

POSTPROGRAM FOLLOW-UP EFFECTS OF PARAPROFESSIONAL INTERVENTION WITH HIGH-RISK WOMEN WHO ABUSED ALCOHOL AND DRUGS DURING PREGNANCY

Therese Grant and Cara C. Ernst

University of Washington

Genevieve Pagalilauan

University of Washington School of Medicine

Ann Streissguth

University of Washington

This study examined the postprogram follow-up status of mothers who abused alcohol and drugs heavily during a target pregnancy, were enrolled in the Parent-Child Assistance Program (PCAP), and received paraprofessional home visitation and advocacy for 3 years after delivery. Outcomes were examined across two time intervals: between program enrollment and 3-year exit, and between 3-year exit and postprogram follow-up an average of 2.5 years later. At postprogram follow-up we observed a significant increase in abstinence from alcohol and drugs for 6 months or more, and significant decreases in subsequent pregnancies and deliveries. These outcomes are of special importance because PCAP intervention efforts target behaviors that put mothers at risk for future alcohol and drug exposed births. A significant postprogram increase in

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living in permanent housing and a significant decrease in incarceration were other notable findings. We conclude that given specific program goals, facilitated linkages to appropriate community services, and the necessary time for gradual change to occur, supportive paraprofessional advocacy can assist many high-risk mothers in moving toward sustained recovery and improved stability even years after intervention. © 2003 Wiley Periodicals, Inc.

In the past decade there has been a resurgence in home visitation models as promising interventions for helping disadvantaged families become healthier and more self-sufficient, improving parenting skills and enhancing child outcomes. Over this same period the problem of prenatal substance abuse has not abated, and remains a significant public health concern [Ebrahim, Luman, Floyd, Murphy, Bennett, & Boyle, 1998; National Institutes on Drug Abuse (NIDA), 1999; National Household Survey on Drug Abuse, 2001]. At the same time, however, there have been few published reports describing home visiting programs specifically designed to work with pregnant and postpartum mothers who abuse alcohol and drugs (Black, Nair, Kight, Wachtel, Roby, & Schuler, 1994; Ernst, Grant, Streissguth, & Sampson, 1999).

In 1999, the Parent-Child Assistance Program (PCAP) was described (Grant, Ernst, & Streissguth, 1999) and published evidence for the effectiveness of a paraprofessional 3-year home visitation intervention for improving health and social outcomes among mothers who abused alcohol and drugs during pregnancy, compared to concurrently enrolled controls (Ernst et al., 1999). The present article presents findings from a postprogram follow-up evaluation of clients who participated for 3 years in PCAP, and were located for interview 1.6 to 3.6 years after exit from the intervention program.

To first understand how the PCAP model is situated along the continuum of rather diverse strategies labeled "home visitation," it is useful to compare PCAP program characteristics with those of six nationally recognized home visiting models that have been evaluated and recently reviewed, including the Comprehensive Child Development Program (CCDP), Home Instruction Program for Preschool Youngsters (HIPPIY), Parents as Teachers (PAT), Hawaii Healthy Start Program (HHSP), Healthy Families America (HFA), and the Nurse Home Visitation Program (NHVP) (cited respectively: St. Pierre & Layzer, 1999; Baker, Piotrkowski, & Brooks-Gunn, 1999; Wagner & Clayton, 1999; Duggan et al., 1999; Daro & Harding, 1999; Olds, Henderson, Kitzman, Eckenrode, Cole, & Tatelbaum, 1999). The primary goal of these national models is to improve parenting skills to promote healthy child development and prevent child abuse and neglect. Populations targeted include low income families (CCDP); families of all income levels and ethnicities (HIPPIY, PAT); all parents of newborns who are identified at the child's birth as at risk for abuse and neglect (HHSP, HFA); or first-time mothers who were either poor, unmarried, or adolescent (NHVP).

