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Introduction

Parents with a mental illness can, and do, parent very well. However, numerous studies have found that this group of parents may experience significant challenges and barriers in providing stable and safe environments for their children, brought about by their illness and society’s response to people with psychiatric disorders (Mowbray et al, 2000). For almost four decades, research has established that children of parents with a mental illness are at increased risk of developing mental health problems (Rutter, 1966). More recent research has confirmed this earlier work (Lapalme et al, 1997), and also found that these children experience higher rates of suicidal ideation (Weissman et al, 1997), interpersonal difficulties and behavioral problems (Wickramaratne & Weissman, 2005; Larsson et al, 2001) than children of non-diagnosed parents. Early onset of mental health problems in children of parents with mental illness is a predictor of a range of other negative outcomes for these young people, including teenage childbirth.

Abstract

There is widespread acknowledgement that children in families affected by parental mental illness are at risk for a range of poor life outcomes. There is also a growing number of interventions to meet the needs of this group of young people. This review evaluates the quality of the existing evidence for such intervention programs. Five hundred and twenty articles were reviewed, and twenty-six studies were judged to be relevant. The majority of the studies were randomised trials (n=8) and pre-post interventions with no comparison or control groups (n=8). None of the studies measured cost-effectiveness or included consumer or carer consultation, and few outlined the theoretical basis for the development of the intervention program. Seven studies were rated as methodologically strong, four as of moderate quality and fifteen as methodologically weak. This data provides very limited evidence of program effectiveness as determined by well-being or illness outcomes for the child. Practitioners should use a recognised theory in developing intervention programs, link program components to identified risk factors for this target group, select intervention components from across the public health spectrum and incorporate greater intersectoral collaboration. Future programs should be rigorously evaluated and widely disseminated, with long-term follow-up of participants.
ing (Kessler et al, 1997), school failure (Kessler et al, 1995) and relationship violence in adulthood (Kessler et al, 2001).

Numerous epidemiological studies have found that one in five adults will experience a mental health problem at some stage during their life (Kendler et al, 1996), suggesting that the challenges experienced by children of parents with mental illness occur on a large scale (Andrews et al, 1999; Paykel et al, 2000). In Australia, Cowling (1999) estimated that up to 27,000 children are affected by maternal psychotic illness alone. Further research on women with diagnoses of serious mental illness has shown that, while illnesses such as schizophrenia can reduce fertility (McGrath et al, 1999; Howard et al, 2002), women experiencing these disorders often have children (Rudolph et al, 2005) and commonly (32%) carry out childcare responsibilities (Test et al, 1990). The widespread nature of parental mental illness makes the needs of children of parents with a mental illness a significant public health issue.

Sources of risk

A range of risk factors have been identified as important to the mental health of children of parents with a mental illness. These factors include biological risk factors, illness-related factors that disturb an individual’s ability to parent, family-level variables and socio-environmental factors (Mowbray et al, 2001). The specific biological risk factors have not been well established, but particular illnesses such as bi-polar disorder and schizophrenia cluster within families, and it has been hypothesised that certain genetic traits may be important in the development of particular psychiatric disorders (Petrila, 2001).

The social and psychological aspects associated with their parents' illness pose a much more significant risk to young people (Rutter, 1966). Children of parents with a mental illness can experience risk factors associated directly with their parent's condition, as well as the social circumstances experienced by many people with a mental illness. Risk factors relating directly to a parent’s illness that have been found to have a negative impact on the mental well-being of children include repeated hospitalisation (particularly if frequent and resulting in alternative care outside the family home) (Rutter, 1966), impaired parenting skills, the inability of some mothers to synchronise with their infants (Rutter, 1989) and the child's involvement in symptomatology (such as delusions or paranoia) (Rutter, 1966). Parental mental illness can also increase the likelihood of single parenthood, marital break-up and household discord, all of which can have adverse outcomes for children (Rutter, 1989; Rutter & Quinton, 1984).

Beyond family and individual-level variables are broader features of the environment that can affect children’s mental health. Mowbray and colleagues (2000) highlight that many people with mental illness are living in poverty, which creates an additional range of stressors for parents and families (McLoyd & Wilson, 1991). It is therefore not surprising that poverty is a strong predictor of relapse for parental mental illness (Mowbray et al, 2000), and increases the risk of substance abuse (Kessler et al, 1994), crime victimisation (Goodman et al, 1997) and being homeless or living in poor housing. All these factors have a further impact on a parent's ability to maintain their own and their child's mental health (McLecod & Shanahan, 1996).

