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Prevention of emotional problems and psychiatric risks in children of parents with a mental illness in the Netherlands: II. Interventions

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Abstract

This paper reports on the outcomes of a practice-based and science-based enterprise in the Netherlands to develop a comprehensive national prevention program focused on children of parents with a mental illness. An outline of the multicomponent program is presented which includes a wide set of interventions that address evidence-based risk factors and protective factors in multiple domains, including children in different age groups, parents and families, social networks, professionals and the community as a whole. The scientific basis of this program is described in a companion article in this issue (Hosman, van Doesum & van Santvoort, 2009). The 20 year history of this program illustrates the importance of long-term collaborative investments that are required of practitioners, policymakers and scientists to develop and implement a nationwide, comprehensive approach for addressing the prevalent transmission of psychiatric problems from parent to child. The results of recently undertaken controlled efficacy studies of various preventive interventions are presented, as well as findings from process evaluations. The discussion section evaluates the strengths and weaknesses of the current program and offers recommendations for the main challenges ahead in terms of program innovation, implementation and research.

Keywords

children of parents with a mental illness; family; children; prevention; risk and protective factors; evidence-based practice

Introduction

Children of parents with a mental illness (COPMI) run a much higher risk of developing a mental disorder during their lifetime compared to children with a healthy parent. Across different studies, relative risks of 1.5 to 8.0 have been found (Hosman, van Doesum & Santvoort, 2009, in this issue; Trimboos-instituut, 2007).

Numerous empirical studies have provided insight into the mechanisms and risk factors that mediate the transmission of psychiatric risk from parents to children, as reviewed in the

companion article in this issue (Hosman et al., 2009). Many of the identified risk and protective factors may be sensitive to modulation following exposure to preventive interventions. The identified factors are included in a theoretical model presented in the companion article. In brief, the model describes risk and protective factors within several interacting domains (i.e., child, parents, family, social network, professionals and the wider community). Within this paradigm, five mechanisms of transgenerational risk transmission are identified: (a) genetic risk transmission, (b)

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prenatal influences, (c) parent-child interactions, (d) family processes and conditions, and (e) social influences from outside the family. The theoretical framework differentiates between developmental stages in the child's life, starting from pregnancy. Such developmental stages are linked to the emergence of specific risk and protective factors, and point at periods during which children and adolescents might be especially sensitive to adverse influences. This model and its features offer a scientific framework to serve as the basis for the development of a comprehensive, multi-component prevention program for children of parents with a mental illness and their families.

Over the last 20 years, such a comprehensive preventive approach has been developed and implemented in the Netherlands, resulting in a wide range of preventive services. From the start of this process during the late 1980s, the approach was jointly developed by practitioners and scientists. The interventions are founded on the evidence-based developmental model of transgenerational transmission of psychopathology mentioned above (Hosman et al., 2009). The interventions have been put into practice by a steadily growing cohort of prevention practitioners and mental health professionals across the country. In the last 15 years, prevention teams from all over the Netherlands have met several times a year to exchange newly developed COPMI materials and interventions, discuss experiences with implementation, work on program innovation and quality management, and to develop national guidelines. These preventive practices have been supported by a network of research centres and national institutes, and a national program for prevention research and development. Currently, all Dutch mental health services, addiction clinics and, more recently, some local public health services and national organisations, offer preventive interventions for children of parents with a mental illness and their families.

An overview of the Dutch COPMI prevention program is presented in Figure 1. Interventions have been developed and implemented in four domains: interventions focusing on (1) the children, (2) parents and families, (3) professionals and (4) the context and community. Across these domains a wide range of intervention methods have been used (e.g.,

educational materials, family meetings, group methods, internet, protocols, and conferences). Together, these constitute the current national Dutch COPMI prevention program. For many years, these interventions were focused exclusively on children of parents with a mental illness, but recently children of parents with substance abuse disorder have also been given access to these interventions.

Ideally, large scale program implementation would follow experimental trials showing evidence of intervention effectiveness; such trials would be preceded by a period of science-based program development and trials; which, in turn, would be preceded by theory development based on extensive epidemiological and clinical research identifying major risk and protective factors in the transmission of psychiatric disorders from parent to child. In reality, this is frequently not the case; scientific knowledge, theoretical models and intervention programs develop through continuous interaction, as was the case in our country. Practice drives theory, and theory drives practice, mediated by empirical studies and critical reflections. There is a mutual learning and validation process between practitioners and scientists.

