Disorders of cognitive and emotional development in children of mothers with substance abuse and psychiatric disorders

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ABSTRACT
AIMS – The aim of this study was to investigate whether the mother’s substance abuse, psychiatric problems and socio-economic situation are related to 1) disorders of psychological development, 2) behavioural and emotional disorders, and 3) mood disorders and neurotic, stress-related and somatoform disorders in children aged 0–12 years. DATA & METHODS – The research is based on data on all children born in Finland in 1997 who have not died before their first birthday (n=58 761). These children were followed until their 12th birthday. Information from national registers covering health and social care, education, relationship status, age and receipt of income support were analysed using cross-tabulation with χ²-tests and logistic regression analysis. RESULTS – Based on the register data of children, 1.4% (n = 798) had a mother with substance abuse problems only, 3.2% (n = 1856) had a mother with psychiatric disorders only, and 1.1% (n = 652) had a mother with both substance abuse and psychiatric disorders. Among children with mothers with substance abuse, psychiatric disorders or both, the risks of all categories of psychiatric diseases studied were significantly higher than in the comparison group. It was a bigger risk for the child to have a mother with both substance abuse and psychiatric disorders than either of these alone. CONCLUSION – The mother’s substance abuse and her other psychiatric disorders are significant risk factors for her children’s psychiatric development, even when the socio-economic factors are taken into account. Children of mothers with both substance abuse and psychiatric disorders are at a particularly high risk. KEYWORDS – substance abuse, psychiatric disorders, motherhood, psychiatric disorders in children, Finland

Submitted 15.06 2015 Final version accepted 21.10 2015

Introduction
Parental substance abuse and its consequences can lead to inability to perform parental duties, to provide a safe and nurturing environment, and to respond adequately to the child’s physical and emotional needs. Children exposed to maternal alcohol or drug use during pregnancy also have more problems related to cognitive and social development than other children (Autti-Rämö, 2000; Bandstra,
Morrow, Mansoor, & Accornero, 2010). Furthermore, parental mental health problems have extensive consequences for family life and the children's social adjustment as well as for mental health in childhood and in later life (Beardslee, Versage, & Gladstone, 1998; Weissman et al., 2006). Epidemiological studies confirm that children of parents with psychiatric disorders are at greater risk of psychiatric disorders than are other children. These children are more likely to exhibit general difficulties in cognitive functioning, increased guilt and interpersonal difficulties as well as problems with attachment (Beardslee et al., 1998; Dierker, Merikangas, & Szatmari, 1999; Biederman et al., 2001; Schubert & McNeil, 2003) in addition to mood and affective disorders, anxiety disorders, behavioural disorders and substance abuse disorders (Dierker et al., 1999; Biederman et al., 2001; Weissman et al., 2006; Keller & Cummings, 2008). This study aims to illuminate the connection between substance abuse and psychiatric disorders in mothers, and the psychiatric disorders in their biological children aged 0–12 years.

Current global epidemiological data consistently reports that 10–20% of children and adolescents suffer from a disabling mental illness (Belfer, 2008). If untreated, these conditions severely influence children's development, their educational attainment and potential to live fulfilling and productive lives.

Research results from different countries show that 1–13% of children have used mental health services (Zahner, Pawelkiewicz, DeFrancesco, & Adnopoulos, 1992; Leaf et al., 1996; Verhulst & van der Ende, 1997; Angold et al., 2002; Kataoka, Zhang, & Wells, 2002; Achenbach, Dumenci, & Rescorla, 2003; Cho, Kim, Cho, & Shin, 2007; Heiervang et al., 2007; Tick et al., 2008). In Finland, mental health disorders in children have increased, which cannot be explained only by better screening or diagnostics (Tamminen & Räsänen, 2004). The number of children and adolescents using psychoactive medication has also increased in all age groups from 1997 to 2007 (Autili-Rämö, Seppänen, Raitasalo, Martikainen, & Sourander, 2009). A similar development has been found in other Scandinavian countries and in Australia (Atladottir et al., 2015). One reason can be that the symptoms have increased or become worse. Also, the treatment system and practices in prescribing psychoactive medication have changed, which may be reflected in these results.

