Objective: Psychosocial treatments that address the unique needs of mothers with schizophrenia and their children are sorely lacking. In striving to explore and understand treatment of maternal schizophrenia, this paper focuses on two objectives: 1) to identify and examine specialty psychosocial interventions for parents, notably mothers with schizophrenia and their offspring; and, 2) to describe recommendations for the development of specialty psychosocial treatment for this population.

Methods: A systematic literature search of peer-reviewed articles was conducted in PsycINFO, MEDLINE, CINAHL, Social Work Abstracts, and Social Service Abstracts databases prior to January 1, 2010. The authors reviewed each article for psychosocial interventions treating mothers diagnosed with schizophrenia and their children. Forty-three (n=43) studies were identified.

Results: Two areas of specialized psychosocial interventions designed to treat maternal schizophrenia and their children were identified: 1) inpatient interventions programs, primarily Mother Baby Units (MBU); and, 2) outpatient interventions programs.

Conclusions: Interventions targeting mothers with schizophrenia spectrum illnesses and their children are lacking. Women with schizophrenia are at risk for not engaging in treatment due to fears of barriers and losing their children. Although scarce, inpatient MBUs offer focused treatment, but services are limited to the baby’s first year. Minimal outpatient psychosocial treatments are available to this population. Flexible treatment approaches that incorporate environmental supports, childcare resources, child welfare systems, and family involvement are highly recommended.

Key Words: Maternal Schizophrenia, Mother, Offspring, Serious Mental Illness, Psychotic Disorder, Psychosocial Treatment, Mother Baby Units, Intervention

Introduction

Schizophrenia is a chronic, serious mental illness (SMI) that has devastating consequences for millions of individuals and families (1–4). Over the past three decades, women diagnosed with schizophrenia spectrum disorders are increasingly having children (5–7), and the management and treatment of schizophrenia remains a challenge to mothers and their children. Available psychosocial treatments specifically targeting the distinct needs of this vulnerable population and their offspring remain largely nonexistent. Further, the impact of accessing and engaging services may be a discernable barrier to existing treatment for this underserved population, as mothers receiving treatment fear being judged as poor parents and may be exposed to the risk of losing custody of their children (8, 9).

The research objectives of this review are: 1) to identify and examine the specialty psychosocial interventions for parents, notably mothers, with schizophrenia and their offspring; and, 2) to describe recommendations for the development of specialty psychosocial treatment for this population.

Background and Significance

The average age of onset of schizophrenia for females ranges between 25 to 35 years (10, 11), which parallels...
Maternal Schizophrenia

the age range for childbirth (12). In the past, women with schizophrenia were less likely to marry, be sexually active, and, therefore, to have children (13, 14). Recent research, however, indicates that women with schizophrenia have the same fertility rates as women in the general population (6) and are just as likely to have children (5, 15, 16). Research also proposes that between 50 and 59% of women with a serious mental illness (SMI) are mothers (8, 17), and that 54 to 80% of mothers with schizophrenia are raising at least one of their own children (18, 19). According to Hearle and colleagues’ (1999) study, almost 40% of women with a psychotic disorder had children who were under the age of 16 years (8). In Craig and Bromet's (2004) study on parents with psychosis, over 77% of the mothers' youngest child at time of first admission was under the age of 16 years (20).

In the past, women with schizophrenia were less likely to marry, be sexually active, and, therefore, to have children. Recent research, however, indicates that women with schizophrenia have the same fertility rates as women in the general population and are just as likely to have children.

Women with a psychotic disorder are twice as likely as men to actively parent their children (20) and are less likely than fathers to have someone help them raise their children (5). Women with serious mental illnesses lose custody of their children more frequently than those without a psychiatric illness (5, 14, 15, 17, 21). Also, women with serious mental illnesses are three times more likely to have involvement with the child welfare system or experience out-of-home placement of a child (7). Additionally, 25 to 50% of offspring with a mentally ill parent are placed in institutions or foster care (20, 22). Joseph and colleagues (1999) found that only 25% of mothers with a serious mental illness had contact with their children in the past week, and only 20% maintained full custody (17). Studies report that 50% of mothers with schizophrenia will lose custody of at least one child (18, 23).

