Journal of Family Strengths

Volume 2 | Issue 2 Article 6

1997

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Recommended Citation

Morris, Edwin; Suarez, Lourdes; and Reid, John C. (1997) "Behavioral Outcomes of Home-Based Services for Children and Adolescents with Serious Emotional Disorders," Journal of Family Strengths: Vol. 2: Iss. 2, Article 6. Available at: http://digitalcommons.library.tmc.edu/jfs/vol2/iss2/6

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Behavioral Outcomes of Home Based Services for Children and Adolescents with Serious Emotional Disorders

Edwin Morris, Lourdes Suarez and John C. Reid

The current study evaluates the effectiveness of an intensive home-based treatment program, Families First, on the behaviors of children and adolescents suffering from mental disorders and being at risk for out-ofhome placement. The sample included 85 youngsters and their families from a semi-rural community. The Diagnostic Interview for Children and Adolescents-Revised (DICA-R) was administered to the children, and the Child Behavior Checklist (CBCL) was completed by a parent at pretreatment and posttreatment. The families participated in a 4-6 week, intensive home intervention where crisis intervention, social support services, and needed psychological services were offered. The results indicated that both externalizing and internalizing behavior problems in youngsters with different diagnoses of mental disorders were significantly reduced at posttreatment as indicated by their CBCL scores. Furthermore, youngsters with a diagnosis of Oppositional Defiant Disorder seemed to benefit the most, as evidenced by the improved scores on most subscales of the CBCL. Youngsters with mood disorders and conduct disorders seemed to benefit in their most deficient areas, internalizing behavior problems and delinquent behaviors, respectively. Finally, after participating in Families First, more than half of the youngsters in the sample were able to stay home with their families.

The enactment of the Adoption Assistance and Child Welfare Act (P.L. 96-272) required state child welfare agencies to make reasonable efforts to prevent out-of-home placements. The legislation endorsed the concept of attempting home-based services prior to out-of-home placement. The act inspired various family preservation programs, some targeted at families of children with emotional disorders (Petr, 1994). The passage of the Family Preservation and Support provisions of the Omnibus Reconciliation Act of 1993 (P. L. 103-66) further challenged states to implement system-wide family preservation and family support services (Briar, Broussard, Ronnau, & Sallee, 1995). These services were conceptualized to prevent out-of-home placement by providing an array of brief, home-based services (Nelson, Landsman, & Deutelbaum, 1990; Whittaker, Kinney, Tracy, & Boothe, 1990). In addition to these legislative initiatives, family preservation programs and other family-focused services

have been promoted by several private organizations and foundations, such as the Edna McConnell Foundation (Clark, 1985).

Family preservation has emerged as a national movement recognized for its efforts to keep families together. Family preservation has received strong support in a number of states because these programs focus on maintaining children in their natural homes and offer a less expensive alternative to out-of-home placements. Also, widespread political and financial support for family preservation has spawned a significant increase in the number of these programs. The Omnibus Budget Reconciliation Act of 1993 has provided entitlement funding encouraging states to develop or expand family preservation services (P. L. 103-66, 1993). More than thirty states currently incorporate family preservation services into their array of protective services offered by child welfare systems (Center for the Study of Social Policy, 1992).

Family preservation programs have evolved from the broader categories of home-based services that served families in their homes and communities, and family-based services, which focused on the whole family, rather than the individual (Pecora, Haapla, & Fraser, 1991). Historically, the vast majority of family preservation efforts target children and families referred to protective service agencies for abuse or neglect. Family preservation is based on the notion that families are more responsive to change at times of crisis (Kinney, Madsen, Flemming, & Haapala, 1977). These family programs endorse the philosophy that out-of-home placements of children can be avoided by modifying family behaviors through the provision of home-based services. Such short-term, intensive, crisis-intervention programs are used when children are "at imminent risk" of being taken from their families (Barthel, 1992). Typically, family preservation programs include the following elements: clinical and concrete services are delivered in the home of the client families; a therapist is available to clients 24 hours a day; the duration of intervention is short ranging from four to six months; and therapists have small caseloads (Pecora et al., 1991).