Boys seem to be biologically more vulnerable to disorders that have a neurodevelopmental component, such as autism spectrum disorders (Dworzynski, Ronald, Bolton, & Happé, 2012; Idring et al., 2012), conduct and attention deficit disorder (Seedat et al., 2009) and learning difficulties and dyslexia (Baron-Cohen et al., 2011). Girls, on average, show more rapid psychological and physical maturation and have better impulse control and capacity for empathy than boys, which may protect them from conduct disorders but also makes them more vulnerable to depression and anxiety (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000).

At the same time, with the increase in mental health problems in children, alcohol use among Finnish women has increased almost sixfold from 1968 to 2008, which indicates that the number of women consuming large amounts of alcohol has also increased (Mäkelä, Tiger-
The number of women using illicit drugs has similarly increased in recent years (Metso, Winter, & Hakkarainen, 2012). Using data from child welfare clinics, Savonlahti, Pajulo, Helenius, Korvenranta, and Piha (2004) estimate that the prevalence of substance dependency is 5.8% among mothers of 0–4-year-old children.

According to a Finnish population study (Pirkola et al., 2005), depressive disorders are the most common mental disorders (7% had symptoms during the past 12 months). Talala, Huurre, Aro, Martelin, and Präätäälä (2009) found that during the period from 1979 to 2002, self-reported depression was more prevalent in women than in men, and that in women there was a statistically significant decline in self-reported depression. The suicide rate among Finns has decreased remarkably over the past three decades, which rather indicates changes in the treatment system (Hiltunen, Partonen, Haukka, & Lönnqvist, 2009) and preventive measures (Lönnqvist et al., 1995) than changes in the prevalence of mental health problems. The suicide rate in Finland nevertheless remains high in international comparison (WHO, 2012).

A national US study on comorbidity of substance abuse and mental disorders (Regier et al., 1990) showed that slightly more than 22% of people who had received a diagnosis of a psychiatric disorder in their lifetime had a history of alcohol abuse; 15% had a history of other drug abuse; and 29% had a history of either addictive disorder. The observations on high comorbidity rates of substance abuse and mental disorders have later been confirmed by several other studies (Grant & Harford, 1995; Kessler, 2004; Merikangas et al., 1998). According to a Finnish study by Holmila, Raitasalo, and Kosola (2013), over 35% of mothers with severe substance abuse problems also had some kind of psychiatric disorder, whereas the prevalence was only 2% among mothers with no indications of substance abuse. Moreover, mothers with substance abuse were in many ways socially disadvantaged: low income, lack of education and single motherhood were common. Thus, many kinds of problems seem to accumulate in the same persons.

Raitasalo (2010) has estimated that almost 10% of underage Finnish children suffer from an excessive use of alcohol in their families. A study from Sweden showed that the proportion of children whose parent had a substance abuse disorder was 4.6% (Raninen, Elgán, Sundin, & Ramstedt, 2015). Having a parent with an alcohol abuse disorder was most common (3.7%), while 0.7% and 0.2% had a parent with a drug abuse disorder and both alcohol and drug abuse disorder, respectively. In Norway, the prevalence of children with parents with severe substance abuse has been estimated to be 2.7% and with severe psychiatric disorders, 10.4% (Torvik & Rognmo, 2011). According to population estimates in Australia, 23.3% of all children have a parent with a non-substance mental illness, 20.4% of mental health service users have dependent children and 14.4% of the community study participants report having at least one parent with a mental illness (Maybery et al., 2009). In Finland, about one in three psychiatric patients has underage children (Leijala et al., 2001).

