The Link Between Puerperal Psychosis and Bipolar Disorder

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Abstract

This Research paper examines sixteen articles written between 1987 and 2009 about puerperal psychosis and bipolar disorder. The articles are reviewed regarding the terminology used to define and diagnose puerperal psychosis, and the assessments used to study it and link it to bipolar disorder. The articles reflect the fact that various forms of puerperal psychoses have long been a subject of study, but lack of consistent terminology and assessment tools have made both definitive diagnoses and treatments difficult to evaluate. Several of the articles support the need for standardized diagnostic and assessment tools in order to provide effective treatment for women experiencing postpartum psychiatric issues.
The Link Between Puerperal Psychosis and Bipolar Disorder

The health of women following childbirth has been studied for hundreds of years. Some of the research has focused on mental health and the link between childbirth and various affective disorders. According to Robertson, Jones, Haque, Holder, and Craddock (2005), however, the clinical value of research done on these conditions continues to be affected by ongoing debates on the two topics of terminology and nosology. Areas where consensus is lacking on the subject of terminology include definitions of postpartum or puerperal conditions, symptoms of these conditions, their rate of occurrence or incidence, and the time frames after childbirth during which psychiatric symptoms appear.

The second area of ongoing debate about puerperal psychoses concerns the subject of nosology, which refers to the appropriate medical classification for these conditions. Many researchers shared the views of Robertson, et al. (2005) and referenced the lack of consensus regarding terminology and nosology, along with the challenges these unresolved debates present for studies on puerperal psychosis (Chaudron & Pies, 2003; Jones & Craddock, 2001; Lanczik, Fritze, & Beckmann, 1990; Loudon, 1988; Pfuhlmann, Franzek, Beckmann & Stober, 1999; Platz & Kendell, 1988; Sharma, Burt & Ritchie, 2009; Videbech & Gouliaev, 1995; Welner, 1982).

The focus of this paper is to review sixteen articles written about puerperal psychosis and bipolar disorder over the past twenty years. Areas of both consensus and debate concerning the topics of terminology and nosology will be discussed, followed by information about other possible contributing factors to puerperal psychosis. Summaries of the assessment tools that have been used in the research on puerperal psychosis will also be included. The paper will conclude with information about treatment options,
views about the link between puerperal psychosis and bipolar disorder, and recommendations for future research on these conditions.

**Terminology for Postpartum Conditions**

The definitions for postpartum psychiatric conditions have changed significantly over the years, but consistency in the terminology is still lacking. Loudon (1988) reported that in the 19th century, the terms “puerperal insanity”, “puerperal mania”, and “puerperal melancholia” were used to define the three most common postpartum psychiatric conditions of psychosis, mania, and depression. The interpretations of these conditions were reportedly confusing, however, and at times puerperal insanity and puerperal mania were used interchangeably. Confusion over the terminology for postpartum psychiatric conditions has persisted, according to more current research. Chaudron & Pies (2003), for example, referenced “the widespread use of ill-defined terms” for postpartum psychiatric illnesses. This statement was followed by eight different examples, the first of which was “puerperal psychosis” (p. 1285). The coexistence of both clinical diagnoses such as major depressive disorder (Sharma, et al., 2009) along with colloquial terms such as postpartum “blues” (Welner, 1982), adds to the confusion about the terminology for postpartum conditions and impacts the clinical value of the research.

Discussions of terminology for puerperal psychoses are further complicated by differing perspectives about the categories of mental illness that correlate with these conditions. In contrast to the three categories corresponding with psychosis, mania, and depression, Lanczik, et al. (1990), for example, referenced five different diagnostic categories for postpartum mood disorders. As a result, their research findings included forms of schizoaffective disorder and schizophrenia, along with multiple variations of
both bipolar disorder and depression. References to schizoaffective disorder, schizophrenia and various forms of bipolar disorder and depression were included in the studies of other researchers as well (Chaudron & Pies, 2003; Jones & Craddock, 2001; Krener, Simmons, Hansen, & Treat, 1989; Platz & Kendell, 1988; Robertson, et al., 2005; Robling, Paykel, Dunn, Abbott, & Katona, 2000; Sharma, et al., 2009; Sit, Rothschild & Wisner, 2006; Welner, 1982). Yet, Lanczik, et al. (1990) also noted that “the concept of schizoaffective psychosis has not yet been defined with sufficient precision” (p. 225). Consensus about terms, definitions, and diagnostic categories for puerperal psychosis has not been reached, and therefore remains a challenge for interpretation of the research. Three other categories related to the terminology of puerperal psychosis where there are differing levels of consensus and ongoing debate are those of incidence, symptomatology, and time frame for the onset of symptoms.