The most salient difference between these models and PCAP is that PCAP's target population is comprised of alienated mothers who abused alcohol and/or drugs heavily during pregnancy. These mothers are typically labeled distrustful, unmotivated, and difficult (if not impossible) to reach, and present a challenge for service providers who have come to view them as a hopeless population. PCAP program goals are specifically focused on preventing future alcohol and drug exposed births, either by

helping mothers quit using alcohol and drugs, or by motivating them to choose an effective family planning method in order to prevent another exposed pregnancy.

PCAP is a paraprofessional home visitation model, as are five of the national programs described; only the NHVP is implemented by public health nurses. The backgrounds of home visitors in the paraprofessional programs vary. PCAP advocates have experienced some of the same types of adverse life circumstances as their clients (although seldom to the same extreme degree), and have subsequently overcome significant obstacles and achieved success in important ways. In this way they are able to be role models and to provide hope and motivation from a realistic perspective. At hire, most advocates have at least 4 years of prior community-based experience related to prenatal substance abuse or associated problems, or the equivalent combination of education and experience. The national paraprofessional programs include staff with associate degrees or other post high school training (CCDP), or bachelor's degrees (HHSP, HFA, PAT); and include volunteer (HFA) or part-time workers (HIPPPY). Training requirements for all the programs vary somewhat, with most programs requiring at least a week of preservice training, along with ongoing in-service training.

The onset, duration, and frequency of home visits is similar across programs. PCAP serves families for 3 years, beginning at enrollment during pregnancy or at birth, while the other paraprofessional models serve families from birth through the child's fifth birthday (CCDP, HHSP, HFA), or prenatal through the third birthday (PAT). HIPPPY is an exception, beginning at age 4 and extending for 2 years. Planned frequency of home visits at PCAP is initially weekly, fading to biweekly, then monthly in the latter stage of the intervention depending on family needs. Similarly, other programs plan weekly visits fading to quarterly (HHSP, HFA); every 2 weeks (CCPP, HIPPPY) or variable depending on family needs (PAT). The public health nurse model (NHVP) serves families from prenatal through the second birthday, with weekly visits fading to monthly. All of the national programs evaluated included comparison groups, and all but one (HHSP) were randomly assigned.

In this postprogram study of clients who participated for 3 years in PCAP and were located later for follow-up, three questions were addressed: (1) did clients located for follow-up differ from clients who were not located in terms of initial enrollment characteristics and 3-year outcomes? (2) Did client status remain stable or improve between program exit and follow-up? (3) Could factors be identified that relate to stable or improved status on follow-up?

METHODS

Sample

Subjects were recruited for the Parent-Child Assistance Program (known at the time as the Seattle Birth to 3 Project) from July 1991 through December 1992 by postpartum hospital recruitment or community referral. The program was designed to intervene with the highest risk alcohol- and drug-abusing women delivering in the Seattle area. Two recruitment hospitals were selected on the basis of their location in areas where substance abuse is a recognized problem and because they deliver high-risk pregnancies; referrals were also accepted from community service providers.

Eligibility criteria included singleton birth, little or no effective involvement with social or health services during pregnancy, and heavy use of alcohol or illicit drugs during the target pregnancy. "Heavy use" was defined as drinking in a binge pattern

(five or more drinks per occasion) once a month or more, and/or use of any illicit drug an average of once a week or more during pregnancy. Recruitment and enrollment procedures and findings have been published elsewhere (Ernst et al., 1999).

Hospital Recruitment. Briefly, hospitalized postpartum women delivering at two urban Seattle hospitals were asked by a program research assistant to complete a confidential one-page screening questionnaire (the Hospital Screening Questionnaire, or HSQ) to determine program eligibility (Streissguth et al., 1991). A total of 2,230 women completed the HSQ at the two recruitment hospitals including 1,516 (68%) at hospital A, and 714 (32%) at hospital B. These represented 51% of 4,342 total deliveries at those hospitals during the recruitment period, and represented 83% of the approximately 2,690 HSQs we would have expected based on study recruitment schedules (5 days a week for 18 months at hospital A, and 3 days a week for 11 months at hospital B). Of the 2,690 responses expected, 44 (1.6%) refused, 231 (8.6%) were unavailable for medical reasons or early discharge, and 323 (12%) were non-English speakers without translators. Given the approximately 10,700 births in Seattle during the 18-month study recruitment period, we screened 20.8% of the potential population.