Increased stress hormone levels have been noticed in children whose mothers have problems that affect their ability to
care (Repetti, Taylor, & Saxbe, 2008). Disorders in early attachment and problems in the immediate environment can lead to chronic stress and can be reflected in the child’s physiological and neuroendocrinological regulation as well as in deficiencies in self-regulation, social skills and expression of emotions, which in turn can lead to mental health problems. The attachment theory posits that a safe attachment style buffers the effects of high-risk environments, although insecure attachment with other risk factors is associated with the development of psychiatric disorders in children (Flaherty & Sadler, 2011). Substance abuse and psychiatric disorders in mothers are often mentioned as problems that affect the mother’s ability to take care of the child (Lovejoy, Graczyk, O’Hare, & Neuman, 2000; Suchman, McMahon, Slade, & Luthar, 2005) and the attachment style of children (Harter, 2000).

The aim of this study is to investigate whether the mother’s substance abuse, psychiatric problems and socio-economic situation are related to 1) disorders of psychological development, 2) behavioural and emotional disorders, and 3) mood disorders and neurotic, stress-related and somatoform disorders in children aged 0–12 years. The children are followed from birth in 1997 until their 12th birthday in 2009.

Material and methods
The data
The study population consisted of all children born in Finland in 1997 who had a personal identity number and who had not died before their first birthday (n=58 761) and of their biological mothers (n=58 056). At the end of the follow-up, 94 children had died. The data included 881 pairs of twins and 16 triplets. The children and their mothers were identified from the Medical Birth Register. Data came from national health care and social welfare registers, which have been shown to be reliable (Gissler & Haukka, 2004). Data linkages were achieved via the personal identity number, which is assigned to all Finnish residents at birth or upon taking up residency. Data collection and register linkages were carried out by the register keepers at the National Institute for Health and Welfare (THL), the Social Insurance Institution of Finland, and Statistics Finland. All data was anonymised before being sent to the researchers. The THL Ethical Review Board approved the study plan.

Data were derived from nine sources: 1) Medical Birth Register, 2) Inpatient Health Care Register, 3) Care Register of Social Welfare, 4) Social Assistance Register, 5) Register of Congenital Malformations, 6) Prescription Register, 7) Special Refund Entitlement Register, 8) Register of Completed Education and Degrees, and 9) Causes of Death Register.

Psychiatric disorders in children
The children’s psychiatric disorders were analysed by primary and secondary diagnoses (ICD-10) from the Care Register for Health Care1. We looked separately at three individual categories of disorders: 1)
disorders of psychological development (F80–89), 2) behavioural and emotional disorders (F90–98), and 3) mood disorders and neurotic, stress-related and somatoform disorders (F30–39 and F40–48). The diagnoses given to the children were accounted for throughout the follow-up time, from 1997 until 2009.

The class of diagnoses related to disorders of psychological development (F80–89) includes disturbances in the development of speech, language, ability to learn, motor skills and social interaction. Common to the disorders in this class is their early beginning and delays associated with the biological maturation of the central nervous system.

Behavioural and emotional disorders (F90–98) include hyperkinetic disorders (e.g. ADHD), behavioural and conduct disturbances that appear as asocial behaviour or aggressiveness, and other behavioural and emotional disorders with onset usually occurring in childhood and adolescence.

Mood disorders (F30–39) and neurotic, stress-related and somatoform disorders (F40–48) are investigated here as a combined variable, as they are often perceived together and are difficult to distinguish from each other in childhood (Kumpulainen, 2004). The first group contains disorders in which the fundamental disturbance is a change in affect or mood to depression (with or without associated anxiety) or to elation. The second group consists of disorders in which anxiety is the predominant symptom.

