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Prevention programmes for children of problem drinkers: A review

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Abstract
It is well established that children of problem drinkers have an increased risk of developing mental health problems, including drinking and drug misuse problems, depression, eating disorders, conduct disorders, and delinquency. However, compared to the hundreds of studies that have examined the effects of parental problem drinking on their children, the genetics of problem drinking, and the physical and mental problems of these children, it is disappointing that so few studies have explored the possibilities of prevention. Despite all the research on children of problem drinkers, we have no usable operationalizations of what problem drinking is, or when a child can be defined as a child of a problem drinker. Furthermore, no valid screening or severity assessment instruments are available; there is no solution for the ethical dilemma of the need to involve parents while these parents are at the same time the problem; very few theory-driven prevention programmes have been developed; very little is known about protective factors that could be the focus of prevention programmes; and we have no programmes that can be considered to be 'evidence based'. This paper describes these problems, presents an overview of the prevention research in this area, and gives some directions for future research.

Introduction

In the 1980s and 1990s many studies have examined the effects of parental problem drinking on their children, the genetics of problem drinking, and the physical and mental problems of these children. Although these studies have provided ample evidence that children of problem drinkers are a significant high-risk group, few serious attempts have been made to develop prevention programmes for these children. Moreover, studies on the effects of such programmes are not only scarce, but are often outdated and of poor quality.

The development of preventive interventions for children of problem drinkers is hampered by several factors. First, research on children of problem drinkers has not yet resulted in a usable operationalization of what problem drinking is, or when a child can

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be defined as a child of a problem drinker. Furthermore, no adequate measures are available to identify children of problem drinkers, or to assess the severity of their risk situation, and there is no solution to the ethical dilemma of the need to involve the parents while these parents are, at the same time, the problem. At present, very few theory-driven prevention programmes are available; there are few data on protective factors that could be the focus of prevention programmes; we have no programmes that can be considered 'evidence-based'; and in fact we do not know whether the risk situation of children of problem drinkers can be modified with preventive interventions. Finally, because almost all research has been conducted in the United States it is also unknown whether the few results from intervention research are valid in other countries.

This paper examines and illustrates these problems in prevention research for children of problem drinkers, and some directions are provided towards solving these problems and developing future prevention research. First, I will describe the existing research on the high-risk situation of the children of problem drinkers and then outline what we still need in order to develop preventive interventions. Then, the shortcomings and basic problems of existing interventions are discussed, followed by some directions for future research and development of prevention programmes.

In this paper, prevention is defined as an approach targeting children of problem drinkers with the aim of preventing the development of serious psychological or psychiatric problems, or of preventing existing problems in these children from becoming worse. The goals and content of prevention programmes differ from those of treatment programmes, whereby the latter programmes are aimed at treating existing psychosocial or mental problems.

The high-risk situation of children of problem drinkers

The first publications about the effects of problem drinking on the growth and development of children appeared in the 18th and 19th centuries (von Knorring, 1991). It was not until the 1960s, however, that children of problem drinkers became the subject of scientific research. Since that time, many studies have shown that problem drinking is highly prevalent among parents, and that their children have a strongly increased chance of developing all kinds of psychological and/or physical problems. However, despite the high-risk situation in which these children grow up, most of them will not develop any mental disorders (Cuijpers, Langendoen, & Bijl, 1999; Heller, Sher, & Benson, 1982; Velleman & Orford, 1999). This means that although the proportion of children of problem drinkers with mental disorders is higher than in the general population, the majority of these children will not get any mental disorder.

Because most problem drinkers, including those with children, do not seek professional help, it is difficult to estimate the number of children of problem drinkers in a given community. Most studies estimate that about 8–27% of children have at least one parent with a drinking problem (Cuijpers et al., 1999; MacDonald & Blume, 1986; Mathew, Wilson, Blazer, & George, 1993; Pilat & Jones, 1985). Among the studies showing that children of problem drinkers are a high-risk group, many have focused on the question of whether they are at increased risk of developing problems with drinking themselves during adolescence (Johnson, Sher, & Rolf, 1991; Zeitlin, 1994). Most studies in this area do indeed support this hypothesis (von Knorring, 1991). Children of problem drinkers have also been shown to have an increased risk of problem drinking during adulthood, and that during childhood they also have an increased risk of depression, eating disorders, conduct disorders, and delinquency (van Steinhausen, 1995; von Knorring, 1991;

West & Prinz, 1987). Furthermore, they have an increased risk of abuse and neglect, of developing physical problems, of having lower intelligence, and of doing less well at school. When children of problem drinkers grow up, they have a higher risk of having problems with intimacy and relationships, of having poorer social skills, and of marrying someone with a drinking problem (Greenfield, Swartz, Landerman, & George, 1993).