**Incidence of Puerperal Psychosis**

Research about the incidence of puerperal psychosis initially appears to have become more congruent with time. Loudon (1988) noted that in the 19th century, estimates of “puerperal mania” in hospital practices ranged from one in 80 labors to one in 800 labors. Most of the studies that provided information about the incidence of puerperal psychosis reported that it occurs in either one or one-two of every thousand births (Chaudron & Pies, 2003; Jones & Craddock, 2001; Loudon, 1988; Pfuhlmann, et al., 1999; Robertson, et al., 2005; Sit, et al., 2006; Videbech & Gouliav, 1995). Videbech and Gouliav (1995) rated the level of incidence of one or two per every thousand births as relatively rare. They also noted the small level of incidence is another one of the challenges associated with the study of puerperal psychosis.
Although Chaudron and Pies (2003) and Jones and Craddock (2001) were among the researchers concurring about the level of incidence of puerperal psychosis being one or two per thousand births, they also referenced the statistic of “260 episodes of psychosis per 1000 deliveries among women with bipolar disorder” (p. 1287). Chaudron and Pies (2003), therefore, considered the incidence of one or two births per thousand to be a statistic for “the general population.” Sit, et al. (2006) also referenced both the rate of occurrence for puerperal psychosis at one or two births per thousand and later reported a “baseline risk” of one in 500 births, one in seven births for women with a previous episode of puerperal psychosis, and a 50% or greater risk for women with either bipolar or schizoaffective disorder.

Videbech and Gouliaev (1995) provided a third example of a study reporting an incidence level of one in 1000 births, and adding another statistic as well. Their “one in 1000” statistic referred to “first-episode psychosis within one year after delivery” (p.167). They also reported that “first –episode psychotic disease within the first month postpartum occurred in 1 case per 2000 deliveries” (p. 167). The variations in these rates of occurrence for puerperal psychosis exemplify the different factors researchers have included in their reporting, and the resulting difficulties in interpreting the research.

**Symptomatology of Puerperal Psychosis**

The symptomatology of puerperal psychosis is another subject where consensus is lacking, and there is great diversity in the reporting. Chaudron and Pies (2003), for example, stated “few studies have systematically described the puerperal psychosis presentation”(p. 1285). Welner (1982) summarized the research of the previous twenty years with the comments, “diagnoses were replaced by nonspecific terms or symptoms”
and “the record number of publications …did not provide a substantial amount of further useful information” (p. 148). Schopf and Rust (1994) expressed a similar viewpoint, and reported “postpartum psychoses remain insufficiently characterized with respect to the knowledge required for clinical practice,” and they described the symptomatology of puerperal psychosis as “quite complex” (p. 101). Sit, et al. (2006), in contrast, referenced “the classic picture of a mother with PP” (postpartum psychosis), followed by a list of symptoms (p. 353). The symptoms referenced included some terms that are not data driven, however, such as “an odd affect,” “confused,” “incompetent,” and “excessively active.” Pfuhlmann et al. (1999) also referenced symptoms that are not data driven. Examples from their research included “perplexity,” and “a kaleidoscopic picture with rapid changes in symptomatology” (p. 193).

Robertson, et al. (2005) did not specify symptoms, but rather described puerperal psychosis in more general terms as “an abrupt onset of psychiatric disturbance” (p. 258). Although Sit, et al. (2006) referenced many symptoms, they joined Robertson et al. (2005) in reporting the proximity to childbirth as “the defining characteristic” of puerperal psychosis (p. 354). Jones and Craddock (2001) did not elaborate on symptoms either, but stated that “mania” is especially common in the first two weeks after delivery. Lanczik, et al. (1990) took a different approach to symptomatology, and identified separate lists of symptoms for various postpartum psychiatric conditions.

Five studies included the mother-baby relationship in their discussion of symptomatology, and reported changed thoughts and behaviors relating to the care and perception of the infant as symptoms of puerperal psychosis (Chaudron & Pies, 2003; Loudon, 1988; Robertson, et. al., 2005; Sit, et. al., 2006; Videbech & Gouliaev, 1995).
While lists of symptoms are easy to find in the research, it is the lack of standardization about this information that leads to difficulties in interpreting the research.