Maternal substance abuse
Mothers with substance abuse problems (SA) were identified using the Care Register for Health Care, the Care Register for Social Welfare, the Prescription Register, the Causes of Death Register and the Register of Congenital Malformations. Mothers were classified as having substance abuse problems if before their child’s twelfth birthday they had register entries on any primary or secondary ICD-10 diagnosis (WHO, 2010), or record of inpatient or specialised outpatient treatment related to substance abuse problems, or a register entry on purchases of medication specifically for treatment of alcohol or drug addiction (ATC groups N07BB, N07BC; WHO, 2012) or had died with a diagnosis related to alcohol or drug abuse, or their child had a diagnosis of prenatal alcohol or drug exposure (Holmilä et al., 2013). The time frame also covered the four years prior to the child’s birth, as substance abuse problems may have emerged before pregnancy and typically take a long time to develop.

Maternal psychiatric disorders
Mothers with psychiatric disorders (PD) were defined in a similar manner, by register entries on any primary or secondary ICD-10 diagnosis or record of inpatient or outpatient treatment related to schizophrenia, schizotypal and delusional disorders (F20–F29), mood disorders (F30–F39), neurotic, stress-related and somatoform disorders (F40–F48) and disorders of adult personality and behaviour (F60–F69) in the Care Register for Health Care or the Care Register for Social Welfare, or an entry of a right to higher reimbursement for medication prescribed for severe psychiatric disorders in the Special Refund Entitlement Register. The follow-up time was from the child’s birth until his/her twelfth birthday.
Table 1. Socio-demographic data of the mothers according to their substance abuse (SA) and psychiatric disorder status (PD), %

|                        | SA (n = 772) | PD (n = 1797) | SA + PD (n = 634) | No SA nor PD (n = 54 293) | P (χ²) |
|------------------------|-------------|--------------|-------------------|--------------------------|--------|
| Not living with a partner | 23          | 15           | 26                | 11                       | <.0001 |
| Long-standing financial hardship | 56          | 32           | 71                | 11                       | <.0001 |
| No education after secondary school | 33          | 18           | 39                | 10                       | <.0001 |
| Age 14–20               | 6           | 4            | 8                 | 2                        |        |
| Age 21–39               | 89          | 93           | 87                | 95                       | <.0001 |
| Age 40–49               | 4           | 4            | 5                 | 3                        |        |

Maternal socio-demographic characteristics

In order to study the impact of substance abuse or psychiatric disorders, the available indicators of other problems in the mother’s life were taken into account in the analyses. Long-standing financial hardship, education after secondary school, living with a partner and age at the time of giving birth to the child were used as socio-demographic status factors. Long-standing financial hardship was defined as having register entries in the Social Assistance Register on having received income support for more than three months per year for at least three years during the follow-up time. Information about education at the end of the follow-up time (any education after secondary school or not) was received from the Register of Completed Education and Degrees. Living with a partner at the time of giving birth to the child was acquired from the Medical Birth Register and used dichotomously. Mother’s age at the time of giving birth was also acquired from the Medical Birth Register and divided into three age categories: 14–20 years, 21–39 years and 40–49 years (Table 1).

Statistical analysis

To calculate the prevalence of children who had register entries on disorders of psychological development, behavioural and emotional disorders, and mood disorders and neurotic, stress-related and somatoform disorders, we generated simple frequency tabulations with chi-square tests in the groups of children of mothers with substance abuse only, psychiatric disorders only and both substance abuse and psychiatric disorders. Multivariate logistic regression was performed to examine the associations between outcome variables and the mothers’ substance abuse and psychiatric disorders. Odds ratios (OR) with 95% confidence intervals were calculated in order to compare the risk of the above-mentioned outcomes for children of mothers with SA only, PD only and both SA and PD. Children of mothers without SA and PD were used as the reference group. The possible connections between the mother’s SA and/or PD and the child’s outcomes resulting from an underlying factor were studied by estimating three different logistic regression models for each outcome variable. First, the model included only the mothers’ SA / PD / SA + PD as explanatory variables. As all the categories of disorders studied...
Table 2. Children’s diagnosis of psychiatric disorders according to the mother’s substance abuse (SA) and psychiatric disorder status (PD), %