Many people who have a psychiatric disorder experience social stigma and discrimination as well as the social and environmental factors that are often associated with mental illness (WHO, 2001). It is widely acknowledged that negative attitudes and discrimination towards people with mental disorders are pervasive (Ostman, 2002). Stigmatising attitudes towards people with mental illness can be found among the general public, employers, insurers and even branches of the medical profession (Corrigan et al, 2004). This stigma can limit an individual's access to housing, job opportunities, adequate medical care and medical insurance coverage (Corrigan et al, 2004). Stigma can also increase symptoms of depression and lower morale among people with mental illness (Ritsher & Phelan, 2004). It has been suggested that these socio-environmental factors, not the parental mental illness itself, present the greatest risk to children (Rutter, 1966).

Programs designed to meet the needs of children of parents with a mental illness have been established in the United States (Beardslee et al, 1993; Beardslee et al, 1992), the United Kingdom (Orel et al, 2003) and Australia (Cuff & Pietsch, 1997; Rimmington et al, 1998). It has been suggested that programs for children of parents with a mental illness can improve outcomes for these young people (Cuff & Mildred, 1998; Farrell et al, 1999; McEnroe, 1998), enhance the quality of family life and reduce the parents' and young people's need for costly mental health services (Cowling, 1999). However, given the broad array of potential risk factors highlighted previously, combined with the range of adverse outcomes that could be targeted, identifying the most effective means of intervening in the lives of these families is challenging.

Despite this complexity, anecdotal evidence suggests that there is growing pressure on mental health clinicians to do something for this group of families and young people. While there is a clear imperative to provide services,
an Australian report found that the majority of these interventions are not being guided by research findings or conducted within an evidence-based framework (Children of Parents Affected by a Mental Illness Scoping Project, 2001). The benefits of using evidence to guide program development has been widely recognised (Oliver & Peersman, 2002; Commonwealth Department of Health and Aged Care, 2000). Oliver and Peersman describe evidence-based practice as ensuring that interventions are based on the best available research evidence, are moderated by the circumstances of clients and the expertise of professionals, and are cost-effective (Oliver & Peersman, 2002).

Evidence-based frameworks also assist in identifying programs that may lead to adverse outcomes or be associated with risk for participants. This is crucially important for families affected by illness, as they are already a high-risk group and may have fewer resources to deal with harmful consequences associated with intervention programs.

The aim of the present study was to review the existing evidence base and provide practitioners and policy-makers with easy access to information on the effectiveness (or otherwise) of programs designed to intervene with children and/or families where the parent has a serious mental illness.

The study

Method

This review was based on accepted methodologies for the conduct of systematic reviews (Clarke & Oxman, 2002; National Health & Medical Research Council, 2000; NHS Centre for Reviews and Dissemination, 2001). They included the phases of (1) question formation, (2) finding studies, (3) appraisal of applicability, (4) selection of studies and data extraction, (5) quality assessment and (6) drawing of conclusions.

Search procedure

The first stage in the search for suitable papers was generation of a list of key search terms. We generated a list based on previous research, and then had the list reviewed by a multi-disciplinary group of mental health clinicians and public health practitioners to ensure that all appropriate terms were included. The final list included terms that focused on the potential participants in interventions (for example family, child, teenager, adolescent, parent), the type of intervention/study (for example, RCT, quasi-experimental), a range of mental health problems (for example schizophrenia, bi-polar disorder, personality disorder, depression) and potential outcomes (for example mental well-being, quality of life, social support).

Three procedures were used to identify appropriate studies. First, a variety of electronic databases from health, medicine, sociology, psychology and education were searched, using the identified search terms. The reference lists of all review papers and relevant papers were also reviewed. Second, a hand search of eight particularly relevant journals was undertaken, encompassing the past five years. Finally, grey literature was sought via an Internet search and by contacting experts in the field. Experts were contacted by email and asked to identify any relevant unpublished reports or research. All searches were conducted by a professional librarian (DL) and a health promotion doctoral candidate (KA).