Community Referrals

Referrals of high-risk substance-abusing women were accepted from community service providers (predominantly healthcare and alcohol and drug treatment agencies) if they were within 2 months postpartum. Community referrals were contacted by the program director, completed the HSQ, and, if eligible, were asked to participate. Referred clients were not assigned to the control group because we considered their enrollment to be a service in response to community need. Thirteen community-referred women delivered at hospitals other than the two recruitment hospitals, and completed the HSQ.

Assignment to Groups

Hospital-recruited patients who met eligibility criteria and agreed to participate were initially sequentially assigned to either client or control group (every third eligible woman assigned to control group) to obtain a two-to-one ratio of clients to controls. Due to the particular demographics of the community referrals, the assignment of hospital recruits was adjusted to approximately balance the control group and the composite client group (hospital recruited and community referred) in terms of race, age, educational level, and type of drug use.

A total of 103 women (4.6% of the total screened) were eligible and were asked to participate in the study. Of these, 65 were enrolled as clients (30 hospital recruitment and 35 community referral), 31 were enrolled as controls, and 7 refused enrollment.

Postprogram Follow-up

This postprogram follow-up study did not attempt to locate women in the control group because of funding constraints and an abbreviated time period for data acquisition. Among the 65 clients enrolled in 1991–1992, 60 (92%) were located for interview at conclusion of the intervention 3 years later (1994–1995); 5 were lost to follow-up. The postprogram follow-up study, conducted from June 1997 through April 1998, had a 77% location rate (48 interviewed, 2 deceased) with 15 subjects lost to follow-up.

Two of those lost at program exit were located at postprogram follow-up. In this article we report outcomes among the 45 clients who were interviewed at all three points (enrollment, conclusion of intervention, and follow-up).

Among the 65 clients originally enrolled, 54% were community referred, 38% were recruited from hospital A, and 8% were recruited from hospital B. These proportions were virtually the same for the 45 women whose follow-up outcomes are reported in this article.

INTERVIEW PROTOCOL

This report includes data from three interviews conducted with subjects by trained research staff at the University of Washington. The first was at enrollment in PCAP, using a 1-hour face-to-face structured interview adapted from instruments used by the authors in prior studies (Grant, Brown, Callahan, Barr, & Streissguth, 1994; Streissguth, Martin, Martin, & Barr, 1981), and including items on demographics, quantity, frequency, and pattern of alcohol and drug use prior to and during pregnancy, problems associated with alcohol and drug use, family history of substance abuse problems, use of family planning and community services during pregnancy. Specialized interview techniques were used to increase the accuracy of self-report, including calendars and reminders of special events. The second was at exit from PCAP, using a structured face-to-face interview instrument modified after the enrollment interview and asking about the 3-year time period from enrollment to exit. The third was at postprogram follow-up approximately 1.6 to 3.6 years (mean 2.5 years) after subjects had completed the intervention, using a 15-minute scripted telephone interview modified after the 3-year exit interview.

Length of postprogram follow-up time varied among participants because original enrollment took place over an 18-month period, program exits therefore took place over 18-months, and the follow-up study took place over a 10-month period. Women were interviewed postprogram as they were located, and no effort was made to locate women in the order in which they had originally been enrolled. If a client did not have knowledge about the target child, the target child's custodian was interviewed. Ten follow-up subjects who did not have telephones or were institutionalized were interviewed in person.