|                                      | SA (n = 798) | PD (n = 1854) | SA + PD (n = 655) | No SA nor PD (n = 55 454) | P (χ2) |
|--------------------------------------|-------------|--------------|------------------|--------------------------|--------|
| F80–89 a                             | 11          | 10           | 13               | 6                        | <.0001 |
| F90–98 b                             | 15          | 12           | 20               | 5                        | <.0001 |
| F30–39 and F40–48 c                  | 5           | 6            | 8                | 2                        | <.0001 |

a Disorders of psychological development  
b Behavioural and emotional disorders  
c Mood disorders and neurotic, stress-related and somatoform disorders

were significantly more frequent among boys than among girls, we added the child’s gender to the model. Finally, the variables related to maternal socio-demographic status were added (poverty, education, living with a partner and age at the time of giving birth). Analyses were conducted using SAS 9.3 software.

Results

According to the register data of all children born in 1997, the prevalence of children with a mother with substance abuse only was 1.4% (n = 798), with a mother with psychiatric disorders only was 3.2% (n = 1854) and with a mother with both substance abuse and psychiatric disorders was 1.1% (n = 652).

Six percent of children in the study population had register entries on diagnoses related to disorders of psychological development (F80–89). The same proportion of the studied children had diagnoses on behavioural and emotional disorders (F90–98). Mood and affective disorders, or neurotic, stress-related and somatoform disorders (F30–39 / F40–48) were diagnosed for 2% of the children. Overlap of different disorders was common: of children with an F30–39 / F40–48 diagnosis, 23% also had an F80–89 diagnosis, and 45% had an F90–98 diagnosis. Similarly, of children with an F80–89 diagnosis, 30% also had an F90–98 diagnosis.

Table 2 shows that children of mothers with substance abuse and/or psychiatric disorders had higher proportions of all three categories of disorders studied than children in the comparison group. The prevalence of all disorder categories was highest among children with mothers with both substance abuse and psychiatric disorders. All the differences between groups were statistically significant (p<.0001).

Disorders of psychological development

Among children of mothers with substance abuse, psychiatric disorders or both, the risks of all categories of psychiatric disorders studied were significantly higher than in the comparison group (Table 3). The risk of disorders of psychological development (F80–89) was about 1.5-fold among children of mothers with SA, PD or SA+PD after adjusting for the child’s gender and the mother’s socio-demographic characteristics. The risk of these disorders was almost threefold among boys compared to girls. The risk was also higher among children whose mothers were not living with a partner at the time of giving birth to the child and had no education after secondary school.
Behavioural and emotional disorders
The risk of behavioural and emotional disorders (F90-98) was two- to threefold among children of mothers with SA, PD or SA+PD, and was the highest among those with SA+PD mothers (OR=2.62, 95% CI 2.13–3.23). Again, the risk was higher among boys and those with single mothers or mothers with long-standing income difficulties. The risk was also higher among children with very young mothers (Table 3).

Mood disorders and neurotic, stress-related and somatoform disorders
The pattern was similar concerning the risk of mood disorders (F30–39) and neurotic, stress-related and somatoform disorders (F40–48): the risk of these disorders was again two- to threefold in the risk groups, being the highest among those with SA+PD mothers (OR=2.96, 95% CI 2.18–4.01). Here again, the risk was higher among boys, among children with single mothers and among those with mothers with long-standing financial hardship (Table 3).

Discussion
The analyses showed that children of mothers with substance abuse more often had disorders of psychological development as well as behavioural and emotional disorders than other children. Also, the mother’s psychiatric disorders increased the child’s risk of these disorders. The risks of all categories of disorders studied were slightly higher among children whose mother had both substance abuse and psychiatric disorders than among those whose mother had only one of these. These results are in line with those of previous studies on the relationship between maternal substance abuse and mental health problems and psychiatric disorders in children (Jacob & Windle, 2000; Pulkkinen, 2006; Keller & Cummings, 2008; Pitkänen, Kokko, Lyyra, & Pulkkinen, 2008).