This paper has several aims. First, it describes the Dutch COPMI program and its interventions in detail and clarifies how these interventions address the risk and protective factors included in the model and identified in scientific studies. Second, it reflects from a scientific perspective on the quality of the current Dutch COPMI program, discussing the degree to which outcome studies have provided evidence that these interventions work. Third, by comparing the theoretical model to the current program, we address the question of how comprehensive this program is in reality and what gaps remain. The final section offers a discussion of the strengths and weaknesses of the current multicomponent program and the main challenges ahead.

Interventions focusing on the children

This first cluster of interventions is directly targeted at children of different age groups, with the goal of providing support and information in order to improve competence and diminish their burden. These interventions make use mainly of group-based methods, internet and written and audiovisual materials.

Play-and-talk groups for children up to age 15

In this intervention, children participate in a series of eight group sessions, which run in parallel to two parental group sessions. The groups are open to children of parents with a mental illness or substance abuse disorder and separately target specific age ranges (i.e., 6-8, 8-12 and 13-15 yrs). The intervention is described in a standardised protocol (see www.trimbospreventie.nl). First, the group trainers meet with the child and the parents during an individual interview. This is followed by group sessions for the children designed to offer information, competence training and a climate of mutual social support. The sessions aim to decrease multiple risk factors and strengthen protective factors by breaking through social isolation and taboos about discussing psychiatric and substance abuse problems in the family. They also aim to provide information about the parent's disorder, foster mutual recognition amongst children in similar situations, decrease the burden for children, and

encourage them to seek social support. Multiple educational techniques are employed, including group conversations, role-plays methods and homework assignments. The program also includes relaxation and leisure activities, especially so for the youngest children. The two parental meetings are scheduled at the halfway and end points of the child program. These meetings are intended to inform parents of the aims and content of the intervention for their child, to improve their understanding of and involvement in the child's situation, and to provide parenting advice. At the second session they are also informed about the outcomes of the intervention for the children. In 2007, the Prevention Research Centre of the Radboud University Nijmegen started an effect study on the play-and-talk groups for children aged 8-12 years. Across 21 community mental health centres, around 200 children and their parents are being studied, using a randomised wait-list design. The outcomes of this study are expected to be available in 2011.