Subject level of involvement with the advocacy intervention during the 3-year program was documented by advocates using the Client Contact Log to record time spent with each woman (Ernst et al., 1999).

University of Washington Human Subjects approval was obtained for all study activities and follow-up tracing. Informed consent was obtained from all subjects.

THE INTERVENTION

The Parent-Child Assistance Program (PCAP) began in 1991 as the Seattle Birth to 3 Project, a 5-year federally funded home visitation demonstration project with the primary goal of preventing the births of future alcohol and drug-affected children. The model has been described in detail elsewhere (Ernst et al., 1999; Grant, Ernst, & Streissguth, 1996, 1999; Grant, Ernst, Streissguth, Phipps, & Gendler, 1996). In brief, PCAP paraprofessional advocates with a maximum caseload of 15 families assist mothers in obtaining alcohol and drug treatment and staying in recovery, assure that the children of these mothers are in safe home environments and receiving appropriate

health care, and link families with appropriate community resources. Administrative supports include comprehensive and ongoing training, individualized weekly supervision and access to daily consultation with a clinically trained supervisor, group staffing and support, and regular feedback from evaluation staff.

Advocates begin their work by building trust with the client and establishing an alliance with her family and social support system. They use concrete, explicit methods to help clients identify personal goals and the incremental steps that must be taken to meet those goals (Grant, Ernst, McAuliff, & Streissguth, 1997). The advocacy approach is two-pronged: paraprofessionals provide extensive role modeling and practical assistance directly in the home with the client, and they also connect clients to a comprehensive variety of services in the community, assuring that clients actually receive the services they need. They work closely with the network of community service providers to avoid working at crosspurposes and duplicating services.

ANALYSIS

t-Tests and chi-square tests were used to compare enrollment and exit characteristics between two independent groups (subjects interviewed versus those not interviewed on follow-up) when variables were measured on continuous or categorical scales respectively. McNemar Test for Correlated Proportions (Rosner, 1986) compared outcomes at enrollment versus exit, and at exit versus follow-up, including the 45 clients interviewed at all three points. Chi-square test examined the relationship between length of time to follow-up (sample divided into triads based on time since program exit) and outcomes. Significance level (two-tailed) was set at $p < .05$.

RESULTS

We compared original enrollment characteristics of the 48 mothers located at follow-up (74%), with the 17 who were not (26%). Mothers not located at follow-up were somewhat more likely at enrollment to have three or more children, to not have custody of all previous children, and to have abused alcohol or heroin during pregnancy, but these differences between groups were not statistically significant. Native American mothers were disproportionately lost to follow-up, with 6 of 10 (60%) lost compared to 11 of 55 (20%) lost among non-Native American ($p < .01$); two Native Americans not interviewed on follow-up had died as a consequence of end-stage liver disease due to long-term ethanol abuse.

Similarly, we compared outcomes at exit from the 3-year intervention between mothers located at follow-up and those not located. Mothers located at follow-up had more advocate contact time over the course of the 3-year intervention, and their exit outcomes were somewhat more positive, but differences were not statistically significant.

Among the 45 mothers interviewed at the three measurement points (enrollment, exit from the 3-year intervention, and follow-up), we found statistically significant improvements between enrollment and exit in the following areas: increase in current abstinence from alcohol and drugs for at least 6 months at time of interview (0% at enrollment versus 31% at exit, $p < .001$); increase in regular use of a family planning method (2% at enrollment versus 76% at exit, $p < .001$); increase in use of a more reliable family planning method, such as Depo Provera, Norplant implant, intrauterine device, or tubal ligation (0% at enrollment versus 44% at exit, $p < .001$) (Table 1). We observed a significant decrease in public assistance as the main source of income

Table 1. Comparison of Maternal Status on Primary Outcomes Among PCAP Clients at Enrollment, Exit, and Follow-up (N = 45)

