

## Review

# Parent training skills and methadone maintenance: clinical opportunities and challenges

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### Abstract

Children raised in substance abusing families show high rates of behavioural and emotional problems, in particular oppositional, defiant and non-compliant behaviours. While a range of social and individual factors correlate with poor parenting, it is often the quality of the parent–child relationship that mediates the effects of most other risk factors on child development. By addressing this relationship using behavioural family interventions, child behaviour problems have been reduced in multiple problem families. However, there has been little attempt to systematically evaluate such programs in substance abusing families. It is argued that methadone replacement programs provide a window of opportunity to deliver well-validated parent training programs that enhance the quality of parent–child relations. However, it is likely that such programs would need to be medium to long term and address issues beyond parent child relationships. How such interventions may be delivered and evaluated is discussed. © 2000 Elsevier Science Ireland Ltd. All rights reserved.

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### 1. Introduction

Historically, illicit drug using parents have been considered to be incapable of altering their life style to accommodate and meet their children's needs (Densen-Gerber and Rohrs, 1973). Coppelillo (1975) suggested that drug addiction disrupts the bonding process inevitably resulting in poor outcomes, including child abuse, abandonment, or failure to thrive. This outcome has been attributable to enduring personality disorders present in addicted women (Wellisch and Steinberg, 1980). While this view appears harsh and judgemental in the light of recent developments in the conceptualisation of family problems, it is certainly the case that children raised in substance abusing families are at high risk of child abuse and neglect (Cohen and Brook, 1987; Famularo et al., 1989; Tracy, 1994; Chaffin et al., 1996). In particular, evidence suggests that children

reared by substance abusing parents have elevated rates of behavioural and emotional problems, including oppositional, defiant and non-compliant behaviours (e.g. Smith, 1993; Willens et al., 1995). These problems are associated with a substantial risk of substance use behaviours (e.g. Robins and McEvoy, 1990) and juvenile delinquency (Loeber, 1990; Ferguson and Lynskey, 1998).

Despite a well established literature demonstrating that behavioural problems in children can be reduced by the use of treatment interventions that focus on improving parenting skills (see Brestan and Eyberg, 1998 for a review), there has been little systematic attempt to provide such interventions to substance abusing families, especially those marked by illicit drug use and accessed via clinical services such as residential and outpatient methadone maintenance (MM) programs. This seems unfortunate as there may be times when such parents enter into a protracted period of contact with clinical services providing opportunities for the provision of parent–child intervention services,

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as well as offering assistance in the management of adult substance abuse.

In the present paper the authors are primarily concerned with the research literature that has focused on illicit drug use, as opposed to alcohol abuse, and in particular the literature on opioid dependence and MM. To begin, the literature on child outcomes in families in which one or both parents are opioid dependent are reviewed. Secondly, a range of risk and protective factors that have been shown to shape child outcomes in these families are considered. This is presented within a developmental psychopathology framework and the implications for the treatment of substance abusing families highlighted. Thirdly, the literature on the use of parent management training and/or behavioural family therapy with special populations of relevance to opioid dependent families is reviewed. Finally, potential for research directions is outlined and the challenges specific to the implementation of interventions at a time when drug use is relatively stable are discussed; i.e. in families where one or both partners are on a MM program.

## **2. Clinical characteristics of children raised in families in opioid dependent families**

Children raised in substance abusing families consistently show behavioural and emotional problems (Dore et al., 1995) and high rates of school failure (Smith, 1993); behaviours which are linked to later juvenile delinquency and crime (Robins, 1981; Rutter and Geller, 1983; Loeber, 1990). Whilst there is a considerable body of research that links parental alcohol abuse in combination with parental psychopathology (West and Prinz, 1987; Finn et al., 1997), a stressful and/or disruptive family environment or lack of maternal nurturance (e.g. Dobkin et al., 1997) with poor child outcome, there are fewer studies of child outcome in families with parental drug abuse. However, it would appear that there are many similarities in child outcome and in particular high rates of externalising behaviour and conduct problems. Research findings indicate that, compared with children of non-substance abusing parents, sons of substance abusing parents are more likely to show conduct problems including severe aggressive/destructive behaviour. Daughters of substance abusing parents are more likely to display attention deficit/hyperactive behaviour, aggression and other conduct problems (Gabel and Shindedecker, 1992). Similarly Willens et al. (1995) found that, compared to normal controls, children raised in families in which one parent was opiate dependent had significant elevations on a checklist of child problem behaviours, in particular externalising behaviours. Such childhood conduct problems have also been found to predict the age of first use

of substances that, in turn, strongly predict substance abuse (Robins and McEvoy, 1990). Indeed, in a large prospective study covering a decade, children with early conduct difficulties were 2.0–6.8 times at risk for development of substance use behaviours and juvenile offending (Ferguson and Lynskey, 1998).

Despite an association between parental substance use and poor child outcome, there are those children with favourable outcomes who are raised in substance abusing families. Johnson et al. (1990) conducted one important study, which moved beyond group comparisons of substance abusing families and non-substance abusing families. Within a multi-risk population of children, a cluster analysis produced three distinct patterns of developmental outcome: cluster 1 described those children 'doing well'; cluster 2 described children who were 'average'; and cluster 3 described those children 'doing poorly' on a range of developmental and social measures. The majority of the children from substance abusing families were in either cluster 1 or 3; whilst the majority of children from non-substance abusing families were in cluster 2. Importantly, the characteristics that differentiated those children from substance abusing families in clusters 1 and 3 were not related to either maternal drug use or medical history. However, the quality and adequacy of the home environment and an index of family disorder based on recorded instances of neglect, abuse or violence within the family did differentiate the groups. This study draws attention to the finding that not all children raised in substance abusing families have a poor developmental outcome and that the availability of a responsive and safe home environment may result in a more positive outcome. This finding is consistent with recent research on resilience in children (Masten and Coatsworth, 1998).