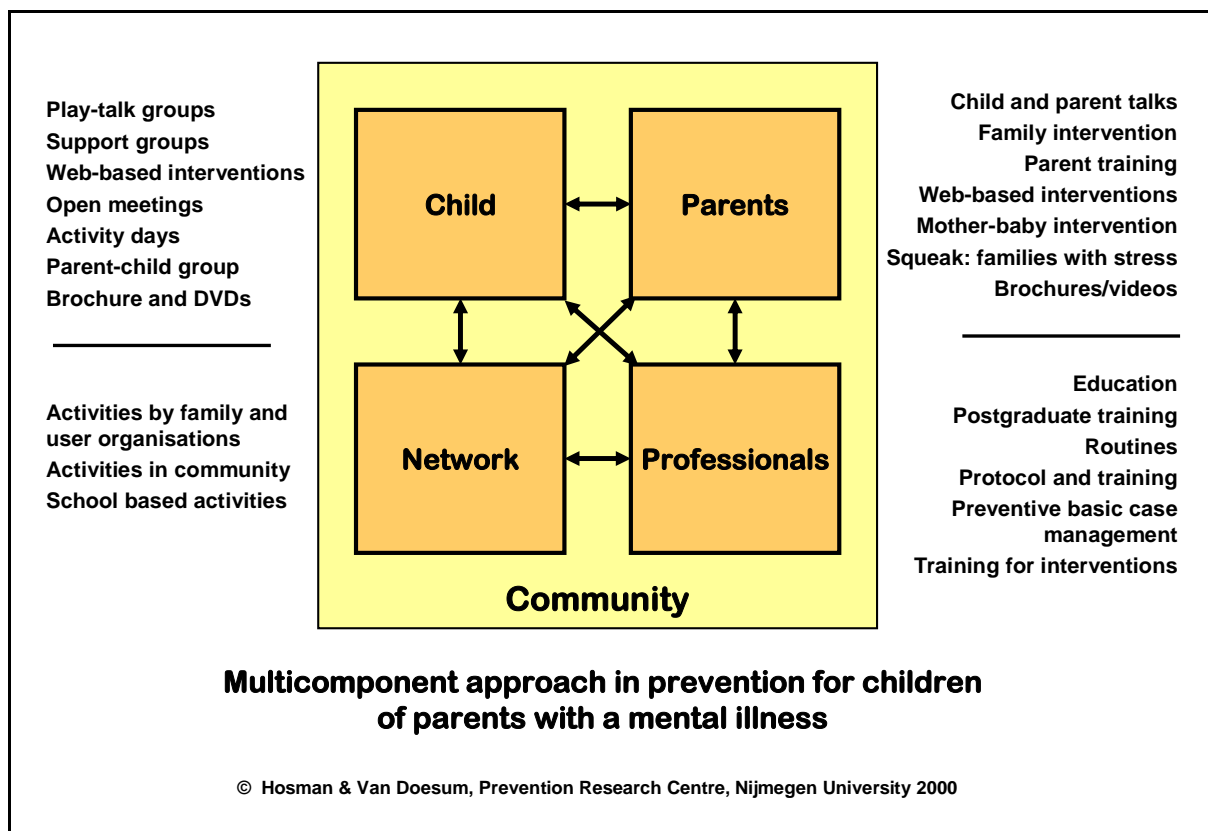


Figure 1. Overview of interventions in the prevention program for children of parents with a mental illness in the Netherlands

Support groups for adolescents (aged 16-23 years) and adult children (aged >23 years)

The group sessions have the same aims as the above play-and-talk groups and also consist of eight meetings. Their content, however, is more flexible and chosen in consultation with participants to tailor the program to their needs. Common topics are: heritability, feelings of guilt and shame, feeling responsible for the parent, leaving home, and starting to make plans for the future. Participants can suggest additional topics. In a pilot evaluation study, participants reported that they had acquired more knowledge about the mental disorder of their parents, felt supported by the group members and felt happier after the group sessions (Beurskens & Siebes, 1998).

Web-based interventions

A website called 'kopstoring' (www.kopstoring.nl) was developed especially for and by children of parents with a mental illness or a substance abuse disorder. It offers information about mental disorders and substance abuse disorders, children's own stories, and a forum where they can leave messages. There is also an e-mail service available and the opportunity to chat with professionals. Furthermore, visitors can join an online psycho-educative program for children aged between 16 and 25 years. They meet at a fixed time in eight online weekly chat sessions and one evaluation session. Besides improving the mental health of the children themselves, this prevention program is designed to educate children about their parents' illness and foster understanding between child and parent. These sessions cover eight themes; each week another theme is prepared by the participants and discussed. Themes include describing the situation at home and roles in families; thoughts, feelings and self-blame; questions about addiction and mental problems; coping with difficult parental behaviours; parentification; using social networks; leading your own life and preparing for your own future. The program is similar to that of the above face-to-face support group and also includes homework. A recent evaluation of the 'kopstoring' intervention showed significant improvements on the key outcome indicators using the COPMI Outcome Evaluation Questionnaire for Prevention Groups. A gain in quality of life was established,

parentification and negative feelings about family life were reduced, and self-esteem and parent-child relationships were improved, as was the children's competence in coping with the parent's behaviour (Van der Veen & Van der Zanden, 2007). A randomised controlled effect study and a cost-effectiveness study on the psycho-educative program, initiated by Maastricht University, will start at the beginning of 2010. A related website, www.survivalkid.nl, targeting both children of parents with a mental illness and siblings of children with mental health problems in the Province of Drenthe is currently the subject of an outcome study conducted by the University of Groningen.

Open educational meetings for youngsters and adolescents (aged 16-25 years)

These open meetings for adolescents and adult children are organised both by local mental health centres and family organisations. During the sessions, participants receive information about mental illness in the family, tips on ways to cope with having a parent with a mental illness, and information on opportunities to arrange support for themselves. The meetings are also used to recruit participants for the support groups. In addition, the 'Labyrinth/In Perspective' family organisation organises annually a national day for children of parents with a mental illness to meet and exchange experiences with other children. Each year the national day focuses on a specific theme.

Local activity days for children (aged 8-16 years)

During school holidays, activity days for children and adolescents are organised throughout the country in cooperation with mental health centres, addiction clinics, volunteer aid organisations, community workers and family organisations. Depending on the age category, there are opportunities for sports, (street) dance, creative activities and play. The aim is to give the children an opportunity to relax, have fun and meet peers.