Because of the recent proliferation of family preservation programs, evaluation of their effectiveness seemed crucial to caseworkers and researchers. These evaluations have often relied on one single outcome measure, the child's placement after the program. Kinney et al. (1991) reported that by the end of 1990, Homebuilders had seen 5,314 cases and 73% had avoided placement twelve months after termination. Other programs designed to work specifically with adolescents and their families reported success rates of 66% (Nelson et al., 1990) and 87% (Tavantzia et al., 1985) of the cases averting placement at a twelve month follow-up.

Although reports of these programs were encouraging, more recent studies and critiques are less conclusive (Rossi, 1992). An evaluation of five family preservation programs in New Jersey concluded that the participating families had fewer children placed but the effects of treatment dissipated after nine months (Feldman, 1991). Heneghan and colleagues (1996),

reviewed 46 family preservation program evaluations selected from a search of 802 references and concluded that the evaluations are methodologically difficult and show no benefit in reducing rates of out-of-home placement. Although preventing placement is a desirable outcome of the family preservation model, questions have been raised concerning the overemphasis on placement prevention outcomes and it has been suggested that there is a need to consider other outcomes (Werbach, 1992). Only six studies of those reviewed by Heneghan, et al. (1996) included family functioning as an outcome measure; however, the impact of these home-based services on the child's functioning has been systematically neglected as an important variable for evaluating family preservation programs.

In a recent study, Meezan and McCroskey (1996) evaluated the effectiveness of a home-based family preservation program using measures of family functioning, parent mental status, and children behaviors. They found that no significant improvements in family functioning were evidenced at the end of the program for service or comparison groups. Only small but significant improvements were evidenced in the service group after a year of participation. In addition, no significant difference in placement rates were found for either the service or comparison group. In this unique study examining children behaviors, school aged children's behavior, as rated by parents, was more improved at the end of the program than that of children in the comparison group. Moreover, although parental mental status was assessed, the children's psychological functioning was not reported in this study.

The purpose of the present study was to evaluate the impact of a family preservation program on the behavioral functioning of children with a serious emotional disturbance. The results of one home-based child treatment project were examined. The original project began in 1987 as a two-site pilot demonstration. The model was identified as the Families First Project. It is a preeminent family preservation program in Missouri and one of very few in the country that has attempted to serve children with severe emotional disturbance. The two primary goals of Families First were: developing home and community-based crisis programming to serve child welfare clients who have mental disorders, and developing a model for an integrated delivery system of community-based mental health services. This study examines the effectiveness of the Families First Project at one of the original sites.

Method

Subjects

The sample consisted of 85 children ranging from ages 4 to 17, mean age of 11 years old (52 children and 33 adolescents) and their families. There were 49 males and 36 females. Seventy-five percent of the sample was Caucasian and 25% was African-American. All the subjects and their families participated in the Families First Program in a semi-rural community. Children selected to participate in this program had to meet the following criteria: 1) be less than 18 years old; 2) be in crisis and at risk of being removed from their home for hospitalization or residential treatment; 3) have a mental disorder; and 4) have accompanying school problems.

In addition, the child must have had at least one family member willing to cooperate with the Families First team.

The children and adolescents, in addition to being at risk for out-of-home placement, showed internalizing or externalizing behaviors and met the diagnosis for at least one DSM-III-R psychiatric disorder. Refer to Table 1 for the percentage of children and adolescents in the sample who were diagnosed with each of the psychiatric disorders.

Table 1

Percentages of DSM-IV Diagnoses of the Children and Adolescents
in the Families First Program

Diagnosis	Percentage*		
Mood Disorders	25.9		
Anxiety Disorders	2.4		
Attention Hyperactivity Disorder	14.1		
Oppositional Defiant Disorder	25.9		
Conduct Disorder	22.4		
Adjustment Disorder	5.9		
Other	3.5		

^{*} percentages do not add up to 100 given that some youngsters had concurrent diagnoses

Instruments

The Diagnostic Interview for Children and Adolescents-Revised (DICA-R). The DICA is a structured diagnostic interview based on DSM-criteria developed by Herjanic and Reich (1982). It can be administered to both children and adolescents. Various internalizing and externalizing diagnoses (e.g., Major Depressive Disorder, Generalized Anxiety Disorder, Conduct Disorder) are included and good reliability, validity and parent-child agreement have been found (Welner, Reich, Herjanic, Jung, & Amado, 1987).