**Time Frame for Symptom Onset**

Another factor to be considered in the study of puerperal psychosis is the time frame in relation to childbirth in which symptoms begin to manifest. Chaudron and Pies (2003) reported that the DSM-IV-TR has the most restrictive definition about this component, which requires that the onset of psychiatric symptoms occur within four weeks of the birth. This parameter was consistent in the reviewed articles dating from 2003 to 2009 (Chaudron & Pies, 2003; Robertson, et al., 2005; Sharma, et al., 2009). Articles written between 1987 and 2001, however, used time frames ranging from three months to two years after childbirth for the onset of symptoms of puerperal psychosis. Kendell, Chalmers and Platz (1987), Platz and Kendell (1988), and Schopf and Rust (1994), used a time frame of three months after childbirth for symptom onset. Robling, et al. (2000) used a six month time frame. In two of the research projects reviewed (Lanczik, et al., 1990; Videbech & Gouliaev, 1995), a one year time frame was used for the onset of symptoms of puerperal psychosis. Krener, et al. (1989) took a different approach, and reviewed psychiatric admissions up to two years after childbirth. Loudon (1988) gave a historical perspective on time frames for the onset of symptoms and noted that examinations of asylum case histories from the 19th century revealed that medical officers occasionally listed childbirth as the cause for psychiatric admissions, even though the birth had occurred years earlier.

Although a variety of time frames were used in research for the onset of symptoms after childbirth, the research of Kendell, et al. (1987) aligned with more
current research in reporting that the risk of psychiatric illness was extremely high in the first 30 days after childbirth. Yet the authors also cautioned that we should not “overlook the fact that the psychiatric admission rate remains significantly higher than it was before pregnancy for at least two years after childbirth” (p. 671). Videbech and Gouliiaev (1995) shared that perspective, and added that the onset of psychiatric symptoms can also vary between disorders. While the use of various time frames for the onset of psychiatric symptoms following childbirth is understandable, Chaudron and Pies (2003) commented that the expansiveness of the time period used for this variable makes comparison and interpretation of studies on the subject of puerperal psychosis more difficult.

**Nosology of Puerperal Psychosis**

The second significant area of debate in studies about puerperal psychosis is that of nosology, which refers to the medical classification of an illness. Opinions and research vary about whether this condition should be considered obstetrical or psychiatric in nature, or whether its origins should be viewed as non-specific. Loudon (1988) noted that “puerperal insanity” has “drifted away from obstetrics into the growing specialty of psychiatry” in this century, in response to the field of obstetrics becoming increasingly surgical (p. 76). Loudon (1988) also presented information on the history of the nosology debate, and specifically about a shift in thinking that occurred between the 19th and 20th centuries. Loudon reported that during the 19th century, “puerperal insanity was one of the few clearly recognized entities” in the field of psychiatry. It is then reported to have become “a victim of the Krapelinian system of nosology” (p. 76). In 1919, Emil Krapelin used the tools of clinical features, family history, and outcome to formulate his theory that schizophrenia and manic-depressive illnesses were in fact two distinct entities, and
that each originated from separate disease processes and each had different treatments (Craddock & Owen, 2005). This theory became known as the “Krapelinian dichotomy.” Although it has had many critics, the Krapelinian dichotomy has also been extremely influential in Western psychiatry for the past century. As a result of Krapelin’s influence, puerperal insanity lost its designation as a clinical entity during the 20th century, and a new debate about how to classify puerperal psychosis ensued. Loudon (1988), concluded that although the existence of puerperal psychoses is still recognized today, it now “seems to lie uncomfortably somewhere between obstetrics and psychiatry” (p. 76).

Lanczik, et al. (1990) agreed with Loudon’s negative view of Krapelin’s theory, and stated, “Attempts to further subdivide the puerperal psychoses have been impeded to date by the influence of Krapelin’s dichotomy” (p. 221). Lanczik, et al. (1990) then referenced other theories of nosology including Leonhard’s classification, which identified five different diagnostic groups of mental illness.

The view presented by Robling, et al. (2000) referenced two perspectives about puerperal illnesses as being either “distinct nosological entities” or “episodes of affective or schizophrenic psychoses, occurring coincidentally in the puerperium or precipitated by it” (p. 1263). Chaudron and Pies (2003) presented a different view, and reported that there are three “main camps” of opinions regarding puerperal psychosis (p. 1284). They identified those groups as those who consider puerperal psychosis a unique diagnostic entity, those who believe it is a form of bipolar disorder, and those who believe childbirth is a non-specific stressor that can trigger psychotic illnesses.

According to Craddock and Owen (2005), genetic research is yielding new information that may mark the end of the Krapelinian dichotomy and give new direction
to the unresolved questions about the nosology of many mental illnesses. In the meantime, differing views about the appropriate classification of puerperal psychoses remain, leaving researchers with the ongoing challenge of how to effectively design and interpret their studies of puerperal psychosis and bipolar disorder.

