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Teaching Parenting Skills in a Methadone Treatment Setting

Randy R. Gainey, Kevin P. Haggerty, Charles B. Fleming, and Richard F. Catalano

Family factors significantly affect children's risk of substance abuse, delinquency, and other problem behaviors (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002). Children of substance abusers represent a particularly high-risk population. Prenatal exposure to addictive substances and the medical complications that may arise are important factors that, from conception, place this population at high risk of drug abuse and other problem behaviors (Griffith, Azuma, & Chasnoff, 1994). As children of substance abusers mature, their lives are characterized by exposure to continued drug and alcohol abuse by family members, recurrent or chronic illnesses, frequent moves, financial troubles, legal conflicts, family disorganization, and family conflict (Keller, Catalano, Haggerty, & Fleming, 2002; Kolar, Brown, Haertzen, & Michaelson, 1994). Furthermore, substance-abusing parents tend to have poorer family management practices than nonabusers (Kolar et al.). Substance-abusing parents in treatment are dealing not only with their addiction, the possibility of relapse, and struggles with employment and living arrangements, but also with their role as parents and the influence of their addiction on their children (Greif, 2005).

Parenting skills training is increasingly used as a preventive intervention (see reviews by Cedar & Levant, 1990; Howard & Shepard, 2005; Polster, Dangel, & Rasp, 1987). Several programs have been developed to help substance-abusing parents reduce their children's risk of substance abuse (Camp & Finkelstein, 1997; Catalano, Haggerty, Fleming, Brewer, & Gainey, 2002; Dawe, Harnett, Rendalls, & Staiger, 2003; DeMarsh & Kumpfer, 1985; Gross & McCaul, 1992). Theoretical and empirical work suggests that methadone maintenance programs may be a strategic setting for parenting skills training programs because methadone has been shown to reduce illicit heroin use and criminal activity and to provide greater stability in the lives of users (Ward,

Mattick, & Hall, 1998). Methadone treatment by itself, however, is unlikely to ameliorate dysfunctional family relationships. To date, only a few programs for this population have been evaluated for their effect on improving parenting skills (Dawe et al.; DeMarsh & Kumpfer).

Data reported here come from the Focus on Families (FOF) field experiment (see Catalano et al., 2002 for a full description of the program). The intervention combined relapse prevention (Marlatt & Gordon, 1985) and parenting skills training (33 sessions) with home-based case management services that lasted approximately nine months. Case managers worked with families in their homes, helping parents generalize the skills learned in the training to the home environment and taking advantage of naturally occurring situations to practice and reinforce skills. Parents were taught positive family management practices (including monitoring, limit setting, and using positive and negative consequences for socially appropriate and antisocial behavior), how to communicate more effectively with their children, how to hold family meetings to increase children's involvement in family tasks and activities, how to teach children problem-solving and drug-refusal skills, and strategies to help their children succeed in school. The intervention was successful in increasing parents' relapse-prevention skills and self-efficacy while reducing parental substance use, domestic conflict, and deviant peer networks (Catalano, Gainey, Fleming, Haggerty, & Johnson, 1999; Catalano et al., 2002; Gainey, Catalano, Haggerty, & Hoppe, 1995). To date the project has not published data specifically on the success or failure of the intervention in increasing parenting skills.

Given the importance of evidence-based practice in social work (Jenson, 2005; Whittaker et al., 2006), this article describes an instrument specifically designed to measure parenting skills among substance-abusing parents and reports results from

a field experiment using this instrument to assess the efficacy of a family-based program for the parents receiving methadone treatment. Using a posttest-only design (Campbell & Stanley, 1963), we provide a test of the effectiveness of the intervention in increasing parenting skills knowledge. This analysis is followed by an examination of the relationship between program participation (attendance at the parenting sessions) and parenting skills knowledge.

METHOD

Sample

Clients at two Seattle-area methadone clinics who had children between the ages of three and 14 years and who agreed to be randomly assigned to either the intervention or the continued methadone-treatment-only condition were eligible for participation in the study. Approximately 78% ($n = 144$) of those screened as eligible agreed to participate, completed baseline interviews, and were randomly assigned to either the intervention or control condition. These parents constitute the sample reported on in most earlier reports on the FOF study. The parenting skills measure used in the present study was administered after two initial waves of the FOF sample were enrolled in the project. Thus, the sample for the present study ($n = 112$) consisted of 77% of the FOF sample, with 63 parents in the intervention condition and 49 in the continued methadone-treatment-only condition.

Before random assignment, families were blocked on race, parents' age at first drug use, whether parents lived with a spouse or partner, and the age of their children. There were no baseline differences between the experimental and control group respondents on any key variables. Most FOF parent respondents were white (77%) and female (73%), with an average age of 35 years. At baseline, relatively few were married (21%), and many had never been married (40%). However, about 63% were living with a spouse or partner before the intervention. Most of the participants had begun using opiates in their teens or early twenties (mean age = 19.1), and almost all had a history of legal troubles. In the month before the parenting intervention, despite being in methadone treatment, slightly more than half reported still using a variety of illicit substances. Of those assigned to the FOF program, 87% initiated the program and 52% completed 16 or more of the parenting sessions (Gainey et al., 1995).