Given this evidence, it is not surprising that one-third of parents with a psychotic disorder are reluctant to seek child-care assistance for fear that their children might be taken away from them (8). Indeed, research has found that pervasive in the minds of these women is the specter of being judged unfit by child protective services and the court and having their children removed from their care (9). Thus, the real and perceived negative consequences of seeking and receiving treatment may act as a barrier to engagement in treatment and may serve to further isolate these vulnerable families.

High-risk (HR) studies is a field of research that investigates the offspring of women with schizophrenia; however, these studies have been largely limited to examining the biological transmission and development of schizophrenia in offspring of women with the disorder, rather than the availability and effectiveness of treatment for this population (24-34).

A number of maternal factors exist that influence offspring functioning and highlight the unique needs of this group that merit recognition when considering treatment aimed at supporting mothers with schizophrenia. Mothers with schizophrenia are more likely to experience greater emotional, financial and social deprivation than mothers without this condition (18, 35, 36). Low socioeconomic status (SES) of mothers has been found to be a stronger predictor of developmental problems and psychiatric disorders in children than maternal diagnosis alone (37-40). In addition, mothers with schizophrenia often have weak social support networks and provide less stability for their children, which have lasting impacts on cognitive, emotional, behavioral and social development (14, 41, 42).

The psychotic symptoms of schizophrenia may affect the mother-child relationship through a number of mechanisms including: involvement of the child in delusions, hallucinations or passivity experiences; by rendering the mother unavailable to her infant when her symptoms demand preferential treatment; behavioral disorganization; abnormal expressions of emotion; and, blunted or perplexed affects (35, 41, 43). Mothers with schizophrenia may be less responsive, sensitive or energetic, and more remote, silent, demanding, self-absorbed or intrusive with their child emotionally (36, 42, 44). Research suggests that this poor parent-child interaction results in offspring rating their mothers with schizophrenia as less caring and overprotective (45). Also, the child-rearing environment of mothers with schizophrenia has been found to be significantly poorer than with mothers with other mental illnesses or controls (32, 46).

Although not all offspring of maternal schizophrenia will experience negative outcomes (47), HR studies have identified several areas of increased risk for functional impairment. In their seminal review of HR studies, Niemi and colleagues (2003) concluded that the development of children at high risk for schizophrenia differs from that of control children; specifically in that HR children have poorer developmental outcomes (32). Offspring born to parents with serious mental disorders repeatedly perform poorer than control children in motor and sensorimotor areas of functioning during their first year of life (48), and significantly poorer in language development in their first four years (49).
Furthermore, Yoshida and colleagues (1999) found that infants of mothers with schizophrenia are more likely to have impaired cognitive development (50). Notably, HR studies indicate that children of mothers with schizophrenia have more difficulty and are slower to become friendly or open when compared with children of mothers who are not mentally ill (14, 42). Eack and colleagues (2009) noted that individuals at familial high risk for schizophrenia demonstrate significant social cognition deficits in emotion recognition, an early precursor to the development of positive symptoms of this mental illness (51). These impairments may result in mothers with schizophrenia experiencing greater difficulties in raising their children than non-mentally ill mothers (14, 52). Conversely, a good parent-child relationship, stability in the parental home, high-level involvement with a non-patient parent, good social support network in young adolescence, and high IQ have been identified in research to be protective factors for offspring of mothers with schizophrenia (24, 53, 54).

Despite the unique challenges associated with parenting that exist for mothers with schizophrenia, a large sample of child protection and mental health professions tend to believe that parents with mental illness can raise their children safely as long as they have ongoing support (55). However, inadequate services are a major problem area for this client group (55). The HR literature investigating this population does not address treatment specifically; literature that does examine interventions designed to attend to the needs of mothers with schizophrenia is sorely lacking; and this deficit of literature is reflective of the shortage of options available to this vulnerable population. Seeman's 2008 review of preventive services for women with schizophrenia describes both the lack of services and the specific need for programs to include mothers and their children (56). The remainder of this article is an examination of the findings of this body of literature.

