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PREVENTION/EARLY INTERVENTION PROGRAMS



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Prevention/early intervention programs

This review has demonstrated that there is a large body of research showing significant associations between parenting behaviours and adolescent alcohol initiation or continued use. There is also a large body of research showing the influence of peers. However, while these studies were seeking to identify direct connections and the majority were longitudinal, it remains difficult to establish the causal role of parenting in adolescent alcohol use.

Experimental demonstrations are one way of demonstrating causality by examining under controlled conditions what would happen if one aspect of parenting were changed. For example, if parents improved their monitoring, would adolescent alcohol use change? Or, if parents were encouraged to develop family norms that disapproved of under-age alcohol use, would this change adolescent behaviour? The outcomes from psychosocial interventions that have used experimental methodology, including treatment and control groups and randomised allocations of participants to groups (randomised control trials), are therefore most valuable in expanding our understanding of how to effect change in adolescent alcohol use.

There is a large body of experimental research demonstrating that parenting interventions, particularly with younger children, can reduce problem behaviours (Sanders, Gooley and Nicholson 2000; Serketich and Dumas 1996; Woolfenden, Williams and Peat 2002). To the authors' knowledge, there are only a handful of studies that have used randomised control trials methodology to examine directly the impact that interventions targeting parenting might have on adolescent alcohol use.

Review of six intervention programs

In the review of parent-adolescent intervention programs that follows, programs were selected for inclusion in two ways. First, programs were included if they had been reported in the scientific literature as being evidence-based programs – that is, they used randomised designs, had independent evaluations, and had achieved positive outcomes after a substantial follow-up period. Second, a number of promising programs are also described. These programs were considered promising because the initial research has shown they have improved parent-adolescent relationships and generally have achieved reductions in adolescent substance use; however, these promising programs await more rigorous long-term scientific evaluations.

A review of primary prevention programs for alcohol misuse among adolescents was recently conducted by the Cochrane consortium (Foxcroft, Ireland, Lister-Sharp, Lowe and Breen 2004). This worldwide review evaluated 56 studies where an educational or psychosocial prevention program specific to adolescent alcohol use was undertaken. This review investigated the longer-term

effectiveness of interventions and required follow-up to be maintained beyond three years. The results showed that 20 of the 56 studies reviewed had evidence of ineffectiveness and the reviewers could make no firm conclusions about the effectiveness of these programs overall. Furthermore, six of the intervention studies reviewed had a negative effect and increased alcohol consumption among adolescents.

Only three studies showed effective long-term benefits in alcohol reduction. They were: the Strengthening Families Program (SFP; Spoth, Redmond and Shin 1998) which is a family-based intervention; the Life Skills Training Program which is an intervention program for use within schools (Botvin, Baker and Dusenbury 1995); and a cultural program with Native Americans (Schinke, Tepavac and Cole 2000). Only the Strengthening Families Program is relevant to this review of parenting influences, and an overview of this and other promising programs follows.

The Strengthening Families Program

The *Strengthening Families Program* (SFP) is an American-based family program developed for widespread application (with a universal focus), that aims to prevent the initiation of alcohol use in adolescents. SFP is based on a psychosocial model and targets the enhancement of family protective factors and resiliency and the reduction of risk factors (Kumpfer, Alvarado and Whiteside 2003).

The program comprises seven once-a-week sessions. During the first hour of the sessions, parents and pre-adolescent children participate in separate skill building sessions. In the second hour, parents and children jointly participate in family sessions, which include practicing the skills learned in the separate sessions. The parent component includes child development norms, discipline, managing emotions, and effective communication. The child sessions parallel the parent sessions, but also include peer resistance, personal issues, and social interactions (Spoth et al. 1998).