## **3. An assessment of risk factors within an ecological framework**

Perhaps one of the most remarkable outcomes in the literature on child developmental psychopathology is that some children raised in the most adverse of circumstances, survive the mayhem and chaos of their early family life to develop into competent and caring adults (Werner, 1993). Recent attempts to understand the wide range of outcomes for such children have been guided by the developmental psychopathology model (Cicchetti and Toth, 1998). This model, based on an ecological model of human development (Belsky, 1995) views an individual's development to be determined by an interaction of influences both proximal and distal to the individual. Whether an outcome is positive or negative depends on the interrelationship between the presence or absence of specific risk or protective factors,

previous levels of functioning and the developmental period in which adversity is experienced (e.g. Cicchetti and Toth, 1998). Indeed drawing upon the concept of multi-finality, diverse outcomes can be observed for any given source of influence. It is argued that no one single risk factor, e.g. substance abuse, is seen to invariably lead to one particular outcome such as child behavioural problems. Single risk factors are mediated by risk and protective factors at all levels of the ecosystem. By way of contrast, the principle of equifinality proposes that a particular outcome (e.g. substance abuse or depression) may emerge from diverse sources of influence. Thus, different trajectories may be implicated in the development of childhood problems and at the extreme, childhood psychopathology (Cicchetti and Toth, 1997). In the following section a developmental psychopathology model is used to conceptualise the range of risk and protective processes that can influence the developmental outcomes of children raised in opioid dependent families, over and above the risk factor of substance abuse itself. Influences most proximal to the child's environment, that is factors within the child that influence ontogenic development, and the more immediate environment, such as the family (microsystem) will be considered first. The more distal influences such as the community (exosystem), and the wider cultural and socio-political context (macrosystem) are then considered.

### 3.1. *Ontogenic development and the microsystem*

Most of the relevant literature in the substance abuse field has focused on proximal influences on child outcome at the ontogenic and microsystemic level. In particular, there has been a major focus in existing research on the developmental effects of in utero exposure to opiates and other illicit and licit drugs. The consequences of such exposure have been well documented in the early neonatal period including the severity and duration of neonatal abstinence symptoms, the relationship to the extent of maternal opioid use and the adverse impact on infant behavioural functioning (see Kaltenbach, 1994 for a review). In general, findings suggest that initial differences between opioid exposed and non-exposed infants are substantially reduced by the third year of life with many studies finding comparable performance on a range of cognitive and motor tasks for those children exposed to opioids in utero and those who were not (e.g. Kaltenbach and Finnegan, 1984; Kaltenbach, 1994).

However, what is less clearly assessed is the effects of prenatal exposure on the microsystem, and in particular the quality of early mother–infant interactions. Prenatally opioid exposed infants born with neonatal abstinence syndrome are less socially responsive and are typically more difficult to console (for example,

Kaltenbach and Finnegan, 1988). This may, in turn, impact on the quality of relationship with the primary caregiver — almost invariably at this stage the biological mother. It is likely that a resulting maladaptive interactional pattern may influence attachment style as it emerges in the child's first year. Fitzgerald et al. (1990) found some evidence in support of this. Specifically, drug-dependent women (substance of use not specified by the authors) demonstrated less positive affect and greater detachment with their infants compared to drug-free mothers. Dyadic disturbances have also been observed in cocaine abusing mothers and their infants (age 8–11 months), characterised by low scores on measures relating to maternal emotional involvement and responsivity and an apparent positive affect when interacting with their infant (Burns et al., 1991). In addition, a study of mothers and their 12-month-old infants exposed in utero, also found more disorganised and avoidant behaviour in infants and less contact — maintaining behaviours of MM mothers compared to mothers and their infants matched on age, socioeconomic status and parity (Goodman et al., 1999). In a longitudinal study, Bernstein and Hans (1994) found that in utero exposure to methadone per se did not have a negative impact on developmental outcome. However, for MM mothers, difficulty communicating with their children at 2 years predicted a poorer developmental outcome.

Finally, in two studies in which interactional patterns between mothers and their children were studied in pre-school age children, Bauman and Dougherty (1983) compared mothers on MM and their pre-school children to controls on cognitive development, personality, parenting attitudes, and mother–child interaction. They found that mothers on MM had a significantly higher frequency of directive and aversive behaviours, in particular behaviours coded as: Commands, Disapprove, Provoke, and Threat and a significantly lower frequency of prosocial behaviours, in particular Request behaviour. The children of MM mothers had significantly more aversive behaviours and significantly fewer prosocial behaviours compared to children of control mothers. Although their sample was small ( $n = 15$  per group), similar findings were reported in a later study in which 70 MM mothers and their preschool children were compared to a matched control group of 70 non-addicted mothers and their children (Bauman and Levine, 1986). The parenting style was also found to differ with MM mothers displaying a more authoritarian attitude to child rearing compared to control mothers. This interactional style has been clearly linked to the development of oppositional behaviours in non-substance abusing families and has consistently been found to be a significant predictor of poor child outcome (Dadds, 1987). For children in middle to late childhood raised in MM families, the predominantly

authoritarian parenting pattern had developed into significant levels of physical punishment with 48% of parents reporting that they hit their child harder than they thought they should and 46% reporting having hit a child with something other than their hand (Kolar et al., 1994).

At the microsystemic level, the psychological adjustment of the primary caregiver, in addition to the ontogenic development of the child, has also been identified as an important aetiological factor in the development of childhood adjustment problems. Of relevance to the current review is the literature on maternal depression. Maternal depression has been identified as one of the major risk factors for the development of emotional, behavioural and somatic problems in children and may be influenced by a range of factors including the quality of the marital relationship, social support, financial stress and others (Dadds, 1995; Cicchetti and Toth, 1998).

In turning to the literature on women and substance abuse, we find that women with substance abuse problems have experienced greater numbers of life stressors, including childhood sexual abuse (Wallen, 1993; Wechsberg et al., 1998), and have less social support compared to their male counterparts (Rhoads, 1983) and to non-drug using mothers (Fiks et al., 1985). This absence of social support is associated with the use of dysfunctional coping strategies (Tucker, 1982). Women in MM treatment consistently report higher levels of depression and anxiety compared to men in MM (Darke et al., 1994) and this occurs independent of duration in treatment (Darke et al., 1994, but see Strain et al., 1993). The absence of fathers from the literature is perplexing and it is unclear whether they are indeed absent or have been overlooked. In one study in which women were asked to report on their relationship status, women on MM were more likely to be single mothers and have their first child at a younger age compared to the general population. Twenty four percent of women were not currently in a cohabiting relationship and 23% had been in a relationship of less than 2 years. Many of the women reported problematic relationships in which domestic violence had occurred (Waldby, 1988). In a recent census of drug and alcohol treatment agencies throughout Australia, women were more likely to present with an opiate problem, were younger than men and, irrespective of their primary substance of use, were less likely to be in paid employment (Torres et al., 1995). Thus, it is probable that many of the families who are in most need of services are single parent families where mothers are struggling with their own emotional difficulties, with limited social support and financial difficulties. Each of the above characteristics have been identified as significant risk factors for the development of behavioural problems in children (Dadds, 1995).