**Methods**

Research studies were identified through a search of the electronic databases PsycINFO, MEDLINE, CINAHL, Social Work Abstracts, and Social Service Abstracts prior to January 1, 2010. Each database was independently searched for peer-reviewed published articles matching the following criteria: 1) child, children, adolescent, adult children, adult offspring, offspring, and children of parents with a mental illness (COPMI); 2) serious and persistent mental illness, serious mental illness, chronic mental illness, Psychotic Disorder, Schizophrenia, and Schizoaffective Disorder; 3) evidence-based medicine, evidence-based practice, treatment, therapeutics, intervention, and therapy; and, 4) maternal, paternal, parent, parental behavior, maternal behavior, mother, and father. The search was limited to the English language and human subjects. A total of 971 articles were located across the five databases. The research team, composed of 2 PhD level and 2 Master level clinicians, reviewed the articles for interventions treating families in which the mother was suffering from a schizophrenia spectrum disorder. Non-intervention studies, individual case studies, and articles targeting the treatment of pregnant mothers were excluded, resulting in the inclusion of 43 research studies in the review. The authors independently reviewed each article; discrepancies were resolved through discussion and consensus.

**Results**

Overall, this search highlights the disturbing lack of research that has been conducted on mothers with schizophrenia and their offspring, particularly as it pertains to interventions developed to treat this specific population. Two main areas of interventions for mothers with schizophrenia and their offspring were identified: 1) inpatient interventions programs, primarily in the form of Mother Baby Units (MBU) that serve mothers and their newborns; and, 2) outpatient interventions programs, either through family treatment programs or home treatment, focusing on mothers and their children. These studies were examined for their effectiveness at addressing maternal mental health outcomes (i.e., rates of rehospitalization, length of hospital stays, length of psychotic episodes), parenting outcomes (i.e., ability to bond with offspring; level of sensitivity and responsiveness to baby's needs), and offspring outcomes (i.e., meeting developmental milestones).

**Inpatient Intervention Programs**

Inpatient interventions centering on mothers with schizophrenia and their offspring focused solely on Mother Baby Units (MBU). No other inpatient interventions were identified. Although 59 MBU studies were identified, only 34 investigations had samples that included mothers diagnosed with a schizophrenia spectrum disorder. Five of these articles did not match review criteria and were excluded.
Maternal Schizophrenia

Two of these were reviews (41, 57), two focused on diagnostic classifications (58, 59), and another on pathoplastic factors (60).

The remaining 29 MBU studies employed a range of methodologies, but no randomized controlled trials (RCT) were identified. Five studies used a comparison group or case controls to examine the characteristics and outcomes of women admitted to MBUs (61-65) and four studies used registry or archival data (44, 66-68). Thirteen articles employed naturalistic case study methodologies to examine the characteristics and outcomes of women admitted to MBUs (36, 69-75), of which three investigations also had a follow-up assessment (43, 76, 77). Seven descriptive studies focused on unit characteristics, as well as maternal characteristics (78-84).

Mother Baby Units (MBU), also referred to as Mother Baby Psychiatric Units or Mother Baby Facilities, are specialized units established in adult or pediatric psychiatry hospital departments specifically targeted to those mothers who experience a psychotic episode severe enough to require hospital admission within the first year following giving birth. A milieu intervention first employed in 1948 (80), MBUs currently exist mainly in Europe, specifically in England, France, Belgium, Australia and New Zealand (71). The rationale for these units is that women are more likely to suffer from mental illness following childbirth than at any other time in their lives (85), and that the risk of psychotic illness is greatly increased in the first thirty days following childbirth (85, 86). In addition, research has found that mothers separated from their infants during hospitalization for a psychiatric disorder experience a longer period of illness and greater difficulty bonding with their infants than mothers jointly admitted with their infant to a specialized unit (65). Admission criteria, length of stay, and treatment philosophy vary across these units; however, all aim to provide specialized psychiatric care for women experiencing postnatal psychiatric disorders, to provide a space for their infants (up to one-year old) to promote the child’s development, and to assess the mother’s parenting skills (68, 70, 71, 73, 87).

Results from case control and comparison studies of MBUs provide some, albeit limited, evidence for their effectiveness (65). Specifically, these studies found that more than half of mothers with schizophrenia and other psychotic disorders had good outcomes at discharge in terms of developing adequate parenting behaviors (caretaking abilities) and symptoms management (65). Furthermore, most women with schizophrenia spectrum disorders indicated that they were satisfied with the services they received while on the MBU.