In a test of the program, 446 families from a rural area of the United States were randomly allocated into treatment and control groups. The children were in Grade 6 at the time of the intervention. After one year, comparisons of the control and treatment groups showed that significantly fewer of the treatment group had initiated the use of alcohol, with a medium effect size (.26) found. At two years post-treatment, the treatment effect was still evident and a large effect size of .39 was shown (Spoth, Redmond and Lepper 1999). Results of the SFP show that the likelihood of substance initiation was lower for the treatment group two years following the intervention, at a time where the adolescents were entering the peak age for alcohol initiation (Spoth, Lopez Reyes et al. 1999).

In the Cochrane review, Foxcroft et al. (2004) concluded that the SFP showed the greatest promise of the intervention/prevention studies. To examine the effects of the program an “intention to treat” analysis (a strategy for analysing data in which all participants are included in the group to which they were assigned, whether or not they completed the intervention given to the group)⁵ was used. This review found that for every nine individuals who receive the SFP,

5 Intention-to-treat analysis avoids the bias caused by the loss of participants.

there would be one fewer person reporting that they have ever used alcohol, used alcohol without permission, or ever been drunk, four years later.

This study provides evidence on the importance of delaying the onset of alcohol use. Of note is that the largest effect was found at the two-year follow-up, rather than at one year, and this provides further evidence on the importance of including long-term outcome measures in such studies.

The Preparing for the Drug Free Years program

The *Preparing for the Drug Free Years* (PDFY) program is a American-based skills-training program designed to teach parents and children skills that reduce a child's risk for drug and alcohol use (Kosterman, Spoth, Haggerty and Zhu 1997). The PDFY is guided by the Social Development Model. The program includes four two-hour parent sessions, and one individual child session. The parent sessions include instruction and skills training on identifying risk factors, parent-child bonding, developing guidelines and clear expectations related to substance use, monitoring compliance, delivering appropriate consequences, managing anger and conflict, and enhancing positive child involvement in day-to-day tasks. The pre-adolescent child attends for one session and participates in peer resistance skills training. Programs are standardised using videotapes demonstrating parent-child interactions.

In a pre-test, post-test randomised control trial study, the PDFY program was shown to produce changes in parenting behaviours. Using videotaped interactions to measure change, the program increased proactive communication between parents and children. Regardless of whether the interaction task concerned general family life or problem-solving, mothers in the intervention group displayed more positive communication patterns than control group mothers. Fathers in the intervention group exhibited more positive interactions in the problem solving task. The PDFY program also reduced mothers' negative interactions, but had no significant effect on fathers' negative interactions (Kosterman et al. 1997). Although promising, this study did not report the effects of the intervention on adolescent alcohol use.

In a separate study, Spoth, Redmond, Hockaday and Yoo (1996) demonstrated that exposure to the PDFY program reduced adolescent favourable attitudes towards alcohol use. All families with a Grade 6 or 7 student in six selected school districts in Iowa were invited to participate. Of 387 families confirmed as having a sixth or seventh grader, 220 agreed to participate in the project and were randomly assigned to the intervention condition or to a control condition following the completion of pre-test measures. By increasing protective factors, the program made a small significant contribution to increasing adolescents' affectional bonds with parents and had an indirect effect on adolescents' favourable attitudes towards alcohol abstinence.

Promising results for the PDFY program have also been shown in a randomised control trial longitudinal study with 429 rural adolescents (Mason, Kosterman, Hawkins, Haggerty and Spoth 2003). The intervention was delivered with adolescents with a mean age of 11.35 years. Follow-up results at 3.5 years post-intervention showed that, compared with the control group, the PDFY adolescents had a lower rate of poly-substance use (tobacco, alcohol, marijuana, inhalants and other illicit drugs). In addition, the PDFY treatment group had lower rates of delinquency, and the authors contend that this is an extension of the positive effects of the program.