It is not clear what causes this increased risk in children of problem drinkers. Studies on families, adoption and twins have shown that genetics are one of the important causal factors, especially in sons of male problem drinkers (Merinkangas, 1990; Searles, 1988). There is also considerable evidence that the social situation in which the parents and the child live is an important etiological factor. The environment can influence the child in three ways (Johnson et al., 1991): the parental drinking problem can influence family life negatively (causing violence and abuse within the family), and prevent normal attachment between parent and child; families with a drinking parent can be stigmatized by their social environment; and the parents can have or develop other mental disorders (such as depression or antisocial personality disorder) that also cause a problematic situation for the child.

Because most children of problem drinkers will not develop any mental disorders (Cuijpers et al., 1999; Heller et al., 1982; Velleman & Orford, 1999), this suggests the presence of factors that protect these children from developing problems. Although these protecting factors are important for prevention programmes, little research has been conducted in this area. Some suggest that a stable relationship with the parent who does not have a drinking problem (and/or with other adults) is an important protective factor (Werner, 1986), others assume that family rituals (such as holidays and festivities) and daily routines that give children a feeling of stability and cohesion are vital protective factors (Bennet, Wolin, & Reiss, 1988). The empirical evidence is, however, very limited.

What do we need to develop evidence-based prevention programmes?

To develop evidence-based prevention programmes, five major problems need to be addressed.

First, we need evidence that children of problem drinkers are indeed a high-risk group. However, because we have shown (in the preceding paragraph) that there is considerable evidence to support the high-risk status of children of problem drinkers, this item should not be regarded as a major limitation in the development of preventive interventions.

A second issue is establishing exactly who should be the target population for these prevention programmes. In this respect very little is known. One important problem is that there is no general consensus on a definition of problem drinking. One way to define problem drinking is to use the criteria of the *Diagnostic and Statistical Manual*, DSM-IV (American Psychiatric Association, 1994).

However, in many studies other definitions are applied, for example in terms of the amount of alcohol consumed. Moreover, there is no consensus on exactly which children are at high-risk, or whether, and to what extent, their high-risk status varies according to the definition of parental problem drinking used.

A third issue is how to recruit the children of problem drinkers to prevention programmes. If we had an adequate and usable definition (and operationalization) of what a child of a problem drinker was, we could identify and recruit them to prevention programmes. One possibility would be to develop a screening instrument that could be used in schools; although some attempts have been made to develop such screening instruments (Cummings & Griffin, 1999), they have not yet been well validated.

In addition, if screening to identify parental problem drinking is either impossible or undesirable, the recruitment of children via media announcements could be an alternative. However, this approach also has several problems. For example, many children of problem drinkers (especially younger children) are unaware that they are in a high-risk situation, and may not understand that the media messages about children of problem drinkers are intended for them.

Fourth, when children do react to an active recruitment approach (or when they are identified by a screening instrument) a major ethical dilemma arises. Namely, it is not considered ethical to intervene with children without having a prior commitment and/or agreement from the parents. In this case, however, the parents themselves are the problem and, one assumes, they will not easily allow their child to participate in an intervention programme aimed at children of an identified problem drinker.

A fifth major issue is which theoretical model should be used for the design of prevention programmes. This refers to the question: What can be done in an intervention to reduce the high-risk status of children of problem drinkers? Currently, there is no clear answer to this question. Should the intervention focus on the limited coping skills of parents, on how the child can live with genetic vulnerability, on social support for children of problem drinkers to compensate for insufficient parental support, on skills to cope with parental problem drinking, or should the focus be on informing these children about drinking problems, the consequences for the family, and how to deal with them?

The prevention programmes for children of problem drinkers developed in the past decades share some common components (Emshoff & Anyan, 1991; Emshoff & Price, 1999), including:

- *Social support*. Most prevention programmes are group interventions in which offering mutual support and exchanging experiences is one of the basic elements.
- *Information*. Most programmes give information about alcohol use, problem drinking, and about the consequences of parental problem drinking for their children. In some cases, information is given about the increased risk of the children of problem drinkers getting drinking problems themselves.
- *Skills training*. Most prevention programmes teach participants skills and how to deal with the problems they are faced with. For example, how to react when the parent is drunk and wants to drive the car with the child, how to explain the home situation to friends, or how to deal with conflict and fights at home. Furthermore, most programmes also teach general skills, such as social skills or problem-solving skills.
- *Coping with emotional problems*. Children of problem drinkers often have emotional and psychological problems (e.g. depression, loneliness, feelings of guilt, anger, distrust) and they worry about their parents. Identifying and discussing these problems and feelings is the fourth major component of many preventive interventions for children of problem drinkers.