Parenting Skills Measure

An instrument for measuring parenting skills was developed for the posttest follow-up interview study. This interview took place approximately six months after baseline and, for parents in the intervention condition, followed within a month of completion of the 33-session parenting-training/relapse-prevention program. To develop the instrument, we followed the guidelines of Goldfried and D'Zurilla (1969). To generate situations relevant to the client population and the specific components of the intervention, intervention staff reviewed case files from the pilot stage of the intervention and staff from the methadone clinics provided information on problematic situations typically encountered by substance-affected families. Research and clinical staff identified numerous situations that are common to substance-abusing parents and that apply to children at relevant developmental stages. An advisory group of counselors and research staff, both within and outside the FOF project, reviewed and rated the pertinence of the situations. Six situations were further developed and incorporated into the posttest questionnaire.

Descriptions of the situations were read aloud to the participants by trained interviewers. Participants were then asked, "In this situation, what should a parent do?" Following the participant's response, interviewers asked a single probe: "Is there anything else?" Responses were transcribed verbatim at the time of the survey. In general, the interview took between 10 and 15 minutes to administer. The strategy was similar to that of Peterson and colleagues (2003) and Dishion and colleagues (1983).

Research and clinical staff developed criteria to rate participants' responses on the basis of the training curriculum and clinical judgments. Components of effective and ineffective responses were identified for each situation. Research staff members were trained to code responses for the presence or absence of particular components, both positive (for example, restate the rule or appropriate behavior) and negative (for example, excessive/harsh discipline). To train raters, the first 20% of the responses were rated by both research and clinical staff, blind to the identity of the participants and their experimental status. Three members of the research staff independently rated the rest of the responses. Twenty-five percent of the responses were re-rated by another member to assess interrater reliability. Rater reliability was assessed with

phi coefficients and showed considerable agreement (ranging from .71 to .81). Ratings for each component of each situation were summarized to provide a situation-based global score. Global scores ranged from a possible low of -3 (all negative and no positive components) to 10 (no negative and all possible positive components). (A detailed coding manual is available from the Social Development Research Group upon request.)

Principal component factor analyses of the six weighted situation scores produced a single-factor solution. The eigenvalue of the first factor was 2.22 and explained 37.1% of the variance in the items; the eigenvalue for the second factor was less than 1 (.936) and explained less than half as much variance (15.6%). A single-factor confirmatory factor model (Macgowan & Newman, 2005) showed good model fit [$\chi^2(9, N = 112) = 5.12, p = .824$ and the adjusted goodness of fit index (AGFI) = .97]. Furthermore, a model constraining the factor loadings to be equal, indicating tau-equivalence (Jöreskog & Sörbom, 1988), also fit the data [$\chi^2(14, N = 112) = 16.45, p = .287, AGFI = .93$], although a model that restricted all error variances to be equal was rejected [$\chi^2(19, N = 112) = 87.12, p = .000, AGFI = .78$]. These results suggest that the unmeasured construct of parenting skills knowledge is about equally predictive of each of its measured items. The scale we refer to as the Parenting Skills Knowledge Scale (PSKS) was created by standardizing the scores of all six items and taking their average (Cronbach's $\alpha = .67$). The factor analysis was conducted on a relatively small sample and explained a limited amount of variance in the parent training measure. Additional research on the psychometric properties of the instrument is warranted.

No other direct measures of parenting skills knowledge were available to assess the construct validity of the instrument. However, several measures were available to assess the scale's predictive validity. First, a tape-recorded role-play test to assess general life skills and drug-refusal/relapse skills was administered at the same interview (Hawkins, Catalano, & Wells, 1986). We predicted that, among parents in methadone treatment, those with better general and drug-avoidance skills would also display better parenting skills knowledge. The PSKS was positively correlated with general life skills ($r = .40, p < .05$) and drug-avoidance skills ($r = .26, p < .05$).

Second, we expected that parenting skills knowledge would be positively associated with family

management practices. The PSKS was positively related to parents' reports of the number of general household rules ($r = .30, p < .05$), the number of drug-specific rules in the family ($r = .28, p < .05$), and involvement of the child in establishing household rules ($r = .49, p < .05$). Furthermore, the PSKS was positively associated with more frequent family meetings to discuss family fun, children's responsibility, family problems, and family drug policy (r s ranged from .20 to .21).

Analysis

To assess how successful the FOF intervention was in educating parents about appropriate parenting practices, we compared the randomly assigned control group participants ($n = 49$) with the experimental group participants ($n = 63$) for whom we had post-test data. This was a conservative test because the experimental group included six participants who did not attend a single parent training session and 34 participants who completed more than half of the 33 sessions. Thus, we compared the control group participants with starters (those completing at least one session) and completers (those who attended at least half of the sessions).