*Other Contributing Factors to Puerperal Psychosis*

In addition to dealing with the difficulties presented by lack of consensus about terminology and nosology, researchers studying puerperal psychosis also face the task of deciding about other possible contributing factors to the onset of puerperal psychosis. The studies reviewed for this paper exemplify the fact there are many possible variables to consider in a range of categories. Some of the potential contributing factors to puerperal psychosis that were addressed in the research were sanitary conditions of maternity wards (Lanczik, et al., 1990; Loudon, 1988), complications following childbirth (Kendell, et al., 1987; Loudon, 1988; Schopf & Rust, 1994, part III; Videbech & Gouiliaev, 1995; Welner, 1982), cultural views of pregnancy (Loudon, 1988), personal history of mental illness in the pregnant woman (Chaudron & Pies, 2003; Kendell, et al., 1987; Robertson, et al., 2005; Robling, et al., 2000; Sit, et al., 2006; Welner, 1982), family history of mental illness (Chaudron & Pies, 2003; Jones & Craddock, 2001; Kendell, et al., 1987; Platz & Kendell, 1988; Robertson, et al., 2005; Schopf & Rust, 1994; Sharma, et al., 2009; Sit, et al., 2006; Welner, 1982), pregnancy history (Kendell, et al., 1987; Lanczik, et al., 1990; Pfuhlmann, et al., 1999; Videbech & Gouiliaev, 1995), and the effect of a variety of psychosocial factors on the onset of symptoms of puerperal psychosis (Kendell, et al., 1987; Krener, et al., 1989; Schopf & Rust, 1994, part I). The subjects of sanitation, cultural views of womanhood and childbirth, family history of
mental illness and the impact of physical and psychosocial factors on puerperal psychosis will now be addressed in greater detail, as examples of the wide range of variables researchers have studied as possible contributing factors to puerperal psychosis.

Sanitation and Cultural Views of Women as Contributing Factors to Puerperal Psychosis

Lanczik, et al. (1990) discussed sanitation issues in maternity wards as a possible contributing factor to puerperal psychosis. They stated the term “postpartum psychosis” was first coined in the 19th century during a time when maternity wards were not thoroughly sanitized, making new mothers susceptible to fevers and infections that could result in symptoms corresponding to mental disorders. Lanczik, et al. (1990) concluded that improvements in sanitation led to “an impressive reduction in the frequency of organic puerperal psychoses” (p. 220). The rarity of organic postpartum psychoses in the past decades was noted by Schopf and Rust (1994, part III) as well. Loudon (1988) also commented on physical symptoms that could result in behaviors consistent with mental illness and expounded on the cultural views about womanhood and childbirth that were common in the second half of the 19th century. At that time in history, it was believed that only “savage peoples” could bear children effortlessly and return to work, and that “civilized women” could not be expected to bear the difficulties of labor without assistance and death following childbirth was to be expected. The damage from childbirth could be either physical or mental. As Loudon noted, “When such views were commonplace amongst women and doctors, it is not surprising if childbirth led to severe mental disorders” (p. 78). Although these views referenced beliefs from long ago, issues of sanitation and cultural views about women and childbirth may currently be contributing factors to diagnoses of puerperal psychosis in various parts of the world.
Family History of Mental Illness as a Contributing Factor to Puerperal Psychosis

In eight of the studies reviewed, the mother’s family mental illness history was evaluated as a possible contributing factor to puerperal psychosis. The studies that referenced this variable in their research included Chaudron and Pies, 2003; Jones and Craddock, 2001; Platz and Kendell, 1988; Robertson, et al., 2005; Schopf and Rust, 1994, parts I and III; Sharma, et al., 2009, and Sit, et al., 2006. The most current research posited that inquiries about both personal and family history of bipolar disorder should be included in a universal screening for pregnant women (Sharma, et al., 2009). Sit, et al. (2006) stated that a personal history of bipolar disorder and a family history of puerperal psychosis create substantial risks for puerperal psychosis, and they advocated for education about symptoms for both pregnant women and their families. Jones and Craddock (2001) also reported compelling evidence about a positive correlation between family history of bipolar disorder and episodes of puerperal psychosis. They qualified their remarks, however, and acknowledged the possibility that a shared environment by family members should be considered as a possible limitation on this correlation.

Chaudron and Pies (2003) addressed the variable of family history statistically, and reported the risk for psychiatric illness at 10-50% for first-degree relatives of women with puerperal psychosis. They reported this percentage is “substantially higher than comparative rates in the general population” (p.1286). Robertson, et al. (2005) were less definitive in their views about the impact of family history on puerperal psychosis, and reported that the variable of family history “may be prognostically useful” (p. 2).