However, these studies also indicate that a diagnosis of schizophrenia was associated with the highest risk of poor parenting and psychiatric illness-related outcomes (61, 65). One study found that five out of seven mothers diagnosed with schizophrenia relapsed within one month of childbirth (61). Women with schizophrenia or chronic delusional disorders, personality disorders, or intellectual disability remained hospitalized longer, improved less (44, 71), and were more often separated from their babies at discharge (73, 75) or discharged with supervision (44, 71) than women admitted with other diagnoses. Furthermore, women with schizophrenia were less likely to be living with their children 4–6 years post discharge from an MBU (77). These mothers displayed more interaction deficits with their infants, specifically decreased responsivity and sensitivity, than mothers with mood disorders (43, 74, 77). In addition, these women shared other vulnerabilities, such as low social class and poor social skills (65).

Among the mothers with schizophrenia, those with positive social networks, higher socioeconomic status, and non-mentally ill partners exhibited the most positive parenting outcomes (88). Conversely, women with behavioral disturbances, low social class, a poor relationship with the partner, or a partner who also had a psychiatric illness have poorer outcomes (44). Mothers most likely to require further inpatient care were those assessed as having poor parenting skills or being more likely to self-harm or harm their infants, and those separated from their infants at discharge (65).

Similarly, findings from the seven descriptive studies indicate that mothers with schizophrenia have impaired relationships with their offspring (83) and were hospitalized sooner after the birth of their child than mothers without schizophrenia (82). Also, the greatest demand for an MBU was for young women suffering from psychosis post childbirth (82-84). Nevertheless, these studies conclude that a psychotic mother with the proper supports in place can fulfill her infant’s developmental needs and is capable of maternal competence to some extent (78).

There was only one study that examined patient satisfaction with an MBU, but it was not exclusive to women with schizophrenia. Neil et al. (2006) surveyed 41 women discharged from an MBU over the course of one year, 66% of whom had a psychotic disorder (89). The average length of stay was 41 days. Overall, findings indicated that women were highly satisfied with waiting time for admission, unit environment, facilities and equipment, multidisciplinary care, problem discussion, and partner involvement. However, half of the respondents were dissatisfied with their involvement in planning and decision making (89).

Overall, while Mother Baby Units demonstrate some positive support and help for mothers suffering from schizo-
phrenia, given that women with schizophrenia were less likely to be living with their children 4–6 years post discharge from an MBU, this treatment modality clearly does not provide sufficient support to mothers with schizophrenia to keep families intact. More long-term service options are necessary to provide continued parental assistance to these mothers.

**Outpatient Interventions Programs**

Outpatient interventions centering on parents with schizophrenia and their offspring were very limited. Only three outpatient interventions were identified that serve parents with a serious mental illness, including a subsample of parents with schizophrenia spectrum disorders and their offspring.

The first outpatient intervention program focused on family treatment for children and their parents with chronic psychiatric illnesses, including fathers with schizophrenia. According to Rosenheck and Nathan (1984), this was the first program of its kind. The study found that adults were afraid to have their children treated due to concerns of being misunderstood and harshly judged as parents; however, these parents were willing to bring their children into the VA setting where they were being treated themselves. The intent of the program was that treatment for the children would reduce stress and, thereby, positively influence the chronically ill parents (90). Also, productive participation in parenting would lessen stigma and enhance self-esteem. The provision of direct treatment services for children appeared to be a useful addition to the broad-based treatment approach, but specific details were provided. The treatment led to a reduction in the level of overall psycho-physiological stress, an improvement in medication adherence in parents, and improved functioning of the family, and further strengthened the relationship of the family with the hospital treatment team (90). Overall, this program found that treating parents along with their offspring enhanced their own family life and self-esteem and further facilitated their own treatment (90).

The second outpatient program taught parenting skills to mothers, monitored children's development, and provided early intervention as required (91). This supplemental specialty program for women offered treatment to a limited number of mothers with schizophrenia and their preschool offspring. The Mothers' and Children's Project provided transportation and 2.5 hours of programming each week. Mothers and children joined together in small groups that focused on developmental education, directed play, language development, and role modeling (91). Following a transitional break with snacks, children went to a therapeutic nursery, allowing mothers to continue in their own group therapy. The program ended with a nutritious lunch. Although engagement by mothers was a concern, with over 40% refusing admission to the program, preliminary results from the program indicate success in improving parenting skills of participants and mother-child interactions, as reported by staff, as well as enhanced treatment adherence (91). Unfortunately, the program was limited by resources and attempts by courts to use the program for custody evaluations.