Relevance assessment

Once articles had been retrieved they were assessed independently using a standardised tool originally designed by Thomas and colleagues (1999). Articles were included if they met all the following criteria:

- target population was children and/or families affected by parental mental illness
- an intervention was undertaken
- an evaluation of the intervention was undertaken and described (this criterion excluded papers which provided a program description only).

Data extraction

Data was extracted from papers that were deemed relevant, using a standardised tool based on criteria derived by Thomas (1999). The data extracted from the papers included:

- a description of the intervention and study design
- the target population of the intervention and the number of subjects participating
- the source of funding for the intervention, who provided the intervention (mental health service, school, non-government organisation) and the setting in which the intervention was provided (family's home, hospital, community)
- geo-political context
- length of intervention and duration of post-intervention follow-up
- a description of the authors' conclusions from the study.
Quality assessment
A standardized quality assessment tool, originally developed by the Effective Public Health Practice Team (Thomas et al., 1999), was adapted for use in this review. Six quality criteria were rated: selection bias; study design; confounders; blinding; data collection methods; withdrawal and drop-outs. Using a dictionary and a standardised guide to assessing component ratings, each individual methodological component was rated as ‘strong’, ‘moderate’ or ‘weak’. These six categories were used to provide an overall rating for each paper. ‘Strong’ studies had at least four components rated as ‘strong’ and no component of the study rated as ‘weak’. ‘Moderate’ studies had fewer than four ‘strong’ ratings and only one ‘weak’ rating of the components. ‘Weak’ studies were those with two or more of the six components rated ‘weak’.

Results
A total of 532 articles were retrieved, and of these 26 were judged to be relevant (see Table 1, opposite). Many of the papers retrieved were descriptive studies of topics such as child and adolescent mental health and the impact of mental health problems and parenting. While this research makes an important contribution to the field, the papers were excluded from this review because they did not include evaluation of programs for the target group. Numerous papers provided a detailed description of an intervention but did not report on any evaluation of the intervention, and these were also excluded. Papers that reported on evaluation of programs for groups other than the target population (such as homeless families) or for families dealing with ‘adverse life events’ (such as divorce) were also excluded. It is important to note, however, that such evaluations may provide useful data for those involved in the design and delivery of programs for families affected by parental mental illness, as they deal with a range of similar challenges.

The studies reported in the 26 papers included in the final review were most commonly undertaken in the United States (18), the remainder being undertaken in Australia (4), the United Kingdom (3) and Israel (1). The majority of research designs described in the papers were randomised trials (8) and pre-post interventions with no comparison or control groups (8). Twenty-five of the studies were undertaken in large metropolitan areas, and one study was conducted in a small closed community. The sample size for the studies varied markedly, ranging from nine to four hundred and seventy-two participants. Cost-effectiveness was not measured for any of the studies, and no study included consumer or carer consultation. The majority of the studies included in the review did not outline the theoretical basis for the development of the intervention program.

The target group for the interventions also varied. Nine programs were designed for families, nine for mothers with a mental illness and infants, and seven for children/adolescents only. Most of the interventions described were not specific in terms of parental mental health problems, but the majority of parents in the studies experienced depression. The types of intervention evaluated were diverse, and included psycho-education sessions, focused psychological therapies, support groups, intensive case management, community development, residential programs and various combinations of these. The most common type of intervention (n=9) focused on providing psycho-education to families and children about the impact of mental illness on parents and on those close to them. These programs typically included teaching strategies for individuals and families to deal with these issues. Six programs specifically targeted parenting skills, and two programs dealt with family interactions. One program focused on the impact of a relative’s hospitalisation on the rest of the family.

Methodological quality
Among the 26 papers that were deemed relevant, seven were assessed as methodologically strong, four as of moderate quality and fifteen as methodologically weak. The main reasons that papers were deemed to be methodologically weak were poor scores on study design, randomisation and blinding. For example, using the scoring criteria, a study that was predominantly descriptive and included pre- and post-evaluation measures but no control group would be scored as ‘weak’ for study design (Thomas et al., 1999). Randomised trials were also rated as methodologically weak if the method of randomisation was not stated, and if it was impossible to ascertain whether blinding of the assessors was undertaken and if withdrawal rates were not described. Very few of the weak papers reported withdrawal or drop-out rates.