Finally, caregivers that are also dependent on illicit opioids will be required to spend time in procuring drugs and subsequently experience a period of intoxication following use. Thus, there are likely to be times in a child's life when the primary caregiver is either preoccupied with procurement, experiencing drug withdrawal or intoxication, all of which are likely to impact on the ability to respond consistently to an infant or young child's needs. Irrespective of the quality of the relationship outside of these times, clinical experience suggests that during such times the primary caregiver's capacity for parenting will be markedly diminished. In addition to an impairment in the ability to attend to the child and his immediate needs, other parental cognitive functions such as memory and consciousness may also be affected. This further impacts on the capacity to provide consistency and familiar routines; both of which contribute to a child learning emotional regulation and experiencing predictability in maternal responsiveness (Mayes and Bornstein, 1997). In non-substance abusing families, maternal unresponsiveness has been associated with increased infant distress. In later years, toddlers raised in environments characterised by high levels of maternal unresponsiveness, display a range of affect regulation difficulties that extend to peer relationships (see Cicchetti and Toth, 1998). Thus, it is likely that many families entering into MM treatment will bring with them a range of problems that have their origins in the early years of the child's life. There are some people who do better in MM programs, indexed typically by reduction in illicit drug use and criminal activity. However, despite a large body of literature examining the predictors of treatment compliance (see Ward et al., 1998 for a review), consistent gender differences do not emerge nor is it clear whether being a parent is also likely to influence treatment compliance.

Risk factors may be cumulative and some combinations of risk factors appear to be additive (e.g. Bernstein and Hans, 1994). Thus, children of a depressed MM mother may show a poor outcome. This may be exacerbated by in utero influences on the child which further impact on the parent-child relationship. When combined with lifestyle factors specific to illicit opioid use, it can be argued that a family environment in which there are parental emotional difficulties and in some cases clinical depression, substance misuse and financial hardship together produce a high-risk environment for child development.

### 3.2. *The exosystem and macrosystem*

The exosystem is the ecological level in which families are embedded. Of relevance here are the community services and treatment options available in a particular community that can impact on both individ-

ual and family functioning. Dating from the late 1980s, a commitment to broadening the treatment options for drug abusers has been made by many governments. Not the least is the expansion of services in the UK in which a network of community drug teams have been established (e.g. Strang et al., 1992). Further, there has been a significant expansion in methadone programs (Torres et al., 1995; Farrell et al., 1996). In the UK alone there are an estimated 150 000 opiate injecting drug users and over 22 000 that have been prescribed methadone (Farrell et al., 1996). In the USA, a recent survey indicated that approximately 180 000 people were currently receiving MM treatment (American Methadone Treatment Association, pers. comm.). The effectiveness of MM, systematically examined in both randomised controlled trials and large scale observational studies, in reducing illicit heroin use and criminal activity has been well documented (see Ward et al., 1999 for a review). In essence, increased treatment effectiveness is associated with easy access to treatment, duration in treatment, and higher doses (> 60 mg daily). Retention in treatment is further enhanced by adopting more flexible methadone delivery options (Ward et al., 1999).

The question that has not been clearly addressed is the extent to which MM may impact on family functioning by reducing some of the risk factors identified above within the family environment. However, in as much as the research literature can inform this issue, it would appear that treatment on MM does not resolve family difficulties nor alleviate child behaviour problems. Kolar et al. (1994) in a cross sectional study, reported on parent and child characteristics of 70 families currently on MM. Whilst pretreatment comparative information was not reported, the families were generally quite dysfunctional with high rates of truancy, drug use and conduct problems in the children and ongoing psychological problems in the parents. Thus, whilst illicit drug use and the associated lifestyle factors are ameliorated to a large extent by MM, an expansion in and increased accessibility to MM services are unlikely to impact on all risk factors that contribute to poor child outcome.

Ascertaining influences on child outcome in MM families that stem from cultural and societal values and beliefs is an empirically complex task. However, societal values affect the likely provision of services. In recent years there has been a growing concern about the impact of drug misuse at a societal level accompanied by increasing media attention on the issue of prevention and intervention for substance misuse. It is highly likely that this attention has been influential in the current expansion of MM and other drug treatment options.

#### 4. Behavioural family interventions

It could be argued that parenting interventions are unlikely to make a difference given the multiplicity of risk factors we would expect to find in MM families. However, a wealth of research in developmental psychopathology has indicated that while a range of factors can correlate with poor parent parenting and thus, poor child outcomes, it is the quality of the parent–child relationship that tends to mediate the effects of most other risk factors on child development (Emery et al., 1992; Dadds, 1995; Dobkin et al., 1997). Further, progress in parenting interventions have seen the development of explicit procedures for working with high-risk parents. Specifically, parenting interventions now include a range of procedures for effectively engaging and empowering parents to be more nurturing and less aversive with their children (Miller and Prinz, 1990; Sanders and Dadds, 1993). The literature reviewed above strongly support the premise that MM parents and their children would benefit from recent advances in the development of parent training interventions. Before presenting specific suggestions for establishing and implementing parenting programs with MM parents, it is necessary to first review the state of the art practices in parent training interventions in mulitproblem families.

Research has supported the efficacy of behavioural family interventions (BFI) for improving parent–child relations both in the short term and over follow-up periods of several years after the termination of treatment (Miller and Prinz, 1990). Most of this outcome research has focussed on children with early conduct problems characterised by aggressive and non-compliant behaviour. Research has shown that parents undergoing behavioural parent training are also generally satisfied consumers and view the specific behavioural techniques (e.g. praise, child-centred play, time out) taught in these training programs as both effective and acceptable (McMahon and Forehand, 1983).