There are few specialized psychosocial treatments that exist for mothers diagnosed with schizophrenia spectrum disorders, to address their unique parenting needs and provide the support necessary to allow them to keep their families intact.

The third outpatient intervention identified was a home treatment designed for mothers living with schizophrenia and their dependent offspring. Khalifeh and colleagues (2009) explored the treatment preferences and needs of mothers who were treated at home as an alternative to hospital admission (9). As part of the introduction of crisis resolution teams (CRT) in the United States, the United Kingdom, and Australia, patients in a mental health crisis were offered intensive home treatment as a substitute for admission whenever possible. Overall, mothers receiving home treatment reported satisfaction with good quality care and avoided unwanted hospital admission, but nevertheless struggled to provide adequate parenting (9). Mothers described difficulties meeting children's physical needs, feeling emotionally distant, being dependent on children during the crisis, and struggling to protect the children from exposure to symptoms or distress (9). Results indicated that mothers preferred the home treatment; however, during a crisis their children preferred parental inpatient treatment as it relieved worry. During a crisis, home treatment may meet patient's treatment needs, but children may be exposed to risks, such as parental violence, poor communication, and lack of access to professional support. Mothers recognized the child's need for support, but reported often being reluctant to seek professional help because of fear about custody loss. Consequently, Khalifeh and colleagues (2009) recommended access to alternate support from sources other than the agencies that implement child protection; that may limit the impediment of the fear of losing custody to the mothers' willingness to seek help. Nevertheless, the findings from this study pertained to a population of mothers with a variety of mental illnesses, and the results were not differentiated...

Clinical Schizophrenia & Related Psychoses  April 2012 • 31
Maternal Schizophrenia

specifically for schizophrenia. Therefore, as these findings deal with an umbrella of mental health issues, they must be viewed cautiously when creating intervention programs tailored to maternal schizophrenia.

Discussion

There are few specialized psychosocial treatments that exist for mothers diagnosed with schizophrenia spectrum disorders, to address their unique parenting needs and provide the support necessary to allow them to keep their families intact. Excluding hospital admissions of index patients during periods of crises, the only inpatient interventions serving their needs are Mother Baby Units (MBU). However, MBUs are not common in the United States and are limited to mothers with children less than one year of age. It is unfortunate, but apparent, that forming a loving attachment within a structured hospital setting such as an MBU does not necessarily result in a mother with schizophrenia being able to manage raising a child outside of hospital without a substantial network of support (78). Unfortunately, such psychosocial supports for mothers living with schizophrenia become less available and more inaccessible as their children grow older.

Outpatient interventions jointly treating parents with schizophrenia and their offspring were found to be very limited. One study that examined an outpatient family treatment service found that parents were often worried about involving their children in treatment out of fear that they would be misunderstood and harshly judged as parents (90). Families who engaged in the program found the provision of direct treatment services to be a useful addition, with reduction of overall stress, improved medication adherence, better family functioning, and a stronger relationship between the hospital and the family (90). Home treatment as an alternative to inpatient admission during a crisis appeared to meet the mothers’ own needs better, but offspring were found to remain at increased risk (9).

Identifying the existing psychosocial treatment interventions for mothers with schizophrenia and their offspring has yielded few peer-reviewed articles. MBUs provide some programming to assist this population, but do not provide service for older children or adolescents. Outpatient psychosocial services were even more limited, with only three interventions identified in the literature. Clearly identified in this review is a pronounced lack of treatment options available to this underserved and vulnerable population.

Research has clearly found that for the past three decades women with schizophrenia spectrum disorders are increasingly having children (5-7). Despite the need to clinically engage and treat these mothers and their children, there remains a paucity of psychosocial treatments for this vulnerable population. While treatment and clinical research have advanced in similar populations, such as maternal depression (92, 93), parents diagnosed with a psychotic condition remain underserved. Further exacerbating this issue are the fears and concerns that parents managing these conditions consider before engaging in treatment. Specifically, parents reaching out for treatment may lose custody of their children (8, 18, 23), and perceived barriers and limited services may further exacerbate feelings of isolation and stress for mothers managing a schizophrenia spectrum disorder (9, 55).