	At Enrollment		At Exit		At Follow-up	
	n	(%)	n	(%)	n	(%)
Abstinence ^a from alcohol and drugs:						
Current abstinence, at least 6 months	0/45	(0)	14/45	(31)**	23/45	(51)*
Period of abstinence, at least 1 year ^b	—		17/45	(38)	21/44	(48)
Family planning:						
Current, consistent use	1/45	(2)	34/45	(76)**	33/45	(73)
Current use of more reliable method ^c	0/45	(0)	20/45	(44)**	21/45	(47)
Subsequent pregnancy and birth						
Mothers subsequently pregnant ^b	—		23/45	(51)	13/45	(29)*
Pregnant at interview	—		1/45	(2)	5/45	(11)
Mothers with subsequent birth(s) ^b	—		12/45	(27)	4/45	(9)*
Number of subsequent children ^{b,d}	—		12		6	
Number of children unexposed to alc/drugs ^d	—		0/12	(0)	4/6	(67)

Note: Significance levels: * $p < .05$; ** $p < .001$.

^aAbstinence is defined as a continuing state of abstaining from any alcohol or illicit drug use, no relapses.

^b“At exit” defined as time period between enrollment and exit; “at follow-up” defined as time period between exit and follow-up.

^cIncludes Norplant implant, Depo Provera injection, intrauterine device (IUD), or tubal ligation.

^dBirth outcomes (number of children and exposure) were not tested for significance.

(87% at enrollment versus 51% at exit, $p < .001$). Employment as the primary source of income increased (0% at enrollment versus 9% at exit) as did living in permanent housing (45% at enrollment versus 58% at exit), but not to a significant degree.

Between program exit and postprogram follow-up we found significant improvements in these areas: increase in abstinence from alcohol and drugs for at least 6 months at the time of interview (31% at exit versus 51% at follow-up, $p < .05$); decrease in mothers with a subsequent pregnancy (51% during program versus 29% during follow-up, $p < .05$) and with a subsequent birth (27% during program versus 9% during follow-up, $p < .05$) (Table 1). We observed an increase in permanent housing (58% at exit versus 80% at follow-up, $p < .01$) and a decrease in mothers jailed during the interval (67% during program versus 39% during follow-up, $p < .01$). Although employment as the main source of income increased somewhat (9% at exit versus 18% at follow-up), so, too, did public assistance (51% at exit versus 58% at follow-up).

At enrollment, every study mother had recently delivered an infant heavily exposed to alcohol and/or drugs in utero. Among the 12 mothers who had a subsequent birth during the 3-year intervention, none were completely abstinent from alcohol and drugs throughout the subsequent pregnancy. During the follow-up period, four mothers had a subsequent birth, and four of the six children they delivered were unexposed to alcohol or drugs during the pregnancy according to maternal self-report (Table 1).

Length of time between program exit and follow-up varied among the mothers. We divided the sample into equal thirds ($n = 15$ in each group) based on time since program exit (1.56 to 2.10 years; 2.11 to 2.82 years; and 2.83 to 3.63 years; mean = 2.5 years), and found that at follow-up mothers with the longest time since program exit were significantly more likely to have had a subsequent pregnancy (but not a subsequent

birth) compared to mothers with the shortest time since program exit. There were no other significant differences.

DISCUSSION

PCAP intervention efforts are specifically targeted to prevent future alcohol and drug exposed births in one of two ways: either by helping women avoid alcohol and drug use during pregnancy, or motivating women to prevent pregnancy if they are still using these substances. This study demonstrates that among high-risk mothers who abused alcohol and drugs heavily during a target pregnancy and were enrolled in PCAP, significant reductions in substance abuse and increases in the use of reliable family planning were achieved during the 3-year intervention. In general, these positive exit outcomes were sustained or improved during the postprogram follow-up period, with significant reductions observed in substance abuse, subsequent pregnancies, and subsequent births. These outcomes have positive effects for the mother by removing the barriers of substance abuse and unwanted pregnancy that hinder a woman's ability to build a healthy, productive life. They have potentially positive effects for her children, if they result in an improved quality of the home environment and redirect the mother's attention to their care.