'Opkikkertje' parent and child groups (children aged 1-5 years)

The main aim of these parent and child groups is to improve the quality of the parent-child interaction and support parents in raising their children. Target groups are mothers with a mental illness, mothers who experience parenting stress, or mothers with children from

multi-problem families. Although the program allows tailoring to the specific needs of each of these groups, overall content of the program is similar and uses the same organisational format of about eight group meetings for parents and children together, and one follow-up meeting. The themes of the meetings include positive interaction with your child, daily child care, structuring and setting limits, your child's and your own emotions, improving positive behaviour and improving social support. The program offers both psycho-education and exercises, for instance on playing with your child (see Boeder, 2006 for manual). A pilot outcome study compared a group of 21 mainly depressed mothers who had participated in the program and 20 healthy mothers from the same region. The intervention group showed improvement in depression status (lower levels of depression), improvement in parenting skills and a decrease in parenting stress. The study also reported fewer behaviour problems among the children following the intervention (Sijtma, 2008).

Interventions focusing on parents and families

A range of interventions focus specifically on parents and entire families, to make them aware of the impact of the home situation for the children, to support and inform them, to improve the quality of the parent-child interaction and to stimulate external social support for children and parents. They include individual psycho-educational meetings, a psycho-educational family intervention, parent training, mother-baby intervention and a web-based program.

Child and parent talks

As a routine service, mental health services initiate psycho-educational and supportive meetings with children and parents after the intake of each adult patient who has children living at home (aged 0-23 years). A trained mental health professional invites the family for three separate conversations: an initial conversation with the patient and his/her partner, followed by two conversations involving the parents and the children. The main aims are to improve the children's coping skills and offer them emotional and social support, improve parental awareness of their child's perspective, and inform them of the consequences that a parent's mental illness may have for the

children. In response to conversations with the children, concerns might be reported to parents about early indications of problems that the children experience, and advice offered about the additional help and support that is available. Information brochures are available for parents and for children in different age groups, which can be provided during the meetings. After the meetings, the children and parents can choose to participate in other COPMI preventive interventions (e.g., groups, parent training, website). If a crisis occurs in the family, the talks are offered in the same week to provide immediate support to the children and parents. These family talks are generally highly appreciated. Evaluation showed that parents became more aware of what it means for a child to have a parent with a mental illness, mutual understanding between parents and children increased, and they were better informed about available support (Kok, Konijn & Geelen, 1994).

Psycho-educational family intervention

This intervention was developed by Dr. William Beardslee of the Children's Hospital in Boston (USA), especially for families with a parent with affective disorder and children aged between 9 and 14 years. The Dutch version targets a wider age range of children living at home (4 to 21 years) and serves families with any parental mental disorder rather than only affective disorder. Only families where parents acknowledge the presence of a parental mental illness are included. This 'whole-family approach' consists of six to eight sessions. First, parents are invited to report the history of their situation, after which they are taught about improving the resilience and strengths of their children and their concerns are discussed. Subsequently, the children are seen in separate sessions to provide information and to discuss their concerns. Finally, the prevention specialist works with the family until they feel comfortable about having a whole-family meeting to discuss the parental mental illness, to develop a shared coping strategy and to agree on positive steps to promote the healthy functioning of the children. The key mechanism of this intervention is to start a process of communication between the family members about the parent's mental illness. The results show that talking helped children better understand their parents and that parents understood their children's perspectives

and learned how to support their children (Beardslee, Gladstone, Wright & Cooper, 2003). Experiences with this intervention in the Netherlands have also been favourable, especially in families with depressed and anxious parents. No controlled outcome studies have been performed in the Netherlands thus far.

Parent training

The main aim of the parent training course is to support both parents in raising their children. The training course includes an average of six group sessions with the following topics: how to talk to children about mental illness, what is important in the children's development, how to support your children, what is good-enough parenting, the role of family and friends in taking care of the children, and exchanging experiences between parents. Although the participants reported that they were highly satisfied with the training course, the threshold for participating in parent group training appears to be too high for these parents, as became evident from problems with recruitment for the training course. Parents are usually referred to the course by their individual therapists, who have to be motivated to do so, which is frequently not the case. Experiences with recruitment presenting parent training as a structural part of the treatment program for parents have been more positive (see Zonneveld, 2000 for parent training manual).

www.kopopouders.nl website

In response to the problems with recruitment for parent training courses and new developments in online availability of information and support, a new website was launched in 2007, designed especially for parents with a mental illness or substance abuse disorder. It offers information and practical guidelines for raising children and refers to web clips with parents talking about their situation. Furthermore, the site offers an online training course, supported by mental health professionals. The aims of this online course are similar to those of the face-to face parent training course, with topics such as your role as a parent, the impact of your problems on your child, feelings of guilt and shame, what is good-enough parenting, and what practical pedagogical support is available. Participating parents also have the opportunity to exchange experiences. A recent pilot evaluation showed that parents who participated ($n = 39$) for one year improved their parenting competence. On the whole participants

were highly satisfied with the online course (Van der Zanden, Arntz, Veenema & Speetjens, 2009).