Although researchers did not all show the same level of conviction about family history as a contributing factor to puerperal psychosis, none of the studies discounted
family history completely. As Kendell, et al. (1987) noted, “Almost everyone who has studied the issue has found that a previous personal history or family history of psychotic illness increases the risk of puerperal psychosis” (p. 670).

*Physical and Psychosocial Issues as Contributing Factors to Puerperal Psychosis*

Research about the impact of psychosocial factors on postpartum difficulties was another area where mixed outcomes were reported. For example, Jones and Craddock (2001) clearly stated “there is no evidence that the psychosocial context in which a delivery occurs influences the susceptibility to puerperal psychosis” (p. 7). In contrast, Krener, et al. (1989) administered a “Difficult Life Circumstances” questionnaire as part of a study at the University of California, Davis on social isolation during pregnancy, and concluded “evaluation of psychiatric symptomatology in the pregnant patient with psychiatric illness *must* take into account physical symptoms and psychosocial changes” (p.79). Kendell, et al. (1987) expressed a more moderate viewpoint that the changes in employment, financial independence, social contacts and marital relationships which often occur after childbirth “may be important stresses” (p. 671). Sit, et al. (2006) shared a similar viewpoint, and identified both “increased environmental stress” and physical symptoms such as hormone shifts, obstetrical complications, and sleep deprivation as “possible contributing factors” to the onset of psychiatric illness (p.354). Schopf and Rust (1994, part I) also referenced both physical and psychosocial variables such as having no partner, severe partnership conflicts, patients’ negative attitudes about motherhood, and death or severe malformations of the baby as stressors to be considered as contributing factors to puerperal psychosis. These varying perspectives about which physical and psychosocial factors to include in research and their relevance to the study of puerperal
psychosis exemplify the difficulties researchers face in finding conclusive evidence about this condition and the possible link to bipolar disorder. Unfortunately, the challenge of finding clear clinical outcomes in the face of inconsistencies extends beyond the areas of nosology and terminology. Lack of standardization was also found in the assessment tools used in the studies of puerperal psychosis.

Assessment Tools Used in Research on Puerperal Psychosis

Seventeen different diagnostic and assessment instruments were referenced in the articles reviewed on puerperal psychosis and bipolar disorder. These seventeen instruments were primarily used for four different purposes. The four purposes included diagnosing mental illness in the woman giving birth, gathering information about family history of mental illness, evaluating social functioning of the mother at various points in time, and evaluating recovery outcomes from psychiatric disorders in the mother.

Eight different instruments were referenced as diagnostic tools for mental illness. This number does not include updates on the same tool, such as the update from ICD-8 to ICD-9, for example. The DSM (versions III and IV) was the instrument most frequently used to diagnose mental illness, and was referenced in seven studies (Jones & Craddock, 2001; Krener, et al., 1989; Lanczik, et al., 1990; Robertson, et al., 2005; Robling, et al., 2000; Schopf and Rust, 1994, part I; Sharma, et al., 2009). Sit, et al. (2006) referenced the DSM – IV as a diagnostic tool, but then recommended The Edinburgh Postnatal Depression Scale (EPDS) and Mood Disorder Questionnaire (MDQ) as useful screening tools for depression and mania specifically. ICD-8, ICD-9, and ICD -10 were used for mental illness diagnoses by Videbech and Gouliaev (1995), Kendell, et al. (1987), and Pfuhrmann, et al. (1999), respectively. Platz and Kendell (1988) used Research
Diagnostic Criteria to determine puerperal illnesses. Leonhard’s classification was referenced in three studies as an instrument used for mental illness diagnoses (Lanzcik, et al., 1990; Pfuhlmann, et al., 1999; Schopf and Rust, 1994, part I), but it was always used in conjunction with either the DSM or the ICD. Jones and Craddock (2001) also combined diagnostic tools, and used the DSM-IV with the Schedule for Affective Disorders and Schizophrenia (SADS) or the Schedules for Clinical Assessment in Neuropsychiatry (SCAN). Robertson, et al. (2005) also used SCAN in conjunction with the DSM-IV, while Krener, et al. (1989) used the DSM-III in conjunction with both SADS and the Modified Brief Psychiatric Rating Scale (BPRS). SADS and BPRS differ in format, in that SADS is a structured interview while BPRS is a rating of the patient’s behavior, as observed by the examiner.