The Child Behavior Checklist (CBCL). The CBCL was developed by Achenbach (1978) as a broad-band measure of a child's externalizing and internalizing behaviors, as reported by a parent or other caretaker. It contains 113 items, which are rated on a three-point scale; 0 (not

true) to 2 (very true or often true). Separate norms were developed for children from ages 4-5, 6-11, and 12-16 years-old by gender (Sattler, 1992). Good reliability and validity are reported for the scale (Achenbach & Edelbrock, 1983).

Procedure

Subjects were referred to the Families First program by a mental health professional if the child was at risk for out-of-home placement. An initial screening was performed at the family's home. Each child was assessed for psychiatric disorders through the <u>Diagnostic Interview for Children and Adolescents-Revised</u> (DICA-R; Herjanic, & Reich, 1982). One parent, usually the mother, completed the <u>Child Behavior Checklist</u> (CBCL: Achenbach & Edelbrock, 1986) at this time.

Each subject and his/her family selected for the Families First program was assigned to a treatment team. The teams were typically composed of two masters-level social workers and a half-time masters or doctoral-level supervisor. Intensive home-based counseling for 4-6 hours a week was provided. In addition, the program incorporated a 24-hour, seven-days a week, in-home crisis intervention for four to six weeks. Each therapist was assigned two cases and was responsible for providing social support services (e.g. transportation, budgeting, and home repair), supervision and consultation, and extensive interagency treatment planning. Other services available to families in Families First included outpatient, inpatient, occupational therapy, speech therapy, psychiatric evaluation, psychological assessment, and medication management. Of the children and adolescents in the sample, 51% were also receiving group, family, or individual therapy while participating in Families First and 26% were taking medication. At the end of the 4-6 week period, one of the parents or caretaker completed the CBCL for his/her child to determine any changes in behavior.

Follow-up sessions were conducted 6-12 months after the families had participated in Families First. At this time, out-of-home placement occurring any time after termination from the program was assessed.

Data Analysis

Data were analyzed in a quasi-experimental, one-group pretest-posttest design. All analyses of CBCL pretest-posttest differences were compared using Wilcoxon matched-pairs signed rank tests.

Family Preservation Journal (Volume 2, Issue 2, 1997) Family Preservation Institute, New Mexico State University

Results

Demographic Differences

To determine if children's CBCL scores at pretest and posttest differed for males and females, separate Wilcoxon matched-pairs signed rank tests were conducted. For both males and females, CBCL's externalizing, internalizing, and total scores decreased from pretest to posttest (all p < 0.004).

In addition, similar analyses were conducted to explore the program's effectiveness by the age of the child. The sample was divided into two groups; youngsters 12 and under comprised the children's group, whereas those older than 12 comprised the adolescent's group. Children's total and externalizing scores on the CBCL decreased (p < 0.0001) from pretest to posttest. Adolescents' total, internalizing, and externalizing subscale scores on the CBCL decreased from pretest to posttest (all three p < 0.0001).

Child Behavior Differences

The CBCL's total T-score distribution at pretest ranged from 44 to 87. The posttest total T-score distribution ranged from 36 to 84. Total scores for the CBCL decreased from pretest to posttest (p = 0.0001). Table 2 contains a summary of the pretest and posttest means and standard deviations.

The internalizing and externalizing subscale scores were analyzed separately. Internalizing scores on the CBCL decreased from pretest to posttest (p = 0.0001). Externalizing scores on the CBCL also decreased from pretest to posttest (p = 0.0001) (see Table 2).

Table 2

<u>CBCL's Internalizing, Externalizing, and Total T-Score Means and Standard Deviations for the Pretest and Posttest</u>

CBCL Scales	Pretest Mean (SD)	Posttest Mean (SD)	*p value	
Internalizing Scale	63.08 (10.86)	57.88 (11.43)	.0001	
Externalizing Scale	70.54 (10.01)	63.51 (11.86)	,0001	
Total Score	68.67 (9.51)	62.07 (11.47)	.0001	

^{*} significance level for testing the difference between the two distributions for 3 tests at .05 was .017.