Discussion
This review highlights a range of gaps in the current evidence base on which policy-makers and those involved in program development can draw. While the issues and challenges these children and families face have been identified in the research literature for almost four decades (Rutter, 1966), development and evaluation of interven-
<table>
<thead>
<tr>
<th>Author</th>
<th>Country</th>
<th>N</th>
<th>Study design</th>
<th>Length of post-intervention data collection weeks</th>
<th>Intervention description</th>
<th>Type of intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bassett et al (2001)</td>
<td>Australia</td>
<td>3</td>
<td>Single intervention</td>
<td>Not stated</td>
<td>Two concurrent sessions: 1. parent session: open discussion, education, and guest speakers; 2. children's session: developmentally appropriate activities such as games and jigsaws</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Beardslee et al (1992)</td>
<td>USA</td>
<td>7 families</td>
<td>Randomly assigned</td>
<td>0</td>
<td>Parent and psycho-education and support group, coupled with program for children that included age-appropriate activities</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Beardslee et al (1997a)</td>
<td>USA</td>
<td>38 families</td>
<td>RCT</td>
<td>78</td>
<td>Individual psycho-education sessions for children, parents and families</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Beardslee et al (1997b)</td>
<td>USA</td>
<td>37 families</td>
<td>Randomised trial</td>
<td>78</td>
<td>Clinician-facilitated family psycho-education sessions</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Beardslee et al (1997c)</td>
<td>USA</td>
<td>37 families</td>
<td>Randomised trial</td>
<td>156</td>
<td>Clinician-facilitated family psycho-education sessions</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Beardslee et al (1996)</td>
<td>USA</td>
<td>28 families</td>
<td>Randomised trial</td>
<td>156</td>
<td>Clinician-facilitated family psycho-education sessions</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Cicchetti et al (2000)</td>
<td>USA</td>
<td>43</td>
<td>RCT</td>
<td>104</td>
<td>Depressed mothers (DM); toddler-parent psychotherapy (TPP) – conjoint sessions of mother and child with clinical therapy</td>
<td>Therapeutic intervention</td>
</tr>
<tr>
<td>Clarke et al (2001)</td>
<td>USA</td>
<td>45</td>
<td></td>
<td>107</td>
<td>Education sessions delivered to groups of adolescents with depressed parents. Provides skills and techniques for relieving depression. Separate parent information sessions also conducted</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Clarke et al (2002)</td>
<td>USA</td>
<td>86</td>
<td>Randomised trial</td>
<td>78</td>
<td>Group CBT sessions for adolescents. Three separate parent information sessions were also held. Parents were informed about general topics in children's group but their own depression wasn't discussed</td>
<td>Therapeutic intervention</td>
</tr>
<tr>
<td>Clarkin et al (1999)</td>
<td>USA</td>
<td>29</td>
<td>RCT</td>
<td>72</td>
<td>Family intervention sessions</td>
<td>Therapeutic intervention</td>
</tr>
<tr>
<td>Cohler &amp; Grunenbaum (1983)</td>
<td>USA</td>
<td>50</td>
<td>Randomised trial</td>
<td>0</td>
<td>Weekly home visits to mother focused on enhancing mother-infant relationship</td>
<td>Parenting skills</td>
</tr>
<tr>
<td>Cuff &amp; Pietsch (1997)</td>
<td>Australia</td>
<td>29</td>
<td>Single intervention</td>
<td>Not stated</td>
<td>Group peer support and education program for children covering areas such as problem-solving, community awareness, assertiveness, feelings, communication and protective behaviours</td>
<td>Child/adolescent peer and education support group</td>
</tr>
<tr>
<td>Field et al (1996)</td>
<td>England</td>
<td>40</td>
<td>RCT</td>