In the eight studies evaluating family history as a possible contributing factor to puerperal psychosis, the most commonly referenced forms of assessment were interviews and questionnaires (Jones & Craddock, 2001; Robertson, et al., 2005; Schopf & Rust, 1994; Platz & Kendell, 1988). Robertson, et al.(2005) specifically referenced the use of the Research Diagnostic Criteria for the family history interview, while Platz and Kendell (1988) incorporated SADS-L in semi-structured interviews. Chaudron and Pies (2003) noted, however, that “it is difficult to compare studies’ outcomes,” due in part to the fact that sometimes subjects were interviewed about their family history and other times relatives were interviewed about themselves. Chaudron and Pies (2003) also noted that comparison groups differed between studies. Finally, in two studies addressing family history, there is no specific explanation of how information was obtained (Kendell, et al., 1987; Welner, 1982).
A variety of assessment tools were also used to evaluate the social adjustment of the mother following childbirth. Robling, et al. (2000) used the Social Adjustment Scale (SAS), while Krener, et al. (1989) referenced a sixty-item prenatal interview similar to the existing Revised Life Events Questionnaire (LEQ). Krener et al. (1989) also used a thirty-item Difficult Life Circumstances questionnaire, which was administered during home visits and used in conjunction with a semi-structured interview.

Perhaps the most significant challenge about assessments on social adjustment is that diagnostic tools are not standardized in part because there is no consensus about which factors to include in the studies. Robling, et al. (2000), for example, referenced five-point and seven-point scales that were used to assess social adjustment in categories such as employment, marital relationships, parental roles and leisure activities, while Krener, et al. (1989) evaluated such variables as neighborhood safety, condition of the home, the mother’s feelings about pregnancy, and the amount of support she was receiving.

The long term recovery outcomes for women experiencing psychiatric illnesses was primarily evaluated through the use of rating scales. Schopf and Rust (1994, part 1) referenced classification by “four degrees of severity” for the assessment of long –term outcomes of psychopathology (p.103). Pfuhlmann, et al. (1999) used the 16-point Strauss-Carpenter Outcome Scale to evaluate long-term recovery. Mental health, social functioning, and occupational and marital status were referenced as areas of study.

Although their assessment tools for studying long-term outcomes varied significantly, most researchers reported favorable outcomes for women challenged by postpartum psychiatric disorders (Pfuhlmann, et al., 1999; Robling, et al., 2000; Sit, et al.,
2006; Welner, 1982). Robling, et al. (2000) reported their findings that “psychiatric and functional state at the end of the study and lifespan adjustment were relatively good,” with the qualification that many of the subjects studied were taking psychotropic medications (p.1267). Videbech and Gouliaev (1995), however, contrasted the reports on favorable outcomes and posited that with a high rate of recurrent puerperal and non-puerperal episodes, “the prognosis is in general rather gloomy” (p. 173). Their report contained information about both employment and medications.

*Treatments for Puerperal Psychosis*

The subject of treatments for puerperal psychosis was addressed sparingly in the research until 2005. In 1994, for example, Schopf and Rust reported that patients in their study received “therapy of various types” and that treatments applied to various diagnostic groups were not standardized (p.107 – part 1). It is possible, however, that since data in several of the earlier studies was gathered in hospitals (Kendell, et al., 1987; Lanczik, et al., 1990; Platz & Kendell, 1988; Pfuilman, et al., 1999; Robling, et al., 2000; Schopf & Rust, 1994; Videbech & Gouliaev, 1995), “hospitalization” was considered the treatment for puerperal psychosis, and further details were not reported. Whatever the reasons for the lack of specific information about treatments for puerperal psychoses in the earlier studies, more current research reported the same deficit. In 2003, for example, Chaudron and Pies reported that they knew of no established treatment guidelines for postpartum psychosis.

When treatments were discussed in the research, they were primarily referenced in the two categories of medications or pharmacology (Chaudron & Pies, 2003; Krener, et al.,1989; Robertson, et al., 2005; Robling, et al., 2000; Sharma, et al., 2009; Sit, et al.,
2006; Videbech & Gouliaev, 1995) and non-pharmacological interventions or alternative therapies (Chaudron & Pies, 2003; Krener, et al., 1989; Sharma, et al., 2009; Sit, et al., 2006). Although the subject of medications was addressed in varying amounts of detail, several researchers who discussed this topic were united in reporting that the development and health of the infant must be taken into consideration when medications are being prescribed for the mother.

Sharma, et al. (2009) specifically referenced the need for careful monitoring of the infant’s health in their discussion of medications and breastfeeding. They stated, “Treatment during lactation requires minimizing infant exposure and adverse effects while maintaining optimum maternal health” (p.1219). Chaudron and Pies (2003) and Sit, et al. (2006) also addressed the subject of medication and breastfeeding. It should be noted that the subject of breastfeeding was addressed not only in the context of pharmacology, but also with consideration being given to the issue of sleep deprivation in the nursing mother as a possible trigger for psychiatric issues.