Empirical evidence and clinical experience suggest that not all parents or families benefit to the same extent from treatment (Miller and Prinz, 1990), and difficulties are commonly encountered when there are concurrent marital problems, parental depression, and other family difficulties, such as economic hardship. Several authors have made various proposals to improve the outcome of treatment by expanding the focus of treatment (Wahler, 1980; Miller and Prinz, 1990), and providing additional skills training to overcome problems that are hypothesised to be related to parental child management behaviour. Such adjunctive interventions include teaching parents self management skills (Griest et al. 1982), providing concurrent marital therapy (Dadds et al., 1987), providing training in the selection and arrangement of activities for children in

high risk situations (Sanders and Christensen, 1985), anger management (Goldstein et al., 1985), social support training (Dadds and McHugh, 1992), and the development of better home–school liaison for the management of school-based behavioural problems (Blechman, 1984). Clinical efficiency dictates that it is better to include only those components that are required to achieve the therapeutic objectives negotiated with a family. Therefore a major challenge facing BFI clinicians is to work effectively to design programs that are minimal in terms of cost of delivery but are sufficiently comprehensive in terms of achieving client change within multi-problem MM families.

The key feature of BFI remains parent training, with a growing body of studies supporting its therapeutic value (Kazdin, 1987). In particular, a large number of studies have shown this approach to be effective in the treatment of oppositional behaviour disorders and conduct problems in (young) children (e.g. Forehand and Long, 1988). Intensive behavioural parent training programs typically teach parents a variety of interactional and child management skills, as well as focus on additional family problems such as marital difficulties, social isolation, parental psychological wellbeing (depression, anger and irritability), financial difficulties, household organisation and division of labour. Examples of interventions at this level include work by Wahler and Dumas (1984) and Blechman (1984) with multi-problem parents, and Lutzker (1984) with abusive parents.

The treatment program employed by Forehand and his colleagues represents one of the most thoroughly evaluated parent training programs available. A large number of studies with children whose primary presenting problem is one of non-compliance have shown that immediately post treatment, target children display reduced levels of oppositional behaviour, their parents increase positive attending and decrease aversive attention, parents perceive their children as better behaved, evaluate the intervention (e.g. time out) as being effective and acceptable, and are satisfied with the treatment they received. In a recent long term follow-up study of adolescents who had been treated through this program 4–10 years previously, results showed that on most measures of adolescent functioning, treated children were indistinguishable from a comparison group of non-clinic adolescents. The parents of the treated children were functioning just as well as parents of non-clinic adolescents on measures of depression, marital adjustment, and parenting competence (Forehand and Long, 1988).

Webster-Stratton and colleagues developed a video-based program involving parents in group discussion focusing on behavioural techniques, problem solving and anger management through the use of video vignettes. The program has the advantage of being group

based and, therefore, more cost-effective in enhancing parenting skills. In one of the early evaluations of this mode of parent training (Webster-Stratton et al., 1988), parents were randomly allocated to one of four groups, three forms of parent training: viewing a video-based parent training program alone; participating in group discussion without the video program or a combination of both video program and group based discussion or a waiting list control group. All three treatment groups reported improvement in children's behaviour problems compared to the control group. However, the combined video program and group discussion was associated with greater therapeutic gain, with significantly greater reductions in maternal stress and lower attrition.

Comparisons with other types of family intervention are uncommon but generally support BFI as the treatment of choice for behaviour problems in young children. Szykula et al. (1987) compared the effectiveness of strategic and behavioural family therapy for a mixed sample of behaviourally and emotionally disturbed children and their families. An analysis of outcome by severity of presenting problem showed that families with the more severe problems responded more favourably to the behavioural intervention. Wells and Egan (1988) compared behavioural family therapy with systems family therapy in the treatment of child oppositional disorder. There were no differences between the two therapies on measures of parental emotional and marital adjustment (parents in both groups showed a decrease in anxiety and depression). However, direct observations of the family showed that the behavioural family intervention was superior in producing improvements in parental positive attention and child compliance (the presenting problem). Finally, Brunk et al. (1987) compared behavioural parent training presented in a group format to parents, with an individualised systems intervention for parents at risk for child abuse and neglect. The latter intervention included individualised behavioural parent training given in the home, counselling, interpersonal problem solving and a host of other interventions tailored to the individual needs of the parent. As expected, both interventions produced positive changes but the individualised multi-systemic therapy produced a better outcome on a subset of the observational measures. This study is of particular relevance to the current review. The families who participated had already been identified by social service agencies, the parents had many problems over and above child behaviour problems, and the issues of compliance and early drop out from treatment addressed here, are relevant for MM families. The effectiveness of the home-based intervention would suggest that such a model might be particularly effective with MM families where engaging such families in treatment is a difficulty, so the provision of home-based treatment ensures a non-threatening environment and decreases

the chance of missed appointments and premature drop out. Further, addressing other difficulties may also enhance the effectiveness of the treatment — the therapeutic relationship may be strengthened as families feel all of their difficulties are acknowledged and the opportunity for learning alternative coping skills to help with other life difficulties is made possible.

The importance of the therapist–client relationship in BFI therapy has received increased attention in recent times (e.g. Sweet, 1987; Twardosz and Nordquist, 1988; Dadds, 1989). The technological descriptions of parent training as reflected in scientific journals and books on the subject have largely ignored important process variables that affect the acceptability (to parents) of BFI. This issue has not been addressed with substance abusing parents and it is likely that process variables will be crucial to prevent the parent from feeling criticised, devalued, and thus failing to return for the next appointment.

## **5. Clinical applications and the treatment process: opportunities and challenges**

The long history of program evaluation with parent training interventions has seen the accumulation of some clear clinical wisdom about the achievements and limitations of this approach. In particular, a number of challenges to the successful implementation of parenting programs have been identified (Dadds, 1997) that may be particularly relevant for MM families, including the following.

### *5.1. Clinical access and referral factors*

In most tertiary clinical settings, clinicians rely on clients themselves seeking help. While substance-abusing parents may be attending clinics for MM, it is possible that they would not take the opportunity to seek help themselves for parent–child problems. This may be due to perceptions that nothing is wrong, lack of interest, or as part of a larger isolation or marginalisation from traditional health services associated with low SES, substance abuse, low education, poverty, cultural and racial isolation, the lack of services in rural regions and urban areas of poverty, and general disempowerment in society. The very families that are at highest risk may be ones least likely or able to access the services that can potentially help.

Thus, methods for integrating parent training programs into existing MM (and other substance abuse) services need to be developed and evaluated. In the first instance providers need to attend to the wider ecological environment, the exosystem, as a potential influence on the uptake of such services. To what

extent do the potential users of such services believe that they will be blamed for being ‘bad parents’ or risk the intervention of social services and the removal of their children if they participate in BFIs? If this is likely, concerted efforts need to be made by the treatment agency to have established links with social and family services in which there are clear policy guidelines regarding the reporting of child abuse and neglect. Drug services clearly cannot ignore potential child abuse risk. However, it is necessary to have in place mechanisms for dealing with such situations that promote collaborative and non-punitive approaches to helping families.