<td>0</td>
<td>Infant massaged by research assistant for 15-minute period between morning feedings two days a week for six weeks on the face, chest, stomach, legs/feet, arms and back</td>
<td>Infant massage</td>
</tr>
<tr>
<td>Finzi &amp; Stange (1997)</td>
<td>Israel</td>
<td>9</td>
<td>Single intervention</td>
<td>2</td>
<td>Group therapy focusing on re-examination of problematic issues, improved communication and interpersonal skills</td>
<td>Child/adolescent peer and education support group</td>
</tr>
<tr>
<td>Geiland et al (1996)</td>
<td>USA</td>
<td>37</td>
<td>Case control</td>
<td>4</td>
<td>Home-based intervention for depressed mothers including education about child development and parenting techniques. The program also aimed to build self-confidence, reinforce existing parenting skills and teach new ones</td>
<td>Parenting skills</td>
</tr>
<tr>
<td>Hinden et al (2002b)</td>
<td>USA</td>
<td>8 families</td>
<td>Single intervention</td>
<td>Not stated</td>
<td>Intensive and comprehensive case management. Case managers provide education, referral, transport, emotional support and advocacy</td>
<td>Intensive case management</td>
</tr>
<tr>
<td>Hinden et al (2002a)</td>
<td>USA</td>
<td>108</td>
<td>Single intervention</td>
<td>Not stated</td>
<td>Residential program involving case management and family development program involving education and the development of a range of living and parenting skills</td>
<td>Residential program</td>
</tr>
<tr>
<td>Horowitz et al (2001)</td>
<td>USA</td>
<td>122</td>
<td></td>
<td>0</td>
<td>Interactive coaching session between mother and clinician to enhance mother's ability to respond to appropriately to infant</td>
<td>Parenting skills</td>
</tr>
<tr>
<td>Keltner (1990)</td>
<td>USA</td>
<td>50</td>
<td>Controlled clinical trial</td>
<td>72</td>
<td>Standard inpatient treatment and brief inpatient family intervention (FI), a brief, psychoeducational, problem-focused family treatment structured to assist the patient and family in coping with the hospitalisation of a family member</td>
<td>Psycho-education</td>
</tr>
<tr>
<td>Murray &amp; Cooper (2003)</td>
<td>UK</td>
<td>193</td>
<td>RCT</td>
<td>260</td>
<td>Weekly, home-based sessions of one of three therapeutic interventions were used: cognitive behaviour therapy, psychodynamic therapy and non-directive counselling</td>
<td>Therapeutic intervention</td>
</tr>
<tr>
<td>Onazawa et al (2001)</td>
<td>UK</td>
<td>34</td>
<td></td>
<td>0</td>
<td>Mothers and infants attended a weekly massage class. They teach the techniques of infant massage by encouraging parents to observe and respond to their infant's body language and cues and adjust their touch accordingly. Mothers also attend support group</td>
<td>Parenting skills</td>
</tr>
<tr>
<td>Orel et al (2003)</td>
<td>UK</td>
<td>11</td>
<td>Interrupted time series</td>
<td>0</td>
<td>Psychoeducation group followed by time-limited support group, followed by six months’ mentoring (minimum) from trained volunteer mentoring from Big Brother/Big Sister Program</td>
<td>Psycho-education and support group</td>
</tr>
<tr>
<td>Pitman &amp; Matthey (2004)</td>
<td>Australia</td>
<td>25</td>
<td>Single intervention</td>
<td>0</td>
<td>Three-day session (consecutive days) includes education, communication exercises, problem-solving activities, artwork, music, interactive and relaxation exercises and peer support</td>
<td>Child/adolescent peer and education support group</td>
</tr>
<tr>
<td>Waldo et al (1987)</td>
<td>USA</td>
<td>31</td>
<td>Single intervention</td>
<td>0</td>
<td>Interactive parent skills and education group</td>
<td>Parenting skills</td>
</tr>
</tbody>
</table>
tions for this group are only relatively recent and infrequently reported. Furthermore, much of the data that is available is methodologically weak.

