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REVIEW

Women's experiences with postpartum anxiety disorders: a narrative literature review

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Elena Ali

Faculty of Nursing, University of Calgary, Calgary, AB, Canada

Purpose: Postpartum anxiety disorders are common and may have significant consequences for mothers and their children. This review examines the literature on women's experiences with postpartum generalized anxiety disorder (GAD), postpartum panic disorder (PD), obsessive compulsive disorder (OCD), and posttraumatic stress disorder (PTSD).

Methods: MEDLINE (Ovid), CINAHL, PsycINFO, and reference lists were searched. Qualitative and quantitative studies assessing women's experiences with GAD, postpartum PD, OCD, and PTSD were included. Narrative approach to literature synthesis was used.

Results: Fourteen studies (among 44 articles) met the criteria for review to identify descriptions of women's cognitive, affective, and somatic experiences related to postpartum anxiety disorders. Loss, frustration, and guilt, accompanied by physical symptoms of tension, were some of the experiences identified across studies. Most women suffered from more than one anxiety disorder, in addition to postpartum depression. To date, research has focused on prevalence rates of postpartum anxiety disorders, and evidence about clinical and subclinical symptoms of postpartum anxiety disorders and outcomes on mother and child is lacking. Postpartum anxiety disorders may have negative effects on parenting and child development; however, the nature of the underlying mechanisms is unclear.

Conclusion: More robust longitudinal studies are needed to examine the impact of postpartum GAD, PD, OCD, and PTSD symptoms on the mother and the mother–child relationship to develop targets for therapeutic preventative interventions.

Keywords: postnatal anxiety, postnatal distress, childbirth, women's beliefs and attitudes

Introduction

> "I could not walk out of the bedroom with a baby, because I was utterly convinced I would drop him over the banisters […] I had very clear visions of seeing his fall".[1]

The arrival of a new baby is an exhilarating time of great changes and new responsibilities. Becoming a mother is considered to be one of the most significant and rewarding experiences.[2] For some women, however, the postpartum stage is a challenging period that is darkened by mental illness. While a certain degree of anxiety in response to becoming a new mother is normal, and even adaptive, some mothers can experience anxieties that are excessive and debilitating.[3,4]

To date, abundant research has focused on the clinical presentation, prevalence, etiology, and treatment of postpartum depression; however, fewer studies have examined postpartum anxiety disorders.[5] Anxiety during the postpartum period is common and, even at subclinical levels, has highly detrimental and long-term effects on mothers and their infants.[6] Specifically, postpartum anxiety is associated with disrupted mother–infant attachment, postpartum depression, reduced likelihood of breastfeeding,

Correspondence: Elena Ali
Owerko Centre, Third Floor - Child Development Centre Building, c/o 2500 University Drive NW, Calgary, AB, T2N 1N4, Canada
Tel +1 403 850 5442
Email alie@ucalgary.ca

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increased risk of infant abuse, delayed cognitive and social development in infants, and an increased likelihood of anxiety in children.[7–12] In this paper, I review and synthesize the literature as it relates to women's experiences with postpartum generalized anxiety disorder (GAD), postpartum panic disorder (PD), obsessive compulsive disorder (OCD), and posttraumatic stress disorder (PTSD).

Background

Given the magnitude of the effect of postpartum anxiety on a mother and her baby, it is important to better understand the complexity of this phenomenon. It is known that anxiety disorders are more common in postpartum women than in the general population, with estimates of its incidence during the first 6 months of postpartum ranging from 6.1% to 27.9%.[13–15] Unfortunately, treatment rates for postpartum anxiety are low, suggesting that more work is required to identify women who may benefit from treatment.[16] Yet, to date, there is a lack of consistent screening measures for postpartum anxiety, and there are no anxiety-specific screening instruments routinely used in the postpartum period.[17,18] A further complicating problem is the issue of comorbidity between anxiety and depression, with many symptoms being similar in both disorders.[17] Therefore, it is important to understand the specific symptoms of clinically significant postpartum anxiety in order to distinguish it from postpartum depression, as well as from transient, spontaneously remitting anxiety symptoms, so that effective interventions may be offered.