But, although these four components are common to most of the prevention programmes for children of problem drinkers, there is no evidence that they are actually effective in reducing the high-risk status of children of problem drinkers. Moreover, randomized controlled trials are needed to examine whether these or other components are effective.

Although some interventions aimed at prevention and treatment of these problems have been developed since the 1970s, studies on the effects of these interventions did not start until the 1990s, and failed to show any consistent results concerning the efficacy

and effectiveness of these interventions. In the following paragraphs, I briefly summarize the preventive interventions that have been developed and examined (to some degree) in controlled effect research.

To identify studies to be included in this review, major bibliographical databases (Pubmed, Psycinfo, ERIC, ETOH, the 'National Clearinghouse for Alcohol and Drug Information', DRUGINFO and Alcohol Use and Abuse Drug Information Services, DIS) were searched, using key words and text words combining terms indicative of children of problem drinkers, and prevention (prevention, health education, early intervention). We included studies using controlled and uncontrolled evaluations of prevention programmes for children of problem drinkers. In addition, lists of references of the retrieved studies were searched, as well as earlier reviews on this topic (Emshoff, 1990; Emshoff and Price, 1999).

Prevention programmes for children of problem drinkers

The most obvious way to prevent problems developing in children is to treat the drinking problem of the parent. If this approach is successful, further damage to the child can be prevented. However, even after successful treatment of the parents, some residual problems may remain with the child (related to their earlier exposure to parental problem drinking) and these may still require a preventative intervention.

Few studies have examined whether treatment of the parents actually has an effect on their children. Two studies examining this question did find evidence that treatment of the parents results in better outcomes for the children in terms of physical and psychological problems (Kelley & Fals-Stewart, 2002; Moos et al., 1990), but that this also depends on the type of treatment (Kelley & Fals-Stewart, 2002).

The second approach to preventing problems in the children of problem drinkers is to prevent (future) parents from becoming problem drinkers. If this prevention were successful no drinking problems among parents would arise. Therefore, all prevention programmes aimed at problem drinking can also be regarded as prevention programmes for children of problem drinkers. However, these are large research areas and although there is some evidence that prevention programmes are effective in adolescents (Cuijpers, 2003), there is no evidence that these effects are still present when these adolescents become adults and have children of their own. Therefore, we will not describe or discuss these programmes here, but focus only on the prevention programmes specifically targeting the children of problem drinkers.

A third type of programme is aimed at prevention of foetal alcohol syndrome (FAS), with the goal of reducing alcohol use in pregnant women. Methods developed to prevent FAS (Hankin, 2002), include: programmes to raise awareness among the general public about FAS (e.g. public service announcements, and beverage warning labels); programmes aimed at women of reproductive age who drink alcohol (e.g. by screening all pregnant women for alcohol consumption and counselling those who drink); and prevention programmes targeting high-risk women (e.g. women with previous drinking problems, or who have a child with FAS or other alcohol-related effects). Most of these programmes offer repeated counselling over several years. However, although the effects of preventing cases of FAS are huge in terms of human suffering and costs (Klug & Burd, 2003), only a few well-designed trials have examined the effects of these prevention programmes. These studies showed that prevention programmes are successful in raising awareness of FAS levels (Murphy-Brennan & Oei, 1999). However, alcohol consumption among the high-risk drinkers decreases only marginally, indicating that these prevention programmes

have only minimal or no impact in lowering the incidence of FAS (Abel, 1998a, 1998b; Murphy-Brennan & Oei, 1999).

The fourth type of prevention programme consists of school-based prevention. Of these, three have been examined in controlled effect studies. Table I presents an overview of these programmes, which generally consist of a general part for all children with information on alcohol and the consequences for the family, followed by a more specific part for children of problem drinkers (with a support group and/or personal coach).

The effects of these school-based programmes have been examined in four controlled studies (summarized in Table II). Some of these studies found a number of positive effects on indirect outcome measures, such as social support, self-esteem and self-control (Emshoff, 1990), coping strategies and help-seeking behaviour (Roosa, Gensheimer, Ayers, & Short, 1990), and knowledge (Short et al., 1995; Woodside, Bishop, Miller, & Swisher, 1997). However, apart from some indications of positive effects on depressive symptomatology, no clear effects on measures of mental health (such as depressive disorders, anxiety disorders, or problem drinking) were found in any of these studies.