### *5.2. The design of mental health care facilities*

Much of the mental health system has been designed for the individual. Only the last few decades have seen the recognition that much of the health is firmly embedded in the quality and quantity of the intimate social relationships. With substance abuse, treatment settings are traditionally set up to accommodate one-to-one or group interactions, and rarely are parent–child or family facilities provided. It is very difficult if treatment teams do not have: (1) the physical structures (e.g. childcare facilities, group work consultation rooms, home visit services, to allow for comprehensive family services); or (2) a workplace philosophy that allows clinicians to consult with the entire family versus individuals. As discussed above, there has been an expansion of treatment services and options for drug misusers in the last decade and in particular the establishment of community-based services and MM clinics. The role of the community drug worker was originally conceptualised as, *inter alia*, a consultancy role in which the community drug team member could ensure other specialist services were accessed by drug users. This has resulted in treatment services being less hospital based. Findings from Catalano et al. (1997, 1999) in MM families and Brunk et al. (1987) in multi-problem families suggest that provision of a treatment program that is home-based is important. In our own work we have found that flexibility in this regard is more important with families often preferring to begin treatment in the safety of a familiar clinic setting and then, as treatment progresses, move to a having clinicians come to their home.

Whether specialist workers in community drug teams or MM clinics should extend their expertise to include delivery of behavioural parent training procedures remains a question for individual services. Certainly there are important implications for the cost of service delivery that cannot be ignored. However, at the least, this paper hopes to draw attention to the importance of providing MM families with access to BFIs.

### 5.3. Family disruption and breakdown

Family breakdown is a major impediment to successful parenting treatment where it is associated with frequent geographical moves, disrupted routines, caregivers, schools, and with the increasing number of blended families, changes of family composition. These types of changes may be particularly common in substance abusing families and make the provision of programmatic intervention services, such as BFI, difficult. However, MM treatment is regarded as a medium to long term treatment option with about half who enter treatment remaining for over 12 months (Ward et al., 1998). This, it could be argued, provides an ideal opportunity to engage families at a time when much of the chaos and stress associated with the procurement and use of illicit opioids is significantly reduced, and for some individuals, eliminated.

### 5.4. Drop out from treatment

Drop out from treatment is a common problem for clinicians working both with parent–child problems (Miller and Prinz, 1990) and in the substance misuse field (Marlatt and Gordon, 1985). In the child and family area factors affecting the likelihood of drop out include: environmental stressors such as poverty, interpersonal factors such as low family or social support, low expectations of treatment acceptability or effectiveness, therapist interpersonal and cultural sensitivity, skill, and peer support (Prinz and Miller, 1991). Continued drug use and duration of drug use history are features specific to the current population and have been associated with poor participation in a parenting program for families on MM (Gainey et al., 1995). However, it is not clear whether these contribute more to overall participation than the aforementioned factors. Methods of maximising parental engagement in the early stages of therapy are thus crucial to the effectiveness of tertiary treatments, with some indication that compliance with MM is an important precursor to the introduction of parent training.

### 5.5. Early versus late intervention

The parent–child interventions with the strongest research support so far are family interventions in which caregivers are trained to provide effective, non-coercive discipline, acknowledgement and reward of the child's prosocial behaviour and achievements, and effective family problem solving and communication styles (Miller and Prinz, 1990). Emerging evidence reveals that the age of the child is associated with the potential effectiveness of these interventions. With younger children, the evidence for these interventions is strong. However, as children move into adolescence,

the evidence for the effectiveness of these interventions becomes weaker (Dishion and Patterson, 1992). Thus, early detection and intervention of parent–child problems is a major factor in the prevention and treatment of poor child outcomes.

## 6. The potential for research evaluation

There have been at least two studies in the recent literature in which families have received a treatment intervention that falls within the category of programs described above. The first of these, conducted by Camp and Finkelstein (1997) focused on pregnant women in a residential treatment unit. The effectiveness of the intervention was assessed when the infants were 6 weeks, 6 and 12 months old. The authors report improvement in women's self esteem, parenting knowledge and, for a subsample observed, an improvement in mother–child interactions. The only study to date that has attempted to improve parenting skills while families were on MM and not residing in residential facilities was conducted by Catalano and colleagues (Catalano et al., 1997, 1999). In this randomised controlled trial families were allocated to a combined home-based comprehensive parenting and relapse prevention program (Focus on Families; FOF) or to standard care. The FOF program was provided to families in which one or both parents had been on MM for at least 90 days. The intervention was comprehensive and extensive and involved 32 twice weekly group meetings and weekly home visits beginning 1 month prior to the weekly group meetings and continuing for a total of 9 months. Recruitment and retention was aided by the use of small monetary incentives for attendance (\$3.00) and completion of homework (\$2.00); children received small toys for their participation and child care and transport was provided as needed for attendance at the group meetings.

The families were reassessed at the end of the treatment period and again at 6 and 12 months post treatment. The retention rate was remarkably high (94% at 6 months and 92% at 12 months) and outcome data indicated that the intervention was effective in improving parental problem solving skills, had an impact on family factors such as domestic conflict and household rules and reduced heroin use. However, there was no improvement in child outcome measures for the children as a whole although some data indicated that younger children benefited more from the intervention than did older children.

Thus, to date considerable research and clinical wisdom has accumulated supporting interventions aimed at reducing child behaviour problems in multi-problem families. Indications are that such interventions may be successful with MM parents and the first comprehensive study in this area (Catalano et al., 1999) provides

an important first step. However, further research is required to replicate and extend these promising findings. In particular, treatment outcome studies are needed that incorporate the following emphasises:

(1) Further evaluations of the efficacy of BFI with MM families implemented under ideal conditions, that is, specially trained BFI clinicians, using a randomised control design. Whilst Catalano et al. (1999) have found that a comprehensive program produced a positive outcomes for parents, the intensity of the program raises issues relating to the feasibility of a routine incorporation of such an intervention into clinical practice. In other areas of BFI, multi-level programs have been developed that can be tailored to the needs of the individual family. The Triple P program is on such example in which five levels of intervention can be offered. These range from a low-cost self help program (Level 1), to brief supported interventions (Level 2), parent training programs (Levels 3 and 4) and intensive behavioural family interventions which incorporate treatment for family problems such as marital conflict, parental depression and stress (Sanders, 1995). Thus it would seem a reasonable next step to determine whether all MM families require intensive interventions. Further, identifying the characteristics of MM families who require to less intensive interventions to bring about change would reduce the costs associated with service delivery.