There is a paucity of descriptions of women's experiences with postpartum anxiety in the empirical literature. The majority of published studies comprise retrospective chart reviews, self-administered surveys, and structured clinical interviews, providing little information about the lived experiences of women with postpartum anxiety. Thus, a number of questions remain unanswered, including how women's experiences with postpartum anxiety may influence their choice to seek help, and what sort of help they may prefer. There is consequently a need to broaden the study of postpartum anxiety to include both qualitative and quantitative studies of women's experiences. Such information is needed to inform the development of prevention, screening, early intervention, and targeted maternal mental health treatment programs at the local and the national levels.

Methods

The purpose of this narrative review was to explore what is known about women's experiences with postpartum anxiety disorders and to determine gaps in knowledge on this topic. Given the heterogeneity of studies, I used a narrative approach to synthesizing literature about women's experiences with postpartum anxiety disorders.[21] A narrative review is a valuable approach when one is attempting to link together heterogeneous studies on the same topic to draw conclusions about a broad perspective on the topic of interest.[19,21] This type of review can help to identify gaps in a body of knowledge, generation of a hypothesis, and development of conceptual or theoretical frameworks.[20] Narrative reviews tend to be mainly descriptive, do not involve systematic review of the literature, and often focus on a subsample of studies chosen based on availability or author selection. The preparation of a narrative review can benefit from applying the methodological rigor of systematic reviews.[22] As such, to enhance the quality of this narrative review, well-defined questions and clear inclusion/exclusion criteria, along with description of the comprehensive search strategy, were included.

Three electronic databases were searched: MEDLINE (Ovid), CINAHL, and PsycINFO. Searches were set to publications from 1860 to 2016 in MEDLINE, 1982–2016 in CINAHL, and 1803–2016 in PsycINFO. These year ranges for the database searches were chosen with the aim to accumulate as much evidence as possible to summarize the findings of the research and to identify gaps in the literature. A combination and variations of the following terms, including appropriate subject headings and the Boolean operators (ie, AND, OR), were used: postpartum women, postnatal women, new mothers, postpartum care, postpartum anxiety, and postnatal anxiety. Additional publications were identified from a hand search of the reference lists of the included studies. The search limits were set to full text with abstract, English, peer-reviewed, and original research electronic journal publications.

Articles were included using the following criteria: 1) study population included postpartum mothers; 2) studies explored postpartum anxiety disorders; 3) outcomes included description of women's experiences with postpartum anxiety disorders, such as perceptions, views, beliefs, cognitions, feelings, physiological symptoms, and somatic symptoms; 4) English language; and 5) qualitative, quantitative, or mixed-method studies. Articles were excluded if 1) a study population consisted of men, children, pregnant women, or animals; 2) the focus of a study was on postpartum psychosis, postpartum depression, or prenatal anxiety; and 3) if only prevalence, incidence, and treatment for postpartum anxiety were reported, without description of women's experiences. Letters, commentaries, reviews, discussion papers, editorials, and conference proceedings were also excluded (Table 1).

Table 1 Inclusion and exclusion criteria

PICO	Question in PICO format	Inclusion criteria	Exclusion criteria
Population	Postpartum women, new mothers	Postpartum women	Men, pregnant women, children, animal studies
Intervention or exposure	Postpartum anxiety	Postpartum anxiety, GAD, PD, PTSD, OCD	Postpartum depression, postpartum psychosis, pregnancy anxiety
Outcomes	Women's experiences with postpartum anxiety	Psychological issues, experiences, perceptions, views, cognitions, feelings, physiological symptoms, somatic symptoms	Prevalence and incidence, treatment
Study type		Qualitative, quantitative, and mixed methods	Letters, commentaries, review, discussion paper, editorials, conference proceedings

Abbreviations: PICO, problem/patient/population, intervention/indicator, comparison, outcome; GAD, generalized anxiety disorder; PD, panic disorder; PTSD, posttraumatic stress disorder; OCD, obsessive compulsive disorder.