Taking each of the individual subscales of the CBCL, seven of the eight subscales had pretest distributions that significantly differed from posttest distributions (see Table 3). These subscales were withdrawn, anxious/depressed, social, thought, attention, delinquent, and aggressive. Scores on each of these subscales on the CBCL significantly decreased from pretest to posttest.

Table 3

T-Scores' Means and Standard Deviations for the Subscales
of the CBCL at Pretest and Posttest

CBCL Subscales	Pretest Mean (SD)	Posttest Mean (SD)	*p value	
Withdrawn	63.49 (10.39)	59.45 (9.02)	.0002	
Somatic	58.81 (8.15)	56.72 (7.28)	.0078	
Anxious/Depressed	63.93 (10.67)	59.38 (9.62)	.0001	
Social	63.36 (9.97)	60.56 (9.45)	.0001	
Thought	62.01 (9.34)	58.78 (8.11)	.0031	
Attention	66.38 (11.27)	61.93 (9.18)	.0001	
Delinquent	70.25 (8.90)	64.74 (9.64)	.0001	
Aggressive	71.31 (12.88)	64.28 (11.74)	.0001	

^{*} significance level for testing the difference between the two distributions for 8 tests at .05 was .0062.

To determine which diagnostic group of children benefited most from the program, separate Wilcoxon matched-pairs signed rank tests were conducted with the three most frequent categories of disorders: oppositional defiant disorder (ODD), mood disorders (MD), and conduct disorder (CD). CBCL's total and subscale scores for 22 children and adolescents diagnosed with ODD decreased from pretest to posttest for externalizing (p = 0.0019) and internalizing (p = 0.0027). In addition, scores on seven of the eight subscales showed significant decreases from pretest to posttest. Refer to Table 4 for a summary of the means at pretest and posttest, as well as p-values for the total, externalizing and internalizing subscales, and each of the eight subscale scores.

For the 22 children and adolescents in the MD group, total, externalizing/internalizing, and each of the eight subscales scores for CBCL at pretest and posttest were analyzed. Total and

internalizing subscale scores decreased from pretest to posttest, p = 0.0015 and p = 0.0001, respectively. Refer to Table 4 for a summary of means for all the different subscales.

For the 19 youngsters in CD group, the externalizing subscale score difference from pretest to posttest significantly decreased ($\mathbf{p} = 0.0044$). When looking at the individual subscales, the delinquent subscale decreased from pretest to posttest ($\mathbf{p} = 0.0002$), as well as the aggressive subscale ($\mathbf{p} = 0.004$). Refer to Table 4 for a summary of the means and standard deviations for all the different subscales.

Table 4

Means and Standard Deviations for ODD, MD, and CD
on the CBCL at Pretest and Posttest

CBCL scales	ODD	3.7		MDD			CD		
	Pre	Post	p-value	Pre	Post	p-value	Pre	Post	p-value
Internalizing	64.45	55.73	.0027	65.91	59.68	.0001	59.63	56,16	.2357
Externalizing	69.00	60.23	.0019	70,41	66.55	.0174	70.63	62.37	.0044
Withdrawn	65.91	58.55	.0038	62.73	61.82	.5863	59.47	57.21	.6348
Somatic	56.91	54.82	.1331	60.86	56.41	.0083	60.42	57.63	.2236
Anxious/ Depressed	64.82	59.32	.0065	66.77	60.91	.0002	59.74	57.47	.3828
Social	61.32	56.73	.0022	64.32	61.23	.0168	62.05	57.47	.4844
Thought	62.68	56.73	.0062	62.09	59.36	.3834	62.58	59.42	.1689
Attention	65.00	59.32	.0053	66.91	63.77	.0119	65.21	61.74	.1316
Delinquent	68.23	62.64	.0074	70.36	66.18	.0086	73.79	65.53	.0002
Aggressive	69.55	61.50	.0040	71.55	68.64	.1590	69.47	62.58	.0040
Total	68.00	58.36	.0002	70.00	64.45	.0015	67.00	60.47	.0098

^{*} significance level for testing the difference between the two distributions for 11 tests at .05 was .0045.

At follow up, children and adolescents of the families participating in Families First were assessed for out-of-home placement after termination in the program. Of the children and

adolescents in the sample, 64% remained home with their families, while 36% were placed in foster care or court custody.