Other pharmacological issues discussed in the research on puerperal psychosis included the mother’s history of taking psychiatric medications prior to pregnancy, during pregnancy, and after the birth of her child (Krener, et al., 1989; Sharma, et al., 2009; Sit, et al., 2006). Sit, et al. (2006) highlighted the fact that the manner in which medications are introduced or discontinued can also impact the health and stabilization of the mother.

In addition to the discussions about medications as treatment for puerperal psychoses, four studies also referenced non-pharmacological interventions as treatment options for these conditions. The references to alternative therapies were varied and
included “Social Rhythm Therapy” (Sharma, et al., 2009), “Supportive Psychotherapy” (Krener, et al., 1989; Sit, et al., 2006), and “Electro-convulsive Therapy” (Chaudron & Pies, 2003). Although these alternative therapies have not been researched enough to provide clinical evidence of their benefits, these references reflect the view that family support, parent education, and other such interventions could contribute to the management of puerperal psychosis.

The Link Between Puerperal Psychosis and Bipolar Disorder

In the face of many challenges regarding terminology, nosology, methodologies, assessments, and treatment options, several researchers concluded there is a link between puerperal psychosis and bipolar disorder. Sharma, et al. (2009) posited that puerperal psychosis “is usually a manifestation of bipolar disorder triggered by childbirth” (p. 1217). Sit, et. al. (2006) shared this view and used stronger language, reporting that “the preponderance of data suggests that PP (puerperal psychosis) is an overt presentation of bipolar after delivery” (p. 353). Three years earlier, Chaudron and Pies (2003) were somewhat less definitive, but reported that researchers have suspected a link between puerperal psychosis and bipolar disorder for a long time, but have not confirmed it. Robertson, et al. (2005) referenced the research of Chaudron & Pies (2003), and added the statistic that almost 50% of pregnant women with a lifetime diagnosis of bipolar disorder experience an episode of puerperal psychosis immediately after childbirth. Jones and Craddock (2001) reported strong evidence from clinical, outcome, and genetic studies of “a close relationship between puerperal psychosis and bipolar disorder” (p. 2). Kendell, et al.(1987) reported the results of their research “show that the risk (of
puerperal psychosis) is considerably greater after a manic depressive illness than after any other psychiatric disorder” (p. 672).

**Discussion**

Welner (1982) concluded his review of 108 articles about childbirth-related psychiatric illness with the statement that the contribution of his review was “to suggest both the lack of and reasons for the inadequate information on childbirth-related psychiatric disorders” (p. 150).

The studies that have been done on puerperal psychoses over the years clearly reflect the fact that there are many different variables to consider in understanding these conditions. Consensus about such topics as terminology, nosology, methodologies, and assessments is challenging to attain, and research outcomes are difficult to interpret as a result. Rather than criticize the lack of consensus in the studies of puerperal psychoses, it may be more useful to affirm the fact that these conditions appear to be created by a diverse number of components which can include obstetric, psychiatric, psychosocial, interpersonal, medical and genetic factors. It was also common to find that many of the topics studied in the research on puerperal psychosis and bipolar disorder brought up more questions for consideration, rather than bringing clarity or consensus.

One example of this finding was reported by Welner (1982), in his discussion of what constitutes childbirth-related psychiatric illness. Welner attempted to distinguish between women with a pre-existing psychiatric illness unrelated to pregnancy, and women whose first psychiatric illness came with childbirth. He noted these distinctions are not always clear in the research, and then outcomes are more difficult to interpret. Women can also experience a combination of puerperal and non-puerperal psychiatric
episodes during their lifetimes, which provides additional challenges for researchers. Even a basic term such as “childbirth-related psychiatric illness” can have multiple interpretations. Seven other studies (Chaudron & Pies, 2003, Jones & Craddock, 2001, Platz & Kendell, 1988, Pfuhlmann, et al., 1999, Robertson, et al., 2005, Schopf & Rust, 1994, Videbech & Gouliav, 1995) included discussions of puerperal and non-puerperal psychiatric episodes. Pfuhlmann, et al. (1999) specifically referenced the need for differentiation between patients with puerperal manifestations of psychosis and patients with previous psychiatric histories in order for meaningful results to be obtained in the research.

Another example of the challenges faced by researchers trying to understand puerperal psychoses can be found in a discussion of definitions and classifications of postpartum disorders by Chaudron and Pies (2003). They noted differences between the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM – IV-TR) and much of the European literature, in terms of how postpartum psychiatric disorders are referenced. In the European literature, they are reportedly recognized more often as discrete diagnoses, whereas the DSM –IV-TR only classified postpartum psychiatric conditions as specifiers for other mental illnesses. This difference, which may seem small, can result in varying diagnoses, which in turn make research outcomes more difficult to interpret. Thus, cultural distinctions about diagnoses can also become variables in the research on puerperal psychosis and bipolar disorder.