Comparing PCAP findings with those of other national home visitation programs is not straightforward for a number of reasons, including variation in length of follow-up time and diversity of analytical methods, but perhaps most important is the fact that as the target population and goals of PCAP differ from other programs', so, too, do the outcomes of interest. The PCAP intervention is primarily geared to improve maternal outcomes in the areas of substance abuse and family planning. Although all of the national programs described earlier (except HIPPIY) measured some maternal outcomes, only CCDP and NHVP specifically sought to improve maternal life course. CCDP found that at exit from the 5-year program, 48.6% of the intervention group and 50% of the control mothers had a delivery subsequent to the birth of the focus child, compared to PCAP's finding of 14 mothers (31%) with a subsequent birth over a similar time period (3 program years plus 2.5 average follow-up years). (Two PCAP mothers had a baby in both time periods.) Among CCDP mothers who had a subsequent pregnancy, 13% of experimentals and 15% of controls used any alcohol, and only 3% in each study group used illegal drugs (St. Pierre & Layzer, 1999). Baseline alcohol and drug use was not reported, so it is not possible to evaluate change in substance abuse as a result of intervention; however, reduction in substance abuse was not identified as an outcome of primary interest.

The NHVP in Elmira, NY, demonstrated success in reducing subsequent pregnancies among the subset of first-time mothers who were poor and unmarried (Olds, Henderson, Tatelbaum, & Chamberlin, 1988). Four years after delivery of the first child, the average number of pregnancies (adjusted for husband/boyfriend support and maternal sense of control) among the nurse-visited subset was .58, compared to 1.02 among the comparison group (a significant 43% reduction). In comparison, the (unadjusted) average number of subsequent pregnancies among PCAP clients was .71 three years after delivery of the target child (32 pregnancies among 45 mothers). It should be noted that these 32 pregnancies occurred in 23 of the 45 mothers. Thus, the remaining 22 had no pregnancies during the three year follow-up period.

In this same time frame, PCAP observed an unadjusted mean of 1.27 births (including the target child), compared to 1.37 among NHVP nurse-visited mothers

who were poor and unmarried, and 1.78 among comparable controls (adjusted for husband/boyfriend support and maternal sense of control). Although interpretation is not straightforward because comparisons are not made on unadjusted rates, and the magnitude of the NHVP adjustment is unknown, the difference in mean subsequent births appears to be accounted for by the greater number of spontaneous and therapeutic abortions among PCAP mothers (spontaneous abortion mean = .13 compared to adjusted .03 among NHVP nurse-visited mothers and .11 among controls; PCAP therapeutic abortion mean = .29 compared to adjusted .10 among NHVP nurse-visited mothers and .12 among controls). These data suggest that some PCAP mothers may have viewed therapeutic abortion as a method of birth control, a message not promulgated by their advocates, who promote prevention of unintended pregnancy.

In another randomized trial of nurse home visitation, Black et al. (1994) found that low-SES mothers who abused alcohol and drugs and received home visits from pregnancy through the child's 18th month, were less likely to report continued drug use at program completion ($p = .06$).

Only a small proportion of people who use alcohol and drugs become compulsive users, and the mothers enrolled in PCAP are these. Longitudinal studies of substance abuse careers report repeated cycles of treatment, remission and relapse (Hser, Hoffman, Grella, & Anglin, 2001; Maddux & Desmond, 1986; Simpson & Marsh, 1986; Vaillant, 1966, 1983). In examining individual PCAP client's program and postprogram treatment experiences, we found a similar pattern, but with indications that mothers were steadily accruing longer periods of abstinence after recovering from relapse events.