The merit of this study lies in the unique opportunity of looking at these risks in children on a population level through register data. It is possible to study the whole cohort, without problems of response rates. Even though not very detailed, the register data are based on evaluations and diagnoses made by professionals, which to a great extent eliminates social desirability bias.

However, there are some limitations in this study. First, using only register data does not permit one to infer the psychological processes that the children go through or the psychological mechanisms in child–parent relations, although they are crucial for acquiring a better understanding of the subject. Second, data reaches only the “iceberg” of the phenomenon often noted in literature: registers do not include data on occasional use or abuse of drugs or alcohol or on patients within primary health care (Gissler & Haukka, 2004). Thus, we do not know whether the effects of less severe substance abuse or mental health problems in parents on their children would be similar to those in this study (Christoffersen & Soothill, 2003).

As this study shows, substance abuse or mental health problems in parents can affect the child’s behavioural, emotional and cognitive development. This, in turn, further predisposes the child to substance abuse and mental health problems, also later in life. These effects may have their basis already in the behavioural patterns.
Table 3. Odds ratios with 95% confidence intervals for the children’s psychiatric disorders by the mother’s substance abuse (SA), psychiatric disorders (PD) with reference to the group of children with mothers with no substance abuse or psychiatric disorder.

|                | Model 1       | Model 2 (Model 1 + gender) | Model 3 (Model 2 + other variables) |
|----------------|---------------|----------------------------|-------------------------------------|
| **F80–F89**    |               |                            |                                     |
| SA             | 1.96 (1.56–2.46) | 1.98 (1.57–2.50)          | 1.33 (1.04–1.69)                    |
| PD             | 1.91 (1.64–2.23) | 1.91 (1.63–2.23)          | 1.56 (1.33–1.84)                    |
| SA+PD          | 2.419 (1.91–3.05) | 2.43 (1.92–3.07)          | 1.48 (1.16–1.89)                    |
| Child’s gender (ref=girl) | 2.74 (2.54–2.96) | 2.76 (2.55–2.98)          |                                     |
| Not living with a partner | 1.11 (1.00–1.24) | 1.29 (1.17–1.43)          |                                     |
| No education after secondary school | 1.95 (1.78–2.15) |                             |                                     |
| Long-standing financial hardship |                             |                             |                                     |
| Mother’s age (ref 20–39) |                             |                             |                                     |
|  <20           | 1.33 (1.04–1.69) | 1.56 (1.33–1.84)          | 1.48 (1.16–1.89)                    |
|  >=40          | 1.29 (1.17–1.43) | 1.11 (0.91–1.35)          |                                     |
| **F90–F98**    |               |                            |                                     |
| SA             | 3.28 (2.69–3.98) | 3.34 (2.74–4.06)          | 2.14 (1.73–2.63)                    |
| PD             | 2.37 (2.05–2.75) | 2.37 (2.05–2.75)          | 1.92 (1.65–2.24)                    |
| SA+PD          | 4.62 (3.81–5.61) | 4.69 (3.86–5.71)          | 2.62 (2.13–3.24)                    |
| Child’s gender (ref=girl) | 2.24 (2.08–2.41) | 2.24 (2.08–2.42)          |                                     |
| Not living with a partner | 1.43 (1.29–1.58) | 1.08 (0.97–1.20)          |                                     |
| No education after secondary school | 2.24 (2.03–2.46) |                             |                                     |
| Long-standing financial hardship |                             |                             |                                     |
| Mother’s age (ref 20–39) |                             |                             |                                     |
|  <20           | 1.23 (1.04–1.45) | 1.20 (1.01–1.44)          | 1.16 (0.95–1.41)                    |
|  >=40          | 1.16 (0.95–1.41) | 1.16 (0.95–1.41)          |                                     |
| **F30–F49**    |               |                            |                                     |
| SA             | 3.08 (2.24–4.22) | 3.08 (2.25–4.23)          | 2.21 (1.59–3.06)                    |
| PD             | 3.42 (2.79–4.20) | 3.41 (2.78–4.19)          | 2.97 (2.41–3.67)                    |
| SA+PD          | 4.77 (3.57–6.38) | 4.77 (3.56–6.37)          | 3.02 (2.21–4.12)                    |
| Child’s gender (ref=girl) | 1.44 (1.28–1.62) | 1.44 (1.28–1.62)          |                                     |
| Not living with a partner | 1.23 (1.04–1.45) | 1.23 (1.04–1.45)          |                                     |
| No education after secondary school | 1.02 (0.86–1.22) |                             |                                     |
| Long-standing financial hardship | 2.04 (1.75–2.38) |                             |                                     |
| Mother’s age (ref 20–39) |                             |                             |                                     |
|  <20           | 0.95 (0.69–1.31) | 1.35 (0.99–1.82)          |                                     |
|  >=40          | 1.35 (0.99–1.82) | 1.35 (0.99–1.82)          |                                     |