The two programs compared

A comparative study of the Strengthening Families Program and the Preparing for the Drug Free Years program was conducted using randomised control designs with equivalence across the three groups (SFP, PDFY, and control). Using pre-intervention and post-intervention comparisons of targeted parenting behaviours, the two programs were found to be comparable with an intervention effect size for the SFP of .51, and intervention effect size for the PDFY of .45. Thus both programs appear to provide initial support for intervening in parenting behaviours, and both appear to have set in motion a measurable change in parenting. However, the program effect on the child's behaviour have not been reported in these comparisons (Spoth et al. 1998).

Project Northland

One United States intervention study using randomised treatment and control groups has also shown the importance of parental norms for alcohol use (Sieving, Maruyama, Williams and Perry 2000). In this longitudinal intervention entitled *Project Northland*, the influence of parental norms on the control and treatment groups were compared. The study found that when parental norms were tolerant of drinking, there was a significant association with the initiation of alcohol use among adolescents, and that parental norms had a significant long-term influence in both the control and treatment groups. Project Northland entails a multi-level community intervention including a school drug education curriculum, parent education and community activities to reduce youth access to alcohol.

This study also reported a positive intervention effect, with adolescents in the treatment group consuming less alcohol over time. More specifically, fewer adolescents in the treatment group reported using alcohol, they experienced significantly less peer influence to use alcohol, they had greater self-efficacy to refuse alcohol, and they reported more communication with parents about the consequences of drinking.

The Parenting Adolescents a Creative Experience program

The Australian *Parenting Adolescents a Creative Experience* (PACE) program targeted parents of early adolescents (Toumbourou and Gregg 2002). Designed as a universal intervention and using a facilitated groups approach, the program addressed adolescent communication, conflict resolution and adolescent development. Evaluation investigated the impact of seven-week PACE groups on a national sample of 3000 parents and Year 8 adolescents sampled from 14 schools targeted for intervention and 14 matched control schools. Evaluation included pre- and post- intervention surveys separated by three months for 577 families (parents and adolescents), representing a 60 per cent response rate from those who participated. At the 12-week follow-up, parents and adolescents reported a reduction in family conflict. Adolescents reported increased maternal care, less delinquency, and less poly-drug use (the odds of transition to poly drug use were halved).

Although only around 10 per cent of parents were successfully recruited into PACE groups, pre- and post-intervention findings demonstrated that benefits extended more broadly in the schools where the program was offered.

Analysis suggested that the intervention effects might have extended to youth with a high number of risk factors for drug use problems. The evaluation demonstrated that the parents recruited into the intervention were more frequently sole parents and their children reported higher rates of family conflict and poly-drug use. At the post-test, family conflict and youth poly-drug use had reduced markedly in these families.

Evaluation suggested that the drug use of respondents was influenced by their best friend's drug use. Improvements in troubled family relationships appeared to impact on a wider group of families not directly participating in the PACE groups through changes in peer-friendship networks and through the programs efforts to encourage parents to assist other parents in their school community (Toumbourou and Gregg 2002). The fact that the intervention and control groups were not randomly assigned and the lack of long-term follow-up suggest the need for caution in interpreting these promising early results.

The Australian Teen Triple P program

A newly developed Australian program is the *Teen Triple P* program for parents of young adolescents. This program is an upward extension of the *Triple P – Positive Parenting* program for parents of younger children and is based on a behavioural family intervention model. Teen Triple P was developed for parents of older children to target risk factors associated with parenting practices, specifically harsh discipline, coercive discipline styles, parent-adolescent conflict, and communication difficulties (Ralph and Sanders, in press). The program can be delivered universally for parents of all teenagers, and is generally targeted at the transition to secondary school, which can be a time of substantial change in developmental pathways (Smart et al. 2003; Vassallo et al. 2002). It can also be delivered as an early intervention program for adolescents exhibiting a range of behavioural problems.

Preliminary evaluations have been completed with initial trials showing that the program achieved reductions in parent-adolescent conflict and improvement in parenting factors (Ralph and Sanders 2003). Evaluations of the program's self-directed format, where parents work in the home and receive telephone support, have shown significant improvements in adolescent behaviour (Stallman, Ralph and Sanders 2004). Evaluations with longer-term follow-up data are currently underway, along with plans to measure adolescent alcohol use in future studies.