At postprogram follow-up we observed positive outcomes among other indices of maternal and family stability, including a significant decrease in maternal incarceration in jails or prisons, and a significant increase in living in permanent housing. We noted a modest increase in maternal employment as the main source of income. Longitudinal research results are consistent with this, suggesting that improvements in remission and abstinence generalize to lower rates of arrests and more employment (Simpson & Marsh, 1986). Most PCAP mothers were ill prepared for employment at the time they entered the study; most had less than a high school education and no work experience, and all were chronic substance abusers with small children. Mothers viewed treatment, recovery, education and training as prerequisites to obtaining stable employment. Nearly half of the clients participated in education or training programs during either the intervention or follow-up period; six former PCAP clients were attending college when interviewed on follow-up.

Clients located and interviewed on follow-up were those who had more advocate contact time over the course of the intervention. The trust they learned to develop in their advocates during the 3-year program may have contributed in important ways to their ability to seek and maintain supportive, positive relationships during follow-up.

The high-risk, compromised status of the mothers at entry into the program offered greater opportunity for improvement over the course of the intervention; this type of model might not effect the same degree of change among mothers with a lower risk baseline profile. We account for the beneficial effects of this paraprofessional model in part because at enrollment participants were pregnant or had recently delivered a baby, they were experiencing a host of serious problems associated with their addiction, and were therefore receptive to the immediate support and direction offered. Mothers appreciated the practical services they received from home visitors who had the knowledge, skills, and experience to navigate community provider networks

and assure that their clients actually received services needed or recommended. They valued the hope and realistic role modeling provided by paraprofessionals who had overcome some of the same types of difficult life circumstances, and gone on to realize successes and satisfaction.

Our positive follow-up findings may be biased somewhat by the fact that the mothers interviewed on follow-up had more positive outcomes at program exit than the mothers who were not interviewed, although none of these differences were statistically significant. As might be expected, women not located for follow-up were those who, at program exit, were unconnected and uninvolved in socially positive ways, were less likely to be living with their children or utilizing community services, and whose social connectedness still revolved around the drug and criminal cultures. We know that although these former clients “disappeared” on follow-up, their problems have not, nor does their inconspicuousness result in less of a social and economic impact on the community. The challenge for PCAP is to continue to explore strategies for reaching these most disenfranchised women in more effective and meaningful ways.

An important study limitation is the lack of follow-up data on the control group enrolled concurrently with PCAP program participants. This follow-up study was essentially an unfunded project that did not allow for the time and personnel resources required to locate and interview the 31 control subjects. Although the outcomes reported here are promising, the lack of a randomly assigned control group raises the question of whether positive outcomes among PCAP mothers are truly attributable to the program. For example, in the CCDP study, positive findings in both the intervention and control groups suggest that the outcomes are typical life changes, and not ones that should not be attributed to the CCDP program.

Data such as these are, of course, subject to self-report bias, and findings would be strengthened if they were confirmed by biologic indicators. Two prior studies from our research unit are relevant here. In a repeated interview study conducted at month 4 of the PCAP intervention, we compared client response to advocate assessment and found 95% concurrence (Ernst et al., 1999). In an earlier research study using the same format as the enrollment and exit interviews used in the present study, we compared self-report of prenatal cocaine use with data from maternal hair samples collected postpartum and found 86% agreement (Grant et al., 1994).

Hospital obstetric policies and daily headlines bear evidence that mothers who abuse alcohol and drugs during pregnancy continue to be condemned (Greenhouse, 2000; Nelson & Marshall, 1998; Paltrow, Cohen, & Carey, 2000; Will, 1999). Our PCAP mothers were themselves born into the same types of devastating circumstances into which their children have now been born, in a continuum of intergenerational deprivation and alcohol/drug abuse. The Parent–Child Assistance Program has intervened successfully with mothers dismissed as hopeless, and has demonstrated that given a supportive, trusting relationship, facilitated linkages to appropriate community services, and the necessary time for gradual and realistic change to occur, many of these mothers are capable of sustained recovery and productive lives, even 2 years after completing the 3-year program.

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