A fifth type of prevention is aimed at the sons of fathers who have been convicted for drink-driving (Maguin, Zucker, & Fitzgerald, 1994; Nye, Zucker, & Fitzgerald, 1995). After the conviction, the fathers were invited to participate in a study on the health of their children and family development. Neither the problem of problem drinking nor the children of problem drinkers were mentioned specifically. Respondents were included in the study when they met criteria for problem drinking, were married, and had one or more sons. The programme was only aimed at the sons because the researchers assumed that sons in particular have an increased risk of developing a drinking problem themselves. In a randomized controlled trial, significant effects were found on the positive behaviour of the child (co-operative, polite, positive playing), but not in terms of less negative behaviour (aggression, provoking negative reactions, hyperactivity), or more affective behaviour towards parents.

A sixth type of intervention is the 12-step self-help programme for children of problem drinkers (Alateen for adolescents; ACOA-groups or 'Adult Children of Alcoholics'). Both groups are based on the 12-step model of Alcoholics Anonymous (AA) groups in which problem drinking is considered to be a disease. In an earlier randomized controlled trial (Peitler, 1980) among 36 adolescents it was found that participants in Alateen groups did not have better outcomes on self-esteem and antisocial behaviour than subjects in the control condition. A more recent randomized trial among 114 adult children of problem drinkers participating in self-help groups or substance-misuse education classes found significant effects of the self-help groups on depression and substance use (Kingree & Thompson, 2000). However, because all the adult children of problem drinkers participating in this trial had substance-use problems themselves, it could be argued that it is more a treatment than a prevention study.

A seventh preventive intervention is the 'Strengthening Families' programme. This programme is aimed at parents with substance misuse problems and their children, including parents with a drug problem and/or parents with a drinking problem. In recent years, a specific version of this programme has been developed for all parents, whether or not they have substance misuse problems (Spoth, Redmond, Shin, & Azevedo, 2004). However, the original version (which is still used in the USA) is a training programme for adults who have problems with drugs or alcohol. It has three parts, one for the parents, one for the children, and one part for the parents and children together. The parent and child programmes (12 weekly sessions of 2–3 hours each) are conducted concurrently, with a final hour where the groups merge and put into practice what they have learned.

Table I. School-based prevention programmes for children of problem drinkers examined in controlled effect research.

	General intervention in classroom					Follow-up intervention (only for children of problem drinkers)				
Programmes	Goal	Population	Content	Leaders	Component	Goal	Type	Format	Leaders	Component
SMAAP (Short et al., 1995; Roosa et al., 1990)	Knowledge Identification of CoPDs Supportive environment	Primary school	Film about CoPDs	T	I	Knowledge Coping Social support Emotional support	Support group Personal trainer (student)	8 lessons 8 weeks (3–4 hours per week)	T/R	SS, I, ST, ES SS, ST, ES
STAR-project (Emshoff, 1990)	Knowledge Identification CoPDs Supportive environment	High school Competence Social support Coping	Film about CoPDs	T	I	Knowledge	Support group	18 sessions	T/S	SS, I, VT, EP
'Images within' (Woodside et al., 1997)	Knowledge Coping strategies	Students (12–15 years)	Lessons about CoPDs	T	I	–	–	–	–	–

Abbreviations: CoPDs, children of problem drinkers; T, teacher; R, researchers; S, student; I, information; SS, social support; ST, skills training; ES, emotional support.

Table II. Controlled studies examining the effects of school-based prevention programmes for children of problem drinkers.

	Programme						
Study	Target population	Design (control condition)	Measurements	Research design	Sample (drop out)	Measures	Outcomes
Emshoff, 1990	STAR	NR	RCT (waiting list control group)	NR	About 200 (drop out: NR)	NR	Positive effect on: self-esteem, social network, involvement with peers, social support, loneliness, depressive symptomatology
Roosa et al., 1990	SMAAP	Predominantly Hispanic Americans	RCT (care-as-usual)	Pre: 1 week before prevention; Post: 3 weeks after prevention	81 (26: experimental; 55: control) (drop out: NR)	Questionnaire; observed behaviour in classroom	Positive effect on: coping, depressive symptomatology, help seeking. No effect on self-esteem
Short et al., 1995	SMAAP	Students of 12 years and younger; diverse ethnic backgrounds	RCT (waiting-list); personal trainers non-randomly assigned	4 follow-up measurements (unclear at what time)	237 (3 cohorts) (drop out: 17–33%)	Questionnaire (items from CDI, SPP-C and SBRS); meta-analysis of outcomes in three cohorts	Significant effects on knowledge and coping. Stronger effects in high-risk group
Woodside et al., 1997	'The Images Within'	Mixed ('full range')	Controlled (non-random)	Only post-test	588 (drop out: NR)	GKS, FKS, HOS	More knowledge, curiosity and contact with others, more helping behaviour. Girls score better than boys; higher classes better than lower classes