KOPP mother-baby intervention

The mother-baby intervention is an early intervention program that aims to improve the quality of the interaction between mothers with a mental illness and their infants, and to promote a secure attachment relationship in order to prevent developmental problems in the children.

Home visitors (qualified prevention specialists) affiliated to one of the regional community mental health centres visit mothers and infants at home, where they record the mother-child interaction on videotape, usually involving the mother bathing her baby. Video feedback is used as the core intervention method which offers room for tailoring the method to the individual mothers and their context, for instance by adapting the dosage and adding various techniques like baby massage, modelling and practical pedagogical support. The intervention comprises a total of 8 to 10 home visits (van Doesum, Hosman & Riksen-Walraven, 2005).

Recently, a randomised controlled trial was completed examining the effect of the mother-baby intervention on the quality of mother-child interaction, infant-mother attachment security and infant socio-emotional functioning, in a group of depressed mothers with infants aged 1-12 months. Follow-up assessment after six months showed significant improvement in the quality of the mother-infant interaction in the intervention group, while deterioration was found in the control group who had received parenting support by telephone. Infants in the experimental group also had higher scores for attachment security and emotional competence (van Doesum, Riksen-Walraven, Hosman & Hoefnagels, 2008).

'Squeak says the mouse' for 4-8 year-old children of stressed families

'Squeak says the mouse' is a Dutch children's song and the namesake of a preventive program for children and parents in families under stress. This intervention has a wider target population than the other described COPMI interventions, as it includes families with parental mental illness, substance abuse or chronic physical illness, relationship problems or domestic violence. It uses a community approach and is

targeted at children and families in disadvantaged areas. The aims are to break through isolation, and improve the social competence of the children, the parent-child interaction and parenting skills. The program comprises 15 play-and-talk group meetings for children and five parent meetings. In addition, each family gets tailored support from a family counsellor. The meetings are organised in a community centre near the families' homes and are provided by prevention psychologists and local social workers and community workers.

Experiences have been positive, with more children from high-risk and low socio-economic status families being reached compared to the play-and-talk groups, and the cooperation between professionals of different organisations has been improved. Parents and children reported being highly satisfied with the program (www.trimbospreventie.nl).

Interventions for professionals

The interventions in this domain are targeted at professionals in a wide range of services who usually have contact with parents and children dealing with parental mental illness. These include professionals from community mental health centres, in-patient and out-patient clinics, and youth health care, as well as social workers and community care workers, school doctors and counsellors, child protection workers and students in professional training. The aims of the interventions for the professionals are to raise their awareness of the risk to children when a parent has a mental illness, and train them to talk to children and their families, detect problems in children at an early stage and offer help and support for the families.

Education: workshops, conferences, lectures

In one or two meetings, professionals are informed about the risk to children when a parent has a mental illness, what the risk factors are, and the availability of preventive interventions. The program often includes a training course on talking to children about the parent's mental illness and talking with families. Professionals have perceived these meetings as very useful and fitting their daily practice. They reported having become more aware of the position of these children and better able to detect problems in children at an early stage.

Implementation of routines

Mental health centres have developed routines to integrate consistent attention for children into the intake and treatment of adult patients. These routines vary between centres. They focus on children of parents at an early stage and are offered as part of the treatment. They include various elements, such as checking whether the patient has any children, offering psycho-educational family talks and interventions as part of the treatment package, presenting an overview of available preventive services, and offering educational brochures for children and parents and additional help when children experience serious problems. In the province of Drenthe, families also receive a letter or e-mail with a login code to a website for the children (www.survivalkid.nl)

Preventive case management

In one of the Western provinces, the regional mental health service (Parnassia Bavo Group) has recently started a new preventive case management program for multi-problem families with chronic parental mental illness and an accumulation of risk factors for poor parenting. This Basic Care Management Program (BCM) is an innovative and theory-driven program focusing on support for the children in a patient's family who do not yet show serious mental health problems. The protocol aims to ensure the presence of sufficient 'basic care' for the child to allow development of good mental health and prevention of behavioural problems. The intervention includes three elements: the systematic assessment and monitoring of risk and protective factors and parenting behaviour and the assessment of early signs of child behavioural problems; organising and coordinating supportive services, tailored to the risk factors identified in these families; and monitoring and evaluating the implementation of the indicated services and their effects. Regular meetings are held between a Basic Care Manager, professionals from multiple services involved and the parents, to decide on action plans, enhance access to services and evaluate the progress made by the family. Pilot studies have shown positive effects of BCM on parenting behaviour and risk factors (Wansink, 2002; 2006). In 2009, a four-year randomised controlled trial was started by Radboud

University Nijmegen and the Parnassia Bavo Group, to investigate the effectiveness of the BCM program.

