of mother, and psychoneuroticism of father, only the severity of problem behavior at pretreatment was related to the disruptive behavior at posttreatment: the more severe the problem behavior at pretreatment, the more disruptive the behavior at posttreatment. In addition, the moderating role of a biological factor, i.e., cortisol was studied in *chapter 7.* We looked to see whether in DBD children a pattern of lower cortisol at baseline or under stress is related to more serious problem behavior and less improvement after outpatient treatment. Cortisol levels at baseline

and under stress were studied in 22 DBD children before the start of treatment. We found that DBD children with relatively low baseline cortisol levels had more serious behavioral problems at pretreatment than DBD children with high baseline cortisol levels. During stress DBD children showed either increasing (HS group) or decreasing (LS group) cortisol values. Although these subgroups were similar in the intensity of behavioral problems before treatment, the behavioral problems of the HS group were significantly lower than the behavioral problems of the LS group after the intervention. Thus, baseline cortisol levels are inversely related to the severity of behavioral problems in DBD children at pretreatment, whereas the type of cortisol pattern during stress is related to the effect of treatment: children with high responsivity to stress at pretreatment show less behavioral problems at posttreatment than children with low responsivity to stress.

In *chapter 8*, we report on the statistical and clinical significance of the treatment effects from pretreatment to 6-months follow-up. In contrast to the first time-period (from pre- to posttreatment) in which all subjects in both treatment conditions received treatment, during the 6-months follow-up subjects in the two conditions differed in the treatment they were given: in the UCPP-condition, only very few subjects received treatment, whereas in the C-condition the treatment continued in many cases. Outcome measures of the C-condition at 6-months 'follow-up' therefore represent more the direct results of prolonged treatment rather than of actual follow-up results. From pretreatment to 6-months follow-up, the disruptive behavior decreased significantly over time in both conditions. Prosocial behavior increased significantly only in the C-condition, and not in the UCPP-condition. In the UCPP-condition the effect sizes ranged from 0.18 to 0.84 and in the C-condition the effect sizes ranged from 0.27 to 0.71. In both conditions, therefore, the effect sizes over time (pretreatment to 6-months follow-up) range from small to large.

Comparing the two conditions at 6-months follow-up, we found that the two conditions again differed significantly on overt aggressive behavior: in the UCPP-condition the DBD children improved more with respect to this behavior than in the C-condition, despite the fact that many children in the C-condition continued to receive treatment which was not the case in the UCPP-condition. Inspection of the effect sizes showed that at 6-months follow-up, the effect sizes ranged from -0.26 to 0.42. Moreover, the composite effect size for disruptive behavior at 6-months follow-up was -0.02. That is, there was no longer any difference in effect between both conditions at 6-months follow-up.

At 6-months follow-up, on some outcome measures, the clinical population scores in both conditions reached the non-clinical range. At 6-months follow-up this was true for overt aggressive behavior, oppositional behavior, and prosocial behavior. Thus, outpatient treatment can partly bring the behavior of DBD children within the range of the behavior of non-clinical children. Moreover, with respect to the covert antisocial behavior of the child, we found that the proportion of UCPP-cases falling within the normal range at 6-months follow-up was significantly higher than the proportion of C-cases.

In *chapter 9* we report on the costs of both treatment conditions in the period of the first nine months (from pretreatment to posttreatment). We calculated the costs related to the conduction of the treatment (so-called cost price), omitting secondary costs such as heating the building or supervision/intervision hours. In the UCPP-condition the costs per family were € 186.62 (SD = € 74.65), whereas in the C-condition the costs were considerably higher, that is € 356.73 (SD = € 385.94) per family.

In conclusion, we find that the UCPP is effective over time in decreasing the disruptive behavior and increasing the prosocial behavior of the child. However, it may be asked whether and to what extent this effect is induced by natural maturation or placebo. Following Angold et al. (2000) we think that referred DBD children without treatment are on a deteriorating traject, i.e., despite maturation these children's behaviors will not improve. Various studies conducted by Kazdin and others (Kazdin, 1997b; Kazdin et al., 1987a; 1987b) have shown that parent management training and social problem-solving skills training for the child are more effective than passive control conditions. We therefore believe that the effect of the UCPP-condition is at least greater than placebo-effects. We also believe that the effect within the UCPP-condition is not a-specific since there is some evidence for a mediating role of some parenting skills of the mother. Moreover, we found at posttreatment a small composite-between group ES of disruptive behavior in favor of the UCPP-condition. Combined with the knowledge that the costs of the UCPP are relatively low per family, we think there is sufficient reason to begin an implementation plan.