*a* Disorders of psychological development  
*b* Behavioural and emotional disorders  
*c* Mood disorders and neurotic, stress-related and somatoform disorders
of the child’s grandparents (Bailey, Hill, Oesterle, & Hawkins, 2006). However, the intergenerational inheritance of problems is mediated by factors related to the immediate living conditions in addition to the parents (Serbin & Karb, 2004). It is thus important to focus on possible buffering factors that protect the child from the adverse effects of parental substance abuse and other mental health problems. These factors can be services such as day care, child welfare clinics, school health care and child welfare services but also more informal such as friends, grandparents or other safe adult relationships, or hobbies.

Earlier studies have shown that women with co-occurring substance abuse and psychiatric disorders have problems in multiple contexts of life. For example, women with co-occurring disorders are more likely than men to be poor, complete fewer years of education, possess fewer job skills, receive public assistance, report more relatives with alcohol and drug problems, and care for more dependents (Alexander, 1996; DiNitto, Webb, & Rubin, 2002). Women with substance use disorders are also more likely than men to have mental disorders such as depression, anxiety, eating disorders and lower self-esteem and to have a history of victimisation, homelessness and to have experienced violence (Alexander, 1996; Najavits, Weiss, & Shaw, 1997). This accumulation of problems can be one explanation for the high risk of disorders of psychological development as well as behavioural and emotional disorders among children of mothers with both substance abuse and psychiatric disorders.

According to a US study, children with psychiatric symptoms of psychologically ill parents get less treatment than those with healthy parents (Weissman et al., 2006). Parental problems can thus increase the child’s risk of disorders but also his/her risk of being left without help. In Finland, children of parents with substance abuse or psychiatric disorders receive treatment relatively late, years after the first symptoms of disorders have occurred (Tamminen & Räsänen, 2004). This means that disorders in children that are possibly related to parental substance abuse or mental health problems are not treated this early (ages 0–12) and thus do not come out in registers. According to a Finnish study (Sourander, Niemelä, Santalahti, Helenius, & Piha, 2008) and also to studies from other countries (Achenbach et al., 2003; Tick et al., 2008), a large proportion of children presenting psychiatric symptoms remain outside mental health services. One explanation can be that the treatment is often adult-centred. Also, the fear that the child will be placed in custody may prevent parents from seeking help.

The treatment services for patients with substance abuse and psychiatric disorders should be developed with the aim of helping the whole family. Timely and well-realised interventions could help in finding courses of action where authorities, health care professionals and the mother herself make the best decisions together concerning the child’s life (Punamäki, Paavonen, Toikka, & Solantaus, 2013). Schools and day care centres are important not only in recognising children’s problems but also in providing support and directing parents to specialised services. Also, services for adults should take responsibility for patients’ children in order to prevent children’s problems and to build cross-secto-
reral community-based services for families with multiple needs.

Declaration of interest None.

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