The first issue to emerge from the review was how homogeneous many programs were in their focus. A broad range of risk and protective factors have been identified as important to the well-being of families affected by parental mental illness (Devlin & O’Brien, 1999), yet all the studies included in this review focused on individual-level issues such as knowledge and skills. Few interventions addressed the significant structural and social factors that affect the life outcomes for this group of families, even though previous research has identified these as important contributors to ongoing mental health problems and poor well-being (Mowbray et al., 2000; Mowbray et al., 2001).

This focus on mental health rather than population health may reflect the orientation of program developers, who were typically from a clinical mental health background. While it is beyond the remit of these mental health services to address the broad array of challenges that commonly face people with serious mental illness and their families (poverty, stigma, poor housing), this issue highlights the fact that mental health promotion in this area is not yet inter-sectoral and integrated. Clearly, benefits could be derived from developing an integrated approach, which should acknowledge the importance of clinical management and treatment of mental illness within families and also ensure that broader social and structural issues were addressed. Selecting intervention components from across the spectrum of action (which ranges from individual-focused interventions such as screening, individual risk assessment and health education, through to population approaches such as community action and settings approaches) is also consistent with best practice in health promotion (Egger et al., 1990; Labonte, 2003).

The second gap in the current evidence base is apparent in the limited long-term data and analysis of cost-effectiveness. Failure to include cost-effectiveness in study designs makes it difficult to justify investment of funding in programs, if they have not been clearly demonstrated to be an effective and efficient use of scarce health resources. The problem of justification is compounded by the limited long-term follow-up of participants, meaning that there is very little data to indicate whether time-limited interventions for children, parents and families have any lasting effect in terms of the specific program aims or other outcomes. Most studies also failed to include consumer participation in the development or evaluation of programs, even though both policy makers and researchers argue for the importance of such involvement (Australian Health Ministers, 2003; Linhorst & Eckert, 2002; Linhorst et al., 2001).

A further issue to emerge from the study was lack of clarity about the key needs and/or issues that were most crucial to target for this population group. There was enormous variety in the aims of the programs reviewed, and this was reflected in the outcomes measured. Current evidence does not make it easy for those developing programs to determine what type of changes in attitude, behaviour or knowledge is likely to produce the best overall outcomes for families. Using theoretical frameworks in the development of programs may be one important strategy in addressing this issue. It has been recognised for a number of years that health promotion interventions are more likely to be effective when they are based on a recognised theoretical framework (Green & Kreuter, 1999; Nutbeam & Harris, 1999), yet few of the interventions included in this review discussed a theoretical basis for the selection of intervention components. There are areas of mental health promotion where there is high face validity but evidence of associated harm following program delivery (for example school-based suicide prevention programs – Ploeg et al., 1999), so this is a grave concern, given the vulnerability of this group of families and young people.

Finally, there was also a degree of homogeneity in the context and composition of the interventions. All but one of the programs were located in large urban areas and most were situated in mental health centres. This raises questions about the transferability of the results of such programs, and presents challenges for the development of programs in other contexts, such as rural and remote areas, which are both demographically and geographically different from urban centres and have fewer specialist mental health and support services (Goldsmith et al., 1997; Wagenfeld et al., 1997; AIHW, 2000). Studies have also found that there can be less anonymity and more stigma towards those using mental health services in rural and remote communities, which may create a significant barrier to use of mental health services (Parr et al., 2004). Different approaches to program development may be required in non-metropolitan settings.