Training intervention providers

At a national level, various training courses are offered to educate professionals in implementing the psycho-educational family program, the mother-baby intervention, the 'Squeak says the mouse' program, the support groups and other protocols. All training courses are organised by the Trimbos-instituut, the Netherlands Institute for Mental Health and Addiction, with senior prevention specialists and mental health workers from practice serving as trainers.

Interventions focussed on the context and community

These interventions aim to change the prejudice and stigma surrounding mental illness, break through the social isolation of families in which a parent has a mental illness and improve social support for the children and their families.

Activities by family or user organisations

These include support and psycho-educational groups for family members of parents with a mental illness, organised throughout the country by family or user organisations, in some cases in cooperation with mental health centres.

Activities in the community

Educational meetings or workshops are held for people in the community to educate them about mental illnesses and inform them how to get support. Participants are family members, friends and volunteer workers, as well as the persons with mental health problems.

School-based activities

School-based programs are available in which professionals and former patients talk to pupils about psychiatry and mental illness. Information materials on mental disorders and substance abuse disorders are available for use in school curricula. A school program focusing on normalising mental illness, involving guest teachers, is nationally disseminated by the Pandora Foundation, a mental health advocacy organisation with a history of almost five decades. Teachers are provided with educational materials about early detection of mental health problems in children, and tips on how to provide

support. These materials relate especially to children of parents with a mental illness.

Together, the interventions described above constitute the current National Prevention Program for COPMI in the Netherlands, initiated by the prevention departments of mental health services and addiction clinics. This program is in essence a dynamic program; that is, new elements are regularly developed by local organisations, piloted and evaluated across health districts and disseminated for national implementation. Some of the above interventions are currently nationally available to parents and children (e.g., mother-baby intervention, parent and child talks, play and support groups, national websites), while others are still in a developmental stage and have only been implemented in certain provinces (e.g., the Preventive Basic Care Program, the Psycho-educational family program and group sessions for parents and children aged 1-5 years).

Discussion

The ultimate aim of the Dutch COPMI policy is to have a comprehensive and sustainable prevention program in place that (1) successfully prevents transgenerational transmission of psychiatric disorders and optimises socio-emotional development in the children; (2) uses a combination of interventions tailored to the needs of the identified target populations in the different domains of our model; (3) addresses directly or indirectly the major evidence-based risk factors and protective factors in this transmission process; (4) is implemented nationwide with a high degree of reach in the target populations; and (5) is able to provide evidence for the effectiveness and cost-effectiveness of its components.

During the last 20 years, great progress has been made in the development of this science-based multicomponent program, as we have illustrated in this article. As a result, COPMI has become a priority theme in the Dutch prevention sector. Currently, all mental health services and several other organisations provide preventive services for children of parents with a mental illness. A range of standardised preventive interventions have been developed across the different domains described in Figure 1. Interventions are tailored to the needs of children in different developmental stages. A nationwide network of

prevention experts and trained mental health professionals is available for program implementation. Several research projects are ongoing to extend our knowledge about the effectiveness of specific interventions and to provide guidelines for their further improvement. The national COPMI prevention network and several institutes and universities have developed a system for further policy making, capacity building, quality management, research and reflection. Over the years, many foreign colleagues have visited our program, and workshops and training courses have been held in other European countries where people were interested in learning from the Dutch experiences and sharing best practices.

Reflection on our current practices and achievements has also revealed some weaknesses and challenges for the near future. Major current limitations concern the implementation process and reach, efficiency issues and the effectiveness of the program and its components.