The studies included in this paper were conducted in the five European nations of Denmark, England, Germany, Scotland, and Switzerland. The sixth country represented in the research was The United States. There is no representation in this research from
Asian, Middle Eastern, African or Latin countries. Schopf and Rust (1994, part I) briefly discussed studies on puerperal psychosis in developing countries and noted that the literature was more cohesive about diagnoses “when studies performed in developing countries are not considered” (p. 107). They suggested that geographical differences may raise additional questions about the “relative frequency of illnesses” (p.107).

These two examples of research challenges are representative of the fact that there are many variables to consider in the study of puerperal psychoses. The assortment of articles reviewed for this paper reflects the idea that the subject of puerperal psychosis has been researched from a variety of angles. Research outcomes would likely be easier to synthesize if the articles selected were more similar in subject matter and covered a shorter time period. The variety of topics studied and the time frame of nearly 30 years could be considered limitations of this report on puerperal psychosis and bipolar disorder. Conversely, they could validate the thought that researchers have struggled to reach consensus on how best to understand postpartum conditions, and the variety of topics studied reflect this struggle.

Videbech and Gouliaev (1995) commented, “the picture puzzle of puerperal psychosis is far from solved, although small pieces of information are being gathered all the time” (p. 167). Following are three recommendations researchers have made for future studies of puerperal psychosis and bipolar disorder.

**Recommendations Regarding Patient Care and Puerperal Psychosis Research**

While researchers faced many challenges in their studies of puerperal psychosis, they also offered specific recommendations for both patient care and future studies. One recommendation made by several researchers was to start either before or during
pregnancy to educate women and families about the risks of puerperal psychosis, particularly if they already have psychiatric diagnoses or family histories of mental illness (Pfuhlmann, et al., 1999; Robertson, et al., 2005; Sharma, et al., 2009; Sit, et al., 2006). When education begins early in the pregnancy, there is more opportunity for careful monitoring of symptoms and earlier interventions if problems arise. Another benefit of education about puerperal psychosis and the known risk factors is the information can be valuable for family planning decisions. Robertson, et. al (2005) noted “many women in our sample reported that they were not made aware of the substantial risks of non-puerperal episodes of illness and made ill-informed reproductive decisions as a consequence” (p.4). Pfuhlmann, et al. (1999) and Robertson et al. (2005) commented that the goal of education about puerperal psychosis was not to deter women from having children, but rather to provide them with information to make informed family planning decisions. Pfuhlmann, et al. (1999) referenced patient and family education as “surely one of the most important tasks in managing these disorders” (p. 192).

A second recommendation expressed by researchers was that with the health of mothers and their babies at risk, studies on puerperal psychosis must continue. Chaudron and Pies (2003) listed pharmacology, epidemiologic and genetic studies to help clarify symptoms and nosology, and treatment and prevention strategies as useful subjects for future research. Jones and Craddock (2001) affirmed the value of genetic studies, and posited that “discovering the basis of the puerperal trigger will lead to major benefits in treatment and prevention of puerperal psychosis” (p. 8). Sit, et al. (2006) also made several recommendations for future research, including treatment responses, pharmacology for both mothers and infants, neurobiology, diagnosis, long-term outcomes
and studies about the effect of mental illness on interpersonal relationships between children and parents.

Follow-up studies and comparative studies with control groups were another recommendation made by several researchers, including Kendell, et al., 1987; Krener, et al., 1989; Robling, et al., 2000; Sit, et al., 2006, and Videbech and Gouliaev, 1995.

Finally, a third request jointly referenced in four of the more current studies was a call for standardization of diagnoses and assessment tools (Chaudron & Pies, 2003; Robling, et al., 2000; Sharma, et al., 2009; Sit, et al., 2006). Sharma, et al. (2009) expounded on their request for diagnostic instruments with an explanation of one of the problematic outcomes that results from this lack of standardized diagnoses and assessments. The problem addressed is the misdiagnosis of postpartum illnesses. Sharma, et al. (2009) commented, “the consequences of the misdiagnosis can be particularly serious because of delayed initiation of appropriate treatment and the inappropriate prescription of antidepressants” (p. 1217).

Hopefully, researchers will persevere in the challenging task of understanding postpartum mood disorders. Further research, patient education and support, and standardized diagnostic tools could all contribute to better illness recognition of puerperal psychosis, more effective interventions, and in the words of Sit, et al. (2006), a continued unraveling of “the mystery of this fascinating but tragic disorder” (p. 364).
References