**Recommendations for future interventions**

While there are significant gaps in the current research literature, there is some available data to guide the development of future interventions. Table 2, opposite, provides an overview of the results from those studies rated methodologically strong or moderate. This data shows very limited evidence of program effectiveness when assessing well-
<table>
<thead>
<tr>
<th>Reference</th>
<th>Target Population</th>
<th>Intervention frequency and duration</th>
<th>Intervention description</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beardslee et al (1997)</td>
<td>Families with a non-depressed child and a parent with affective disorder</td>
<td>6 to 10 sessions, plus one 6-month follow-up session</td>
<td>Clinician-facilitated family education sessions in a combination of meetings with the parents only, individual meetings with each child, and a family meeting.</td>
<td>Children in the clinician-facilitated group reported greater understanding of parental affective disorder, as rated by self-report, rat-derivated scales and parent report, and had better adaptive functioning after intervention. Parents in the clinician-facilitated intervention group reported significantly more change. No difference in child illness outcomes.</td>
</tr>
<tr>
<td>Beardslee et al (1992)</td>
<td>Families with at least one parent with affective disorder and a non-psychiatrically ill child</td>
<td>6-10 sessions</td>
<td>Clinician-facilitated individual sessions for children, parents and families.</td>
<td>No harm was reported. Overall satisfaction with the intervention was high. Increased discussion of illness and increased understanding of information about affective disorder. Did not measure child illness outcomes.</td>
</tr>
<tr>
<td>Cichetti et al (2000)</td>
<td>Depressed mothers and infants.</td>
<td>Weekly for an average of 57.7 weeks</td>
<td>Depressed mothers (DI); toddler-parent psychotherapy (TTP) – joint sessions of mother and child with therapist which seek to foster improvement in the mother–infant relationship and communication and seeks to enhance positive mother-child interaction and maternal affective attunement and responsivity to the child.</td>
<td>Children of depressed mothers who took part in the intervention and the children of non-depressed mothers evidenced higher overall verbal IQ than the children of depressed mothers who did not receive the intervention. Toddler-Parent Psychotherapy was effective in safeguarding the normative advances of cognitive development in young offspring of depressed mothers. Group CBT significantly reduced the risk of depression for adolescent offspring of parents with a history of depression.</td>
</tr>
<tr>
<td>Clarke et al (2001)</td>
<td>Adolescents with subdiagnostic depressive symptoms and a depressed parent.</td>
<td>Usual care for depression plus 15 one-hour sessions of group CBT.</td>
<td>Education sessions delivered to groups (6-10) of adolescents with depressed parents. Provided skills and techniques for delaying depression, cognitive restructuring techniques to identify and challenge irrational or excessively negative thoughts. Three parent information sessions were also conducted at beginning, middle and end of each adolescent group.</td>
<td>There was no significant advantage in group CBT over usual care (for diagnosis of depression, continuous depression measures, non- affective measures or functioning outcomes) among adolescents already diagnosed with depression. Infants who experienced massage rather than rocking spent more time in active, alert and active, awake states, cried less and had lower salivary cortisol levels (suggesting lower stress). The massaged infants gained more weight, showed greater improvement in emotional, sociability and soothability temperamental dimensions and had more urinary stress hormones.</td>
</tr>
<tr>
<td>Clarke et al (2002)</td>
<td>Depressed adolescent offspring of depressed parents.</td>
<td>Twice weekly for eight weeks.</td>
<td>Group CBT sessions for adolescents. Three parent information sessions were also held. Parents were informed about general topics in children's group but their own depression wasn't discussed.</td>
<td>Successful in promoting improvement in the mothers' depressive mood scores and in reducing their daily stress levels. Maternal puntiveness significantly increased in depressed controls, but not other groups. Not successful in improving mothers' self-efficacy, observed parenting competence, infants' mental test scores or mother-infant attachment.</td>
</tr>
<tr>
<td>Field et al (1996)</td>
<td>Depressed mothers and infant.</td>
<td>Twice weekly for five weeks.</td>
<td>Infant massaged by research assistant for 15-minute period between morning feedings two days a week for six weeks on the face, chest, stomach, legsfeet, arms and back.</td>
<td>The treatment group exhibited significantly higher maternal-infant responsiveness post-intervention. Both control and intervention group showed significant reductions in depression scores and increases in responsiveness. No difference in depressive symptoms between control and intervention groups. Did not measure child illness or development outcomes.</td>
</tr>
<tr>
<td>Gelfand et al (1996)</td>
<td>Clinically depressed mothers and infants.</td>
<td>13 fortnightly sessions.</td>
<td>Home-based intervention for depressed mothers including education about child development and parenting techniques. The program also aimed to build self-confidence, reinforce existing parenting skills and teach new ones, increase mother's acceptance of her child, improve her success in engaging the baby in positive interactions, heighten maternal self-efficacy and promote health infant attachment.</td>
<td>Limited positive benefits. All three treatments had a significant benefit on maternal reports of early difficulties in relationships with infants; counselling gave better infant emotional and behavioural ratings at 18 months and more sensitive early mother-infant interactions. Treatments had no significant impact on maternal management of early infant behavioural problems, security of infant–mother attachment, infant cognitive development or any child outcome at five years.</td>
</tr>
<tr>
<td>Horowitz et al (2001)</td>
<td>Mothers with PND and their infants.</td>
<td>Three home visits in the first 18 weeks postpartum</td>
<td>Interaction coaching for at-risk parents and their children (ICAP), including five minutes of observation followed by ten minutes of interactive coaching.</td>
<td>Postnatal depression scores fell in both the baby massage and the social support (comparison) groups. Significant improvement in mother-infant interaction was found only in the massage group. Did not measure child outcomes.</td>
</tr>
<tr>
<td>Murray &amp; Cooper (2003)</td>
<td>Mothers with PND and their infants.</td>
<td>Routine primary care compared with 10 weeks of non-directive supportive counselling, CBT or a brief psychodynamic psychotherapy.</td>
<td>Routine primary care involved the normal care provided by the GP and health visitor with no additional input from the research team. The CBT was not directed primarily at the maternal depression itself but at problems identified by the mother in the management of her infant (sleeping, eating etc). Psychodynamic therapy.</td>
<td></td>
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</tbody>
</table>
being or illness outcomes for the child. For infants of depressed mothers, the most effective interventions were baby massage (Field et al., 1996) and toddler–parent psychotherapy (TTP) (Cichetti et al., 2000). For non-depressed adolescents of depressed parents, group CBT was effective (Clarke et al., 2001). Group CBT was not effective for depressed adolescent offspring of depressed parents. There was no evidence for the effectiveness of education sessions, home visits from nurses, interaction coaching sessions for mothers, counselling, CBT or brief psychodynamic psychotherapy for children of parents with a serious mental illness when the outcome measured was the absence of psychopathology in childhood.