This review is limited by the search parameters, including the exclusion of non-English language articles. Also, the focus on peer-reviewed journals excludes any treatments or interventions that are unpublished manuscripts, or published in conference abstracts, dissertations, and book chapters. A majority of the study samples are comprised of heterogeneous groups of SMI clients, thereby limiting findings. As this review focused on mothers with schizophrenia, interventions that provide general mental health treatment without identifying participant diagnosis may have been excluded. In addition, we excluded studies depicting treatment programs for other at-risk non-identified populations, non-intervention studies, individual case studies, and articles targeting the treatment of pregnant mothers in general.

Recommendations

Mothers with schizophrenia and their offspring have distinctive needs. Current research indicates that these mothers demonstrated improved parenting skills from participation in clinical treatment with their child, including enhanced early parent-child bonding (65), and improved ability to fulfill their children’s developmental needs (78). Also, parents with schizophrenia were found to have reduced levels of stress, enhanced self-esteem, improved medication adherence, and stronger relationships with healthcare professionals through their involvement in appropriate interventions (90).

Despite the scarcity of research, the literature offers several recommendations for working with this unique and underserved population. A number of areas of intertwined clinical recommendations emerge from the literature. One area focuses on the provision of practical parenting, skills training, and the ongoing availability of services. In particular, the onset and length of treatment are essential to consider for interventions to be effective with mothers with schizophrenia and their children. Early interventions, such as MBUs that provide puerperal aftercare service that supports the ongoing bonding of mother and child, are strongly recommended in the literature (68, 77). In order to improve the relationship between mother and child, Wan and colleagues...
(2007) recommended that treatment focus on improving maternal sensitivity and involvement by teaching practical techniques to enhance maternal responsiveness, infant stimulation and mutual enjoyment (77). In addition, longer term treatment approaches beyond the first year are necessary in order to have an ongoing impact on mothers with schizophrenia and their offspring. Interestingly, research has found that mental health and child welfare professionals believe individuals with a mental illness can safely parent with ongoing support (55).

Treatment for mothers with schizophrenia may have improved outcomes in terms of parenting related skills and symptom management if they incorporate partners, support networks and environmental supports. Research recommends that treatment should include the patient’s larger support network; specifically, the women’s partner and/or coparent can positively contribute to improved maternal mental health and family outcomes (44). Also, incorporating family supports into treatment approaches may help in reducing parental distress and risks to the children, particularly for more socially isolated parents (9).

Another recommendation centers on the need to include practical and flexible components to treatment. It is recommended that treatments adopt more flexible approaches to the provision of care for—and support of—children of mothers with schizophrenia, such as easy access to nursery day care, financial support, and home child care (9, 55). In addition, Lagan (2009) argued that enhanced coordination within the healthcare system is required in an approach that is collaborative between disciplines (94). For example, Waldo and colleagues (1987) recommended the importance of specific programs for this population that augment services provided by a psychiatrist and/or mental health clinic (91).

Lastly, treatments that assist in positively bridging mothers with available services may improve access and ongoing engagement. Park and colleagues (2006) recommended the development of appropriate coordination to meet the needs of women with mental health problems who are at risk of losing their children (7). For example, mothers may need support negotiating with the child welfare system. In addition, more in-depth training for child welfare workers may help sensitize frontline professionals to the unique fears and needs of mothers with schizophrenia, enabling these underserved women to feel less judged and more able to access services during times of need. Oluwatayo and Friedman (2005) advocated for national minimum standards in allocating these services, so that the approach to assisting this population is no longer in “no man’s land” (95).

Beyond clinical recommendations, the most consistent reference in the literature is the call for more research in treating mothers with schizophrenia and their children. Existing research is also limited by the lack of longitudinal investigations that can follow the needs of mothers and their children over time, and a lack of rigorous RCT research of existing treatments.

Mothers with schizophrenia have unique needs. Further development of specialty programs and evidence-based interventions that work with this population are of great importance. Research has found that these women and their children benefit from participation in clinical treatment; lack of treatment options and fear of accessing the system are among the areas that we need to tackle to improve care for this marginalized high-risk population.

References


Clinical Schizophrenia & Related Psychoses April 2012 • 33
Maternal Schizophrenia