The major findings of this study were as follows: 1) children and adolescents participating in Families First significantly improved their overall behavior as indicated by the decrease in CBCL's Total score from pretest to posttest; 2) specifically, both internalizing and externalizing behaviors in children and adolescents significantly decreased as reported by their parents; 3) youngsters diagnosed with Oppositional Defiant Disorder seemed to benefit in a wide range of areas as evidenced by the significant decrease of problem behaviors in most of them; 4) children and adolescents diagnosed with a mood disorder also seemed to benefit from the program as evidenced by the decrease in the CBCL's internalizing scores from pretest to posttest; 5) children and adolescents with Conduct Disorder diagnoses decreased their externalizing scores, specifically the aggressive and delinquent behavior from pretest to posttest; 6) both female and male children seemed to benefit from Families First as indicated by their scores on the CBCL; 7) nearly two-thirds of the children and adolescents in the sample remained home with their families at the time of follow-up.

Before discussing the implications of these results, several limitations need to be mentioned. First, although a child behavior measure was used to determine the program's effectiveness, in addition to out-of-home placement as an outcome measure, discretion should be taken when evaluating the results, given that they are based on the parents' report of their children's behavior. Reports from other persons related to the child (e.g. teachers) may provide a different perspective or confirm behavioral difficulties reported by the parents. However, because of the short, intense nature of this intervention, a thorough assessment with multiple informants was not feasible. Second, other treatments, such as medication, group or family therapy, and educational counseling among others, were provided concurrently to most of the children while they participated in the Families First Project. Although most of these treatments were in place before the families involvement in Families First, caution must be taken when interpreting these results given that these other services were not statistically controlled. Finally, because of the quasi-experimental design of the study, which did not include a control group, comparisons with a no-treatment group could not be made. Although stronger evidence for the effectiveness of Families First would have been provided, if the study included a control group, it is unlikely that the magnitude of the change in the children's behavior was due to non-experimental variables. At any rate, follow-up studies should include the above mentioned controls.

Despite the above shortcomings, this study is one of the first to evaluate the children's functioning as a measure of program effectiveness. Specifically, children's behaviors were evaluated by their parents, who completed the CBCL, at the beginning and at the end of their participation in Families First. The reduction of internalizing and externalizing types of problem behaviors in children and adolescents at the end of Families First provides evidence for the potential effectiveness of this program. As a preliminary evaluation of this program,

the results are encouraging and will hopefully motivate further more rigorous outcome studies about Families First's effectiveness as a family preservation program.

In addition to Families First's effectiveness across different ages and for both genders, its impact on specific groups of children and adolescents with mental disorders was evaluated. Youngsters diagnosed with Oppositional Defiant Disorder seemed to benefit the most as shown by improvement in the broad band areas measured by the CBCL. Although children diagnosed with a mood disorder did not show the same improvement in those areas, a significant decrease in the total and internalizing scores, their most deficient area, indicated that these children seemed to benefit from the program as indicated by their parents. Similarly, youngsters diagnosed with Conduct Disorder showed improvements in the area of externalizing behaviors, specifically delinquent and aggressive behaviors. In general, these groups of children and adolescents with mental disorders showed improvement in their most deficient areas at the end of their participation in Families First, providing evidence for the program's effectiveness with these specific diagnostic groups.

Consistent with previous evaluations of family preservation programs (i.e. Nelson et al., 1990), this study found that Families First was successful in maintaining children and adolescents who participated in the program at home after termination. Nearly two-thirds of the youngsters who participated in Families First remained home at the time of the follow-up interview. However, 34% of youngsters in this sample were placed out of home in the care of the court or foster parents. One explanation for youngsters being placed outside of their homes may be that the children's behavior problems may not be the only factor affecting their placement outside their families. Other family or environmental factors, such as parental mental health problems, substance abuse, as well as financial pressures, and lack of social support may disrupt family life and have a detrimental effect on the child. Therefore, further studies should evaluate the impact of the parents' functioning, social supports, and environmental stressors in determining out-of-home placements for children with emotional problems. Perhaps future studies can include other outcome measures, such as family functioning that because of time restrictions were not collected in the present study. Finally, other sources of information, particularly from persons related to the families or individual children, may prove useful in the evaluation of family preservation programs.

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