Abbreviations: RCT, randomized clinical trial; CDI, Child Depression Inventory; FKS, Family Knowledge Scale; GKS, General Knowledge Scale; HOS, Helping Others Scale; SPP-C, Self-Perception Profile for Children; SBRS, School Behavior Rating Scale; NR, not reported.

Specific interventions were developed for children aged between 6 and 10, and for children between 10 and 14 years. Participating families are recruited through community announcements, and referrals from professionals. The parents are trained in educational skills, while the children are trained in communications skills, coping skills, and resistance skills. The effects of the 'Strengthening Families' programme aimed at children of parents with a substance-misuse problem have been examined in one randomized trial (DeMarsh & Kumpfer, 1986; Kumpfer, Molgaard, & Spoth, 1996), in which 118 families were randomly assigned to the 'Strengthening Families' programme or to a care-as-usual control condition. Significant effects were found for substance use in older children who already use substances, but also for the substance use in the parents. Furthermore, significant effects of the programme are reported on educational skills of the parents, self-efficacy of the parents, social skills in the children, and improvements in family relations. However, major elements necessary to estimate the scientific value of the study are not reported, such as the measurement times and drop-out rates. Besides, it is not clear how many participating parents had drug-misuse problems and how many had drinking problems, nor were the results specified for each of these two groups. This means that we still do not know the real value of this intervention for children of problem drinkers.

Future directions

Reviewing the prevention programmes for children of problem drinkers that have been developed in the past, and the research that has been conducted to examine the effects of these programmes, we have to conclude that we are still at the early stages of the development of high-quality prevention programmes. Much essential knowledge for developing adequate prevention programmes for this group is not yet available. What has to be done in order to realize high-quality and evidence-based prevention programmes?

First, as outlined above, we need more research. We need research validating the best definition and operationalization of children of problem drinkers, and good screening instruments and measures to assess the severity of the high-risk situation. We also need to establish which protective factors could be the focus of prevention programmes. And we need more attempts to develop theory-driven programmes. A good example of this is the study described earlier, concerning sons of fathers who have been convicted for drink-driving (Maguin et al., 1994; Nye et al., 1995).

Second, we need good intervention research. Several of the interventions described above suffer from ethical problems when conducted in routine practice, unclear definitions of what a child of a problem drinker is, insufficient theoretical models, and an uncertain focus of the contents of the programme. What we need are high-quality, theory-driven interventions for clearly defined target groups, with focused contents. There are several types of interventions that could be developed relatively easily.

For example, some treatment addiction centres have developed preventive interventions for children of the problem drinkers who receive treatment in the addiction treatment services. There is little doubt that the children of these patients have an increased risk of mental health problems. Although this has not been examined very thoroughly, it seems evident that the problems of the help-seeking parents are severe, and that this is an opportunity to check whether their children might also have problems. A pilot project in this area showed promising results (Reinert, 1999).

Another relatively straightforward intervention method would be a supporting website for children of problem drinkers. In several European countries websites for children of problem drinkers are currently being developed that offer information and chat functions.

The children visiting these websites are aware of their situation, and are actively seeking support. It seems relatively easy to examine whether such a website does indeed result in improved outcomes for these children.

However, several of the interventions described earlier also lend themselves to high-quality randomized controlled trials. Alateen groups exist in many Western countries, and seem to meet an existing need. 'Strengthening Families' programmes are a serious attempt to combine traditional treatment of the parent with preventive services for the children, and can be integrated relatively easily into traditional treatment settings. In addition, school-based support groups may be a viable intervention strategy in some countries.

Compared to the hundreds of studies on the effects of parental problem drinking on their children, the genetics of problem drinking, and the physical and mental problems of these children, it is disappointing that so few studies have examined the possibilities of prevention. On the other hand, I have tried to outline several possible ways of making some progress in this area.

This should be a challenge for researchers and, considering the high-risk situation that these children are in, the size of this group, and the impact on public health, more and better prevention research should be a priority for those who fund research as well as policy makers.

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