RESULTS

The results generally show higher levels of skills knowledge among clients assigned to the experimental condition (Table 1). In the conservative intent-to-treat analysis, the difference between experimental and control groups was statistically significant but considered small (Cohen's $d = .33$). Comparisons with those who at least started and who attended a significant number of sessions showed moderate differences ($d = .46$). Strong effects were found when comparing the control group participants with the experimental group participants who completed at least half the sessions ($d = .60$). The correlation between number of sessions attended and parenting skills knowledge among the experimental group participants was significant and moderately strong (Pearson's $r = .37$). Although the later, more favorable comparisons do not meet the standard of a randomized experiment, the results are consistent with the notion that greater exposure is conducive to greater effects.

DISCUSSION

Analyses show that knowledge of parenting skills can be improved among substance abusers in

Table 1: Comparison of Parenting Skills Knowledge Scale Scores between Control Group Participants and All Experimental Group Participants, Experimental Group Participants Who Attended at Least One Session (Starters), and Experimental Group Participants Who Attended at Least 16 Sessions (Completers)

Item	Control Group	Experimental/ Control Group	Starters/ Control Group	Completers/ Control Group
<i>N</i>	49	63	57	34
Mean PSKS	-.11	.09*	.16**	.25**
<i>SD</i>	.58	.62	.60	.63
Effect size (Cohen's <i>d</i>)		.33	.46	.60

Note: PSKS = Parenting Skills Knowledge Scale

**t* test significant at $p < .05$. ** $p < .01$ (one-tailed tests).

methadone treatment, especially among parents motivated enough to initiate and follow through with sessions. The FOF study is, to our knowledge, the most rigorous test of a family-based intervention for users in methadone treatment. The fact that our analyses show elevated parenting skills knowledge among the experimental group participants is promising. The most conservative test showed an effect size of $d = .33$, which is typically considered small. However, a recent meta-analysis by Howard and Shepard (2005) of parenting education classes for school-related outcomes, related but not identical to parent training, showed tremendous variation in effect sizes, ranging from very weak ($d = .02$) to quite strong ($d = 1.03$). An earlier meta-analysis of 26 studies of parenting effectiveness training by Cedar and Levant (1990) showed an overall mean effect size of $d = .33$, although they found larger effect sizes for “knowledge of course content.” However, given the general nature of the parents included in studies reviewed in these analyses, we feel that a comparable effect size with substance-abusing parent is encouraging.

In addition, we searched the literature for studies with random assignment or equivalent baseline scores that also provided posttest comparisons with either effect sizes or the information necessary to compute effect sizes that would be comparable to this study. Unfortunately we found no studies that focused on substance-abusing parents. However, three studies (Irvine, Biglan, Smolkowski, Metzler, & Ary, 1999; Peterson et al., 2003; Webster-Stratton, 1998) that focused on either high-risk parents or parents of high-risk children provided reasonable comparisons with effect sizes ranging from .06 to .99. Our estimate of the intervention’s influence on parenting skills is within the range of these other

studies. Furthermore, the parents involved in these comparative studies were predominately white, better educated than the FOF participants, typically of higher socioeconomic status, and unlikely to be opiate users in methadone treatment.

It is promising that program participation even more strongly predicts parenting skills. Several factors contribute to increasing parent participation. Earlier analyses showed the level of program participation compared favorably with other parenting programs (Haggerty et al., 2002; Spoth & Redmond, 1994). Funding for transportation and incentives for participation (such as coffee, food, and small treats) was available, which is unlikely to be available in most clinic settings. Continued drug use was a major deterrent to participation, and parents who were hard to contact for baseline interviews were less likely to participate in the FOF program (Gainey et al., 1995). Starting methadone treatment is an important turning point in the lives of some opiate-abusing parents. Methadone has been shown to stabilize the lives of some substance abusers (Ward et al., 1998), suggesting methadone treatment programs are a promising context for parenting skills training. However, methadone is not a panacea, relapse is common, and many patients’ lives are still chaotic while they are in methadone treatment. Given the relatively strong participation rates and positive support from parents regarding the program, the clinics that participated in this research have institutionalized the program and have continued to enroll and provide FOF intervention to interested clients.

The FOF intervention is a broad-based program including 33 sessions with parents and children at the clinic, as well as home-based case management services. There is evidence of its overall success, but

the efficacy of the intervention came with considerable cost and hard work. The design of FOF does not allow us to see which pieces of the project were the most useful or cost-effective.

The present study focused on parenting skills immediately following the intervention. Long-term follow-ups are needed to ascertain whether the treatment effects were maintained. If not, booster sessions might be an effective accompaniment. More research on the relationship between parenting skills and children's outcomes is needed to see whether the increased parenting skills knowledge was acted on and whether it was actually beneficial to other family members. **SWR**

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