Solving barriers to implementation and increasing reach

One major concern is the as yet limited reach of the available interventions in the targeted populations. The lower a program's reach, the lower its public health impact. Although COPMI preventive interventions are provided by all mental health services, they still reach only a marginal proportion of children and their families. This is due to a combination of causes, such as lack of awareness of their availability, the tendency to rely heavily on labour-intensive group- and family-based interventions, a still limited willingness to refer among the parents' therapists, and a low implementation rate caused by a shortage of resources and trained intervention providers. Furthermore, fear and stigma within the families themselves function as a barrier to reaching the children and their parents. Especially for children of addicted parents, there is a strong taboo against talking about problems outside the family. Often parents deny they have addiction problems and do not seek professional help themselves.

There is a clear need for further improvement of the infrastructure for the COPMI program. This firstly concerns the implementation of routines in all mental health centres. Although COPMI

interventions are offered in all centres, only a few have standard routines in place for the children of patients, for example, standard rules about determining whether the patient has children, giving information to the children, talks with the whole family and providing information on preventive services. A national policy is needed that requires adult mental health centres to take responsibility for offering preventive interventions to the children of their patients. The Norwegian parliament has recently passed a new law (effective in 2010) stating that adult mental health centres must meet the children's needs (in terms of information and support). In addition, extra resources are needed to train adult mental health care workers to talk to the children of patients. Funding is needed for time to talk with the children; the current funding system for adult care covers only adult patient contacts, the children are not regarded as patients.

Secondly, long-term cooperation is needed between adult and youth care. These departments function mostly as completely separate units with no regular connections. Offering preventive support to children of parents with a mental illness needs to become a shared responsibility of adult and youth care workers. Thirdly, capacity building is also needed among health and primary care professionals, especially in terms of awareness raising, early detection and screening, and options for referrals to preventive interventions. Community workers should be trained in offering low-threshold interventions (like the 'Squeak says the mouse' program), and public health nurses should be trained in providing the mother-baby intervention to mothers with depressive symptoms.

Thirdly, more attention is needed for mental health problems, especially substance abuse, in the media and in communities and schools to reduce prejudice and stigma and to facilitate the use of supportive services in this field. This also requires a stronger focus on mental health in public health and health promotion policies.

More efficient use of resources

The limited resources and reach also highlight the need to consider options for more efficient use of available resources. To facilitate access to educational support, a system of internet-based services was introduced in 2006 as part of a preventive stepped-care approach. The

experiences so far confirm that this educational strategy can indeed successfully reach a much larger proportion of children and their families.

A second strategy to increase efficiency is to define more strictly who is in need of preventive interventions, especially for more labour-intensive interventions. As discussed by Hosman et al. (2009, in this issue) the limited resources available should be specifically used for those children who are most at risk. This would require the development, validation and use of cost-effective risk assessment procedures in the recruitment strategies. Apart from the as yet experimental Basic Care service, this is currently not yet the case in the Netherlands; most interventions are targeted at the population of children of parents with a mental illness as a whole, overestimating the need.

A third strategy is to optimise the use of mainstream opportunities for prevention and health promotion. The current COPMI program is composed of interventions that are specifically designed for children of parents with a mental illness and their families. The advantage of this is that well-tailored interventions are usually found to be the more effective ones. A danger, however, is that the COPMI program becomes an isolated segment of the Dutch prevention system. Likewise, these children and families might come to be treated in an isolated program, which may cause underuse of other options for preventive support. A challenge for the coming years is to explore how these children and their families could also make better use of mainstream prevention and mental health promotion programs that are not specifically designed for them but address common factors described in our theoretical model. Several of the identified risk factors and protective factors, such as parenting competence, child abuse and neglect, family discord and divorce, and children's problem-solving capacities, are not unique to the situation of children of parents with a mental illness. More generic evidence-based programs are available for several of these issues. They are described in the Dutch national database on effective interventions for youth that currently covers over 80 intervention programs (Databank Effectieve Jeugdinterventies, 2009). A good example is Triple P, a multicomponent program adopted from Australia and aimed at enhancing parenting competence, which might

also be relevant to parents with a mental illness (Sanders, 1999). It might be possible to integrate additional options into such programs for information on COPMI issues, or to make use of tailored versions, such as Pathways Triple P, specifically targeted at parents at risk of child abuse. From the perspective of enhancing social integration of families with parental mental illness, it might also be preferable to involve COPMI not only in specifically tailored interventions but in more generic health promotion programs as well.