The ABCD Parenting Young Adolescents Program

The *ABCD Parenting Young Adolescents Program* is a promising Australian prevention program aimed at parents of children in late primary school and early secondary school. The program is based on child development and social learning theory, as well as drawing upon recent interventions in marital therapy and parenting interventions for conduct disordered children. Conducted in group sessions over four weeks, the program covers areas such as adolescent development, parenting skill development, and caring for oneself as a parent. Program materials have been developed in five community languages and an online website providing a range of information resources for practitioners and parents has recently been developed.

An external evaluation revealed a high level of overall participant satisfaction with the program. As yet behavioural changes in adolescents have not been evaluated, and the program awaits controlled evaluation (W. Cann, Victorian Parenting Centre, personal communication, 27 July 2004).

Engaging parents

Engaging parents in intervention and prevention programs has been a stumbling block, and yet the issue is critical for the effectiveness of such programs. These difficulties have been demonstrated in Australia (Ralph and Sanders, in press; Ralph, Toumbourou et al. 2003; Toumbourou and Gregg 2002), and also in overseas research (Spoth, Redmond et al. 1999; Spoth et al. 1998). Following low participation rates in the Teen Triple P programs, Ralph and Sanders (in press) have argued that greater ownership of programs by participating schools may be essential to their successful delivery. In the PDFY studies mentioned earlier, of the pre-tested families, 44 per cent (N=116) declined to participate; although the attrition rates among families who did agree to be involved were satisfactory, with 94 per cent participating in three or more sessions, and 61 per cent attending all five sessions (Spoth, Redmond et al. 1999).

Similar problems were shown in the SFP recruitment. Only 49 per cent of the 238 families who completed the pre-test participated in the intervention (Spoth et al. 1998). Those dropping out of these programs are likely to be more stressed, or less motivated, suggesting that the impact of such programs may be only moderately generalisable to parents experiencing substantial adversities.

To test whether stressful life conditions might influence the outcomes of the PDFY program, Rueter et al. (1999) measured parenting skills and family stresses at the pre-program stage among a sample of 209 randomly assigned treatment and control group families. Differences noted between mothers and fathers were related to differing program outcomes. Thus, mothers who reported marital difficulties during pre-test showed greater improvement in post-test communication skills than mothers not reporting such difficulties, whereas pre-existing marital difficulties did not affect the program outcomes for fathers. It was also found that mothers who had poor parent-child communication skills at pre-test showed more improvement than mothers who had shown initially higher skill levels. This effect was not seen in fathers, with those fathers who showed initially high parent-child communication levels showing the greatest program effect. In a further test, the influence of financial concerns on program outcomes was also measured in this study (Rueter et al. 1999). Mothers' program outcomes were not directly affected by financial concerns, but fathers' outcomes were directly impacted on by financial concerns.

In summary, Rueter et al. (1999) found that mothers who had marital difficulties and poorer parenting skills showed the greatest program effectiveness. When fathers had financial concerns the intervention program was less effective for them. These results show that for mothers and fathers, social and psychological factors are likely to impact on the outcomes achieved in intervention programs, but these factors may affect mothers and fathers in different ways. The results also point to the importance of understanding family psychosocial factors and how they might influence program participation or outcomes.

Summary

Using randomised controlled trials as the “gold standard” for intervention programs, this review has shown that a small number of international interventions, which targeted changing parenting behaviours and parental education, have shown long-term reductions in adolescent alcohol use. There is a paucity of this type of quality research in Australia, and further studies undertaking best practice evaluations of intervention initiatives are needed.

Several promising Australian interventions are currently underway, including PACE, Teen Triple P, and ABCD.

In Australia, engaging parents in early intervention or prevention programs can be problematic. Integration of such programs within the school curriculum is viewed as a potential strategy to increase parental involvement in these programs.