There is some information of the effectiveness of programs using surrogate markers of child psychological well-being.

- Infant weight gain and reduced stress (Field et al., 1996) and maternal–child interaction improved with baby massage (Onozawa et al., 2001) and interaction coaching (Horovits et al., 2001).
- Child understanding of parental mental illness increased following clinician-led education sessions (Beardslee et al., 1997, 1992).
- There was increased discussion of illness following clinician-led education sessions (Beardslee et al., 1992).
- Mothers’ depressive mood scores improved, daily stress levels reduced and use of punitive parenting decreased following home visits from RNs (Gelfand et al., 1996).
- Counselling resulted in better infant emotional and behavioural ratings and more sensitive early mother–infant interactions (Murray & Cooper, 2003).

However, there was no evidence that these surrogate markers resulted in improved mental health in children. Identifying the key needs of this group and effective strategies to address them may also be usefully informed by national and international mental health promotion frameworks such as WHO (1998) – Primary Prevention of Mental, Neurological and Psychosocial Disorders – and Commonwealth Department of Health and Aged Care – National Action Plan for Promotion, Prevention and Early Intervention for Mental Health 2000. These frameworks outline a range of evidence-based strategies for promoting mental health in young people, parents and families, providing a potentially useful direction for development of interventions for children of parents with mental illness.

Limitations of the review

This review had a number of limitations. First, the review was restricted to those evaluations published in English. Second, a broad range of discipline-specific databases had to be included due to the nature of the topic, and this may have made it more likely that relevant papers would be missed. Third, the quality appraisal tool may not have been sensitive enough to recognise the complex methodological issues in this area of mental health promotion (for example the difficulty in conducting double-blinded trials in this area). Community-based interventions may need to be appraised differently from more traditional clinical trials. Finally, the methodological quality assessment was based solely on the published manuscripts, and authors were not contacted for further information not available in the selected publications.

Conclusion

This review has found some support for interventions for children of parents with mental illness in specific circumstances, and no evidence that these programs were harmful to participants. There is, however, insufficient evidence to reach any firm conclusions about the range of programs that might play a part in primary prevention for this target group. There is little available data on the long-term effectiveness of these programs. This problem is further compounded by limited funding for mental health services and research generally (Anderson & Gittler, 2005; Demytenaar et al., 2004), which limits the capacity of providers to evaluate programs adequately and contribute to the evidence base.

However, the problems of children of parents with a mental illness are an area of significant need, and there can be considerable pressure to implement programs and strategies. While currently there is not a robust body of evidence to guide these interventions, improvements in current service delivery can be made. Practitioners should use a recognised theory in developing interventions, and should link program components to identified risk factors for this target group. Intervention components should be selected from across the public health spectrum, and not remain focused on individual high-risk strategies. This may require a broader range of agencies to be involved in addressing these needs, and additional training for mental health clinicians. There is also a need to ensure that future programs are evaluated using rigorous methodological design, previously validated tools and appropriate outcome measures. Clearly, the findings of such evaluations need to be widely disseminated. A longer-term follow-up of partic-
plicants would greatly enhance assessment of the benefit of interventions over time. Greater inter-sectoral collaboration is also required in order to determine which areas should be the main focus for this population group in order to improve their overall long-term well-being.

**Conflicts of interest**

None declared.

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**References**