(2) Recruiting and retaining families in treatment programs needs to be carefully monitored. In our work a system of gift vouchers is used to reward families who attend assessment and follow up sessions. Catalano et al. (1999) used gift tokens of small monetary amounts to reward attendance and homework completion. Further, transport and childcare was also provided for some families. Which of these additional components were most influential in decreasing attrition needs to be ascertained before such programs can be recommended to clinical services. Finally, the social acceptability and validity of the components of BFI for MM families, operationalised as overall program acceptability ratings, session by session acceptability ratings and ratings of the usefulness and acceptability of specific BFI techniques needs to be ascertained.

(3) Ultimately, however, such programs need to be run by clinicians within existing MM clinics. Moving onto effectiveness studies can only be recommended when there are clear data on which to determine the efficacy of BFIs. However, evaluating the effectiveness of BFIs when implemented within drug and alcohol services by existing staff who have received training, using extensive measures of program delivery and integrity is a longer term goal which can be informed by ongoing work in the field.

## 7. Conclusion

While life as a drug user may be chaotic and stressful, MM can introduce stability and predicability into the lives of parents who are illicit opiate users. MM has been found to reduce criminal activity, other illicit drug use, and risk taking behaviors (see Ward et al., 1998, for a review). The significant expansion in MM programs in recent years (Torres et al., 1995; Farrell et al., 1996) highlight the importance of developing adjunct interventions that are cost effective and can be delivered in both residential and non-residential services. The high rates of child abuse and neglect, child behaviour problems, and the associated increased risk of later substance abuse problems indicate that these adjunct services need to focus on both the presenting client and their children. By directly targeting the parenting skills of clients on MM at a time when much of the chaos and life style problems associated with illicit drug use has decreased, perhaps even eliminated for some individuals, it is possible that parent and child behaviour problems may be reduced. If this is the case, it may be an important intervention interrupting the intergenerational pattern of substance abuse that is increasingly becoming the norm in such families.

BFI represents one of the best developed and evaluated existing psychosocial interventions for the treatment of behavioural problems in children (Bretnan and Eyberg, 1998). Its core, the standardised parenting program, focuses on empowering parents to be able to attend to their child's needs in supportive, non-aversive ways. In MM populations, it is reasonable to propose that a significant number of families will require an intervention that encompasses more than a standard parent-training program. However, at present this is speculative and further research is required to ascertain whether intensive programs are needed for all families. Given the increase in MM programs and the established literature attesting to the effectiveness of parent training interventions, providing MM families with the opportunity to enhance their parenting skills using well-validated procedures and techniques seem well overdue.

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## References

- Bauman, P.S., Dougherty, F.E., 1983. Drug-addicted mothers' parenting and their children's development. *Int. J. Addict.* 18, 291–302.