Increasing the effectiveness of the program

Another challenge is the issue of combining interventions to optimise their combined effect. Although a wide range of interventions has been made available to address the risk of transgenerational transmission, it is questionable if one specific intervention, for instance the mother-baby program, can be sufficient to achieve the intended sustainable outcomes (i.e., normal socio-emotional development and prevention of psychopathology in offspring). It is likely that such outcomes are only achievable in response to combinations or successions of interventions with sufficient duration and dosage. For instance, evaluations of school-based prevention programs suggest that multicomponent and multi-year programs are necessary to achieve significant and sustainable outcomes in children (Domitrovich & Greenberg, 2000). This also involves the issue of cost-effectiveness: which combinations offer the best balance between high effectiveness and low costs?

Opportunities for innovation

A systematic comparison between the interventions in the current Dutch program described in this article and the theoretical model and research presented in the companion article (Hosman et al., 2009, in this issue), reveals three still unused opportunities for strengthening our preventive approach. Firstly, addressing the risk factors which are already present during pregnancy and likely to cause long-term vulnerabilities in offspring is currently a major gap in our approach. The growing knowledge about the harmful impact of stress, anxiety and substance abuse on the developing cognitive and emotion-regulation systems in the brains of unborn children highlights the need to explore

whether interventions during pregnancy to reduce these risk factors might have preventive effects in infants and children. For instance, examining the value and opportunities of routine prenatal screening for risk factors in primary care and well-baby clinics seems a valuable investment, provided the outcomes are linked to the provision of prenatal or postnatal preventive interventions for parents with a mental illness or at risk of postnatal disorders. Such interventions might include psycho-education, massage therapy, stress management training, yoga or early treatment, if sufficient evidence could be found for their preventive impact. Recent studies show some promising outcomes. For instance, Field, Hernandez-Reif, Deeds and Figueiredo (2009) found evidence for reduced prematurity, low birth-weight and postpartum depression as a result of massage therapy during pregnancy and early treatment of depression. In addition, some studies suggest that remission of maternal depression following treatment may also result in better mother-infant relationships and improvement in children's symptoms and functioning (Gunlicks & Weissman, 2008; Pilowsky, Wickramaratne, Talati et al., 2008; Poobalan, Aucott, Ross et al., 2007), although an explicit focus on the mother-infant relationship during the treatment might be essential (Forman, O'Hara, Stuart et al., 2007).

A second gap is the early detection and treatment of subclinical and clinical disorders especially in parents. In the Netherlands, a nationwide system exists for offering evidence-based indicated prevention programs to adolescents and adults with subclinical depression; the interventions are offered by mental health services and covered by the national health insurance system. No specific policy currently exists to target specifically parents with subclinical depression or to study long-term outcomes in children. Finally, as marital discord and family violence are recognised as evidence-based risk factors, especially in families with parental mental illness, the development of a prevention program explicitly addressing these relational problems would fill a significant gap in our current comprehensive program. For this purpose, adaptations could be made from effective marital enrichment and family treatment programs (Sayers, Kohn & Heavey, 1998; Widenfelt, Markman, Guerney et al., 1997).

Research needs

Our review has also revealed several topics that need to be investigated to fill the gaps in our current knowledge (see also Hosman et al., 2009, in this issue). A better understanding of the developmental trajectories of children of parents with a mental illness requires more research into the role of disorder-specific versus generic risk factors. Limited research has so far been conducted on the influence of protective factors in transgenerational transmission, even though several prevention programs specifically focus on such factors. In terms of intervention studies, more research is needed into implementation processes, and the relative effectiveness and cost-effectiveness of different prevention strategies, with special attention to long-term outcomes and 'broad-spectrum' outcomes.

International collaboration

The last decade has seen a rapidly emerging interest across the world in preventive interventions for children and families of parents with a mental illness. In Europe, this has resulted in several international conferences on this subject. There is growing international collaboration in terms of sharing knowledge, expertise, materials and programs. For instance, the psycho-educational family program developed by William Beardslee (USA) is now implemented in Finland, the Netherlands, Norway, Belgium and Sweden; and the Dutch play-and-talk group intervention has been adopted in Norway. The Scandinavian countries have a long history of working together within the Nordic forum, a network of COPMI professionals. In addition, longstanding research collaboration exists between the USA and Finland, and between the Netherlands, Norway and the UK. Furthermore, contacts have been made with colleagues in Australia, where a strong nationwide COPMI network supports initiatives, implementation and research. Since the knowledge about COPMI preventive interventions and the number of efficacy studies are rapidly growing, the need for international cooperation and support in capacity building has increased. This year's inaugural world conference 'Together' in Adelaide (Australia) has significantly contributed to filling this gap and has stressed the need for subsequent international meetings.

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