- Bauman, P.S., Levine, S.A., 1986. The development of children of drug addicts. *Int. J. Addict.* 21, 849–863.
- Belsky, J., 1995. Expanding the ecology of human development: an evolutionary perspective. In: Moen, P., Elder, G. (Eds.), *Examining Lives in Context: Perspectives on the Ecology of Human Development*. American Psychological Association, Washington, DC, USA.
- Bernstein, V.J., Hans, S.L., 1994. Predicting the developmental outcome of two-year old children born exposed to methadone: impact of social-environmental risk factors. *J. Clin. Child Psychol.* 23, 349–359.
- Blechman, E.A., 1984. Competent parents, competent children: behavioural objectives of parent training. In: Dangel, R.F., Polster, R.A. (Eds.), *Parent Training: Foundations of Research and Practice*. The Guilford Press, New York.
- Brestan, E.V., Eyberg, S.M., 1998. Effective psychosocial treatments of conduct-disordered children and adolescents: 29 years, 82 studies and 5272 kids. *J. Clin. Child Psychol.* 27, 180–189.
- Brunk, M., Henggeler, M., Whelan, J.P., 1987. Comparison of multi-systemic therapy and parent training in the brief treatment of child abuse and neglect. *J. Consult. Clin. Psychol.* 55, 171–178.
- Burns, K., Chethik, L., Burns, W., Clark, R., 1991. Dyadic disturbances in cocaine-abusing mothers and their infants. *J. Clin. Psychol.* 47, 316–319.
- Camp, J.M., Finkelstein, N., 1997. Parenting training for women in residential substance abuse treatment. *J. Subst. Abuse Treat.* 14, 411–422.
- Catalano, R.F., Haggerty, K.P., Gainey, R.R., Hoppe, M.J., 1997. Reducing parental risk factors for children's substance misuse: preliminary outcomes with opiate-addicted parents. *Subst. Use Misuse* 32, 699–721.
- Catalano, R.F., Gainey, R.R., Fleming, C.B., Charles, B., Haggerty, K.P., Johnson, N.O., 1999. An experimental intervention with families of substance abusers: one-year follow-up of the focus on families project. *Addiction* 94 (2), 241–254.
- Chaffin, M., Kelleher, K., Hollenberg, J., 1996. Onset of physical abuse and neglect: psychiatric, substance abuse and social risk factors from prospective community data. *Child Abuse Neglect.* 20, 191–203.
- Cicchetti, D., Toth, S.L., 1997. Transactional ecological systems in developmental psychopathology. In: Luther, S.S., Burack, J.A., Cicchetti, D., Weisz, J.R. (Eds.), *Developmental Psychopathology: Perspectives on Adjustment, Risk and Disorder*. Cambridge University Press, Cambridge.
- Cicchetti, D., Toth, S.L., 1998. The development of depression in children and adolescents. *Am. Psychol.* 53, 221–241.
- Cohen, P., Brook, J., 1987. Family factors related to the persistence of psychopathology in childhood and adolescence. *Psychiatry* 50, 332–345.
- Coppolillo, H.P., 1975. Drug impediments to mothering behaviour. *Addict. Dis.: Int. J.* 2, 201–208.
- Dadds, M.R., 1987. Families and the origins of child behavior problems. *Fam. Proc.* 26, 341–357.
- Dadds, M.R., 1989. Child behaviour therapy and family context. *Child Family Behav. Ther.* 11, 27–44.
- Dadds, M.R., 1995. *Families, Children, and the Development of Dysfunction*. Sage Press, Newbury Park, CA.
- Dadds, M.R., 1997. Conduct disorder. In: Ammerman, R.T., Hersen, M. (Eds.), *Handbook of Prevention and Treatment with Children and Adolescents: Intervention in the Real World Context*. Wiley, New York, pp. 521–550.
- Dadds, M.R., McHugh, T., 1992. Social support and treatment outcome in behavioural family therapy for child conduct problems. *J. Consult. Clin. Psychol.* 60, 252–259.
- Dadds, M.R., Schwartz, S., Sanders, M.R., 1987. Marital discord and treatment outcome in behavioural treatment of child conduct disorders. *J. Consult. Clin. Psychol.* 16, 192–203.
- Darke, S., Swift, W., Hall, W., 1994. Prevalence, severity and correlates of psychological morbidity among methadone maintenance clients. *Addiction* 89, 211–217.
- Densen-Gerber, J., Rohrs, C.C., 1973. Drug addicted parents and child abuse. *Contemp. Drug Probl.* 2, 683–696.
- Dobkin, P., Tremblay, R.E., Sacchitelle, C., 1997. Predicting boy's early-onset substance abuse from father's alcoholism, son's disruptiveness and mother's parenting behaviour. *J. Clin. Consult. Psychol.* 65, 86–92.
- Dore, M.M., Doris, J., Wright, P., 1995. Identifying substance abuse in maltreating families: a child welfare challenge. *Child Abuse Negl.* 19, 531–543.
- Dishion, T.J., Patterson, G.R., 1992. Age effects and parent training outcome. *Behav. Ther.* 23, 719–729.
- Emery, R.E., Fincham, F.D., Cummings, E.M., 1992. Parenting in context: systemic thinking about parental conflict and its influence on children. *J. Consult. Clin. Psychol.* 60, 909–912.
- Famularo, R., Kinscherff, R., Bunshaft, D., Spivak, G., Fenton, T., 1989. Parental compliance to court-ordered treatment interventions in cases of child maltreatment. *Child Abuse Negl.* 13, 507–514.
- Farrell, M., Sell, L., Neelman, J., et al., 1996. Methadone provision in the UK. *Int. J. Drug Policy* 7, 239–244.
- Ferguson, D.M., Lynskey, M.T., 1998. Conduct problems in childhood and psychosocial outcomes in young adulthood: a prospective study. *J. Emotional Behav. Disord.* 6, 2–18.
- Fiks, K.B., Johnson, H.L., Rosen, T.S., 1985. Methadone-maintained mothers: 3-year follow-up of parental functioning. *Int. J. Addict.* 20, 651–660.
- Finn, P., Sharkansky, E., Viken, R., West, T., Sandy, J., Bufferd, G., 1997. Heterogeneity in the families of sons of alcoholics: the impact of familial vulnerability type on offspring characteristics. *J. Abnorm. Psychol.* 106, 26–36.
- Fitzgerald, E., Kaltenbach, K., Finnegan, L.P., 1990. Patterns of interaction among drug dependent women and their infants. *Pediatr. Res./APS-SPR* 27 (4) Part 2, Abstract # 44.
- Forehand, R.L., Long, N., 1988. Outpatient treatment of the acting out child: procedures, long term follow-up data, and clinical problems. *Adv. Behav. Res. Ther.* 10, 129–177.
- Gabel, S., Shindledecker, R., 1992. Behaviour problems in sons and daughters of substance abusing parents. *Child Psychiatry Human Dev.* 23, 99–115.
- Gainey, R.R., Catalano, R.C., Haggerty, K.P., Hoppe, M.J., 1995. Participation in a parent training program for methadone clients. *Addict. Behav.* 20, 117–125.
- Goldstein, A.P., Keller, H., Erne, D., 1985. *Changing the Abusive Parent*. Research Press, Champaign, IL.
- Goodman, G., Hans, S.L., Cox, S.M., 1999. Attachment behaviour and its antecedents in offspring born to methadone maintained women. *J. Clin. Child Psychol.* 28, 58–69.
- Griest, D.L., Forehand, R., Rogers, T., Breiner, J., Furey, W., Williams, C.A., 1982. Effects of parent enhancement therapy on the treatment outcome and generalisation of a parent training program. *Behav. Res. Ther.* 20, 429–436.
- Johnson, H.L., Glassman, M.B., Fiks, K.B., Rosen, T.S., 1990. Resilient children: individual differences in developmental outcome of children born to drug abusers. *J. Genet. Psychol.* 151, 523–539.
- Kaltenbach, K.A., 1994. Effects of in-utero opiate exposure: new paradigms for old questions. *Drug Alcohol Depend.* 36, 83–87.
- Kaltenbach, K., Finnegan, L.P., 1984. Developmental outcome of children born to methadone maintained women: a review of longitudinal studies. *Neurobehav. Toxicol. Teratol.* 6, 271–275.
- Kaltenbach, K., Finnegan, L.P., 1988. The influence of the neonatal abstinence syndrome on mother-child interaction. In: Anthony, E.J., Chilliard, C. (Eds.), *The Child in His Family: Perilous Development: Child Raising and Identity Formation Under Stress*. Wiley, New York.

- Kazdin, A.E., 1987. The treatment of antisocial behaviour: current status and future directions. *Psychol. Bull.* 102, 187–203.
- Kolar, A.F., Brown, B.S., Haertzen, C.A., Michaelson, B.S., 1994. Children of substance abusers: the life experiences of children of opiate addicts in methadone maintenance. *Am. J. Drug Alcohol Abuse* 20, 159–171.
- Loeber, R., 1990. Development and risk factors of juvenile antisocial behaviour and delinquency. *Clin. Psychol. Rev.* 10, 1–41.
- Lutzker, J., 1984. Project 12 ways: treating child abuse and neglect from a ecobehavioral perspective. In: Dangel, R.F., Polster, R.A. (Eds.), *Parent Training: Foundations of Research and Practice*. Guilford Press, New York, pp. 260–291.
- Marlatt, G.A., Gordon, J.R., 1985. *Relapse Prevention: Maintenance Strategies in the Treatment of Addictive Behaviors*. Guilford Press, New York.
- Masten, A.S., Coatsworth, J.D., 1998. The development of competence in favourable and unfavourable environments: lessons from research on successful children. *Am. Psychol.* 53, 205–220.
- Mayes, L.C., Bornstein, M.H., 1997. The development of children exposed to cocaine. In: Luther, S.S., Burack, J.A., Cicchetti, D., Weisz, J.R. (Eds.), *Developmental Psychopathology: Perspectives on Adjustment, Risk and Disorder*. Cambridge University Press, Cambridge.
- McMahon, R.J., Forehand, R., 1983. Consumer satisfaction in behavioural treatment of children: types, issues, and recommendations. *Behav. Ther.* 14, 209–225.
- Miller, G.E., Prinz, R.J., 1990. Enhancement of social learning family interventions for child conduct disorder. *Psychol. Bull.* 108, 291–307.
- Prinz, R.J., Miller, G.E., 1991. Issues in understanding and treating childhood conduct problems in disadvantaged populations. *J. Clin. Child Psychol.* 20, 379–385.
- Rhoads, D., 1983. A longitudinal study of life stress and social support among drug abusers. *Int. J. Addict.* 18, 195–222.
- Robins, L.N., 1981. Epidemiological approaches to natural history research: antisocial disorders in children. *J. Am. Acad. Child Psychiatry* 20, 566–580.
- Robins, L.N., McEvoy, L., 1990. Conduct problems as predictors of substance abuse. In: Robbins, L.N., Rutter, M. (Eds.), *Straight and Devious Pathways from Childhood to Adulthood*. Cambridge, Cambridge University Press.
- Rutter, M., Geller, H., 1983. *Juvenile Delinquency: Trends and Perspective*. Penguin Books, New York.
- Sanders, M., 1995. *Healthy Families, Healthy Nations: Strategies for Promoting Family Mental Health in Australia*. Australian Academic Press, Brisbane.
- Sanders, M.R., Christensen, A.P., 1985. A comparison of the effects of child management and planned activities training in five parenting environments. *J. Abnorm. Child Psychol.* 13, 101–117.
- Sanders, M.R., Dadds, M.R., 1993. *Behavioural Family Intervention*. Longwood Division, Allyn and Bacon, New York.
- Smith, H.G., 1993. Intervention strategies for children vulnerable for school failure due to exposure to drugs and alcohol. Special Issue: maternal drug use: issues and implications for mother and child. *Int. J. Addict.* 28, 1435–1470.
- Strain, E.C., Stizer, M., Liebson, I.A., Bigelow, G.E., 1993. Methadone dose and treatment outcome. 53rd Annual Scientific Meeting of the Committee on Problem of Drug Dependence. *Drug Alcohol Depend.* 33, 105–117.
- Strang, J., Smith, M., Spurrell, S., 1992. The Community Drug Team. *Br. J. Addict.* 87, 169–178.
- Sweet, A.A., 1987. The therapeutic relationship in behaviour therapy. *Clin. Psychol. Rev.* 4, 253–272.
- Szykula, S.A., Morris, S.B., Sudweeks, C., Saygar, T.V., 1987. Child focussed behaviour and strategic therapy: outcome comparison. *Psychotherapy* 35, 546–551.
- Tracy, E.M., 1994. Maternal substance abuse: protecting the child, preserving the family. *Soc. Work* 39, 534–540.
- Torres, M.I., Mattick, R.P., Chen, R., Baillie, A., 1995. *Clients of Treatment Service Agencies*. The Australian Government Publishing Service, Canberra.
- Tucker, M.B., 1982. Social support and coping: applications for the study of female drug abuse. *J. Soc. Issues* 38, 117–137.
- Twardosz, S., Nordquist, V.M., 1988. Parent training. In: Hersen, M., Hasselt, V.B. (Eds.), *Behaviour Therapy with Children and Adolescents: A Clinical Approach*. Wiley, New York.
- Wahler, R.G., 1980. The insular mother. Her problems in parent-child treatment. *J. Appl. Behav. Anal.* 13, 207–219.
- Wahler, R.G., Dumas, J.E., 1984. Changing the observational coding style of insular and non-insular mothers: a step toward maintenance. In: Dangel, R.F., Polster, R.A. (Eds.), *Parent Training: Foundations of Research and Practice*. Guilford Press, New York, pp. 379–461.
- Waldbly, C., 1988. *Mothering and Addiction: Women with Children in Methadone Programs*. National Campaign Against Drug Abuse Monograph No 4. Australian Government Publishing Service, Canberra.
- Wallen, J., 1993. A comparison of male and female clients in substance abuse treatment. *J. Subst. Abuse Treat.* 9, 243–248.
- Ward, J., Mattick, R.P., Hall, W., 1998. *Methadone Maintenance Treatment and Other Opioid Replacement Therapies*. Harwood Academic, Amsterdam.
- Ward, J., Mattick, R.P., Hall, W., 1999. Role of maintenance treatment in opioid dependence. *Lancet* 353, 221–226.
- Webster-Stratton, C., Kolpacoff, M., Hollinsworth, T., 1988. Self-administered videotape therapy for families with conduct-problem children: comparison with two cost effective treatments and a control group. *J. Consult. Clin. Psychol.* 56, 558–566.
- Wellisch, D.C., Steinberg, M.R., 1980. Parenting attitudes of addict mothers. *Int. J. Addict.* 15, 809–819.
- Wells, K.C., Egan, J., 1988. Social learning and systems family therapy for childhood oppositional disorder: comparative treatment outcome. *Compr. Psychiatry* 29, 138–146.
- Wechsberg, W.M., Craddock, S.G., Hubbard, R.L., 1998. How are women who enter substance abuse treatment different than men? A gender comparison from the Drug Abuse Treatment Outcome Study (DATOS). *Drugs Soc.* 13, 97–115.
- Werner, E.E., 1993. Risk, resilience and recovery: perspectives from the Kauai Longitudinal Study. *Dev. Psychopathol.* 5, 503–515.
- West, M.O., Prinz, R.J., 1987. Parental alcoholism and childhood psychopathology. *Psychol. Bull.* 102, 204–218.
- Willens, T.E., Biederman, J., Kiely, K., Bredin, E., Lic, S.W., Spencer, T.J., 1995. Pilot study of behavioural and emotional disturbances in the high-risk children of parents with opioid dependence. *J. Am. Acad. Child Adolesc. Psychiatry* 34, 779–785.