I extracted data from the included studies using a form that included study author and year; purpose, design, and setting; sample characteristics; data collection and analysis; brief results; symptoms of anxiety disorder; and limitations, among other relevant information. For a more structured approach to the assessment of the studies' quality, the Critical Appraisal Skills Program (CASP) Qualitative Research Checklist, Cohort Study Checklist, and Case–Control Study Checklist were used (Tables 2–4).[23]

Review

Study characteristics

From 795 potentially relevant papers (CINAHL: n=651, MEDLINE: n=74, and PsycINFO: n=70), I screened 749 titles/abstracts for inclusion (Figure 1). Next, a total of 44 full-text papers were evaluated, and 14 were retained for the final synthesis based on the inclusion and exclusion criteria. Among the 14 included articles, a majority were published after 1998 (n=13) and were from North America (n=9). Studies were of qualitative (n=6) and quantitative (n=8) designs (Table 5). Table 6 contains a summary of the included studies.

Across all studies, 2,407 women were surveyed or interviewed, and 274 patient records were reviewed. The settings of the studies varied, including public and private health care facilities as well as the Internet. Six studies included primiparous and multiparous women <12 months postpartum, five studies included women >12 months postpartum, and in seven studies, the timing of assessment was not specified. Some researchers examined postpartum anxiety

Table 2 CASP (2017) Qualitative Research Checklist

Study	Aims	Methods	Design	Recruitment	Data collection	Relationships	Ethics	Data analysis	Findings	Value
Ayers, 2007[44]	Yes	Yes	Yes	Yes	Yes	Cannot tell	Cannot tell	Yes	Yes	Valuable (rich descriptions, implications for future research)
Beck, 1998[33]	Yes	Yes	Yes	Yes	Yes	Cannot tell	Yes	Yes	Yes	Very valuable (study makes contribution to the existing knowledge, new areas of research identified)
Beck, 2004[43]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Very valuable (study makes contribution to the existing knowledge)
Clark et al, 2014[26]	Yes	Yes	Yes	Cannot tell	Yes	Yes	Yes	Yes	Yes	Valuable (implications for research and practice)
Coates et al, 2014[27]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Very valuable (rich descriptions make contribution to the existing knowledge)
Hignet et al, 2014[28]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Valuable (implications for research and practice)
Wardrop and Popadiuk, 2013[17]	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Somewhat valuable (identifies new areas for research and policy)

Abbreviation: CASP, Critical Appraisal Skills Program.

Table 3 CASP (2017) Cohort Study Checklist

Study	Issue	Cohort	Exposure	Outcomes	Confounders	Follow-up	Results	Precision	Application	Fit with available evidence	Implications
Affonso et al, 1988[29]	Yes	Yes	Yes	Yes	No	Cannot tell	Yes	Yes	Yes	Yes	Specific recommendations for supportive interventions for women suffering from anxiety in postpartum period
Martini et al, 2015[30]	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Need to follow-up women with prenatal anxiety into postpartum period
Miller et al, 2015[39]	Yes	Yes	Yes	Yes	Cannot tell	Yes	Yes	Yes	Yes	Yes	Many women suffer from subclinical levels of anxiety in postpartum period

Abbreviation: CASP, Critical Appraisal Skills Program.

disorders in women representative of the general population, whereas others explored it in women who were already seeking psychiatric services in a clinic setting. In summary, the heterogeneity in study time points and measures of postpartum anxiety disorders makes it challenging to draw an overall picture of the nature of postpartum anxiety. A number of different measures were used to evaluate postpartum anxiety, including semistructured interviews and several self-report scales.

Table 4 CASP (2017) Case–Control Study Checklist

Study	Issue	Method	Cases	Control	Exposure	Confounders	Results	Precision	Believe the results	Application	Fit with available evidence
Abramowitz et al, 2010[38]	Yes	Yes	Yes	No	Yes	Yes	High percentage of women reported experiencing intrusive thoughts related to their baby, various thoughts described	Yes	Yes	Yes	Yes
Arnold, 1999[36]	Yes	Yes	Yes	No	Yes	No	Description of cognitive and affective symptoms of postpartum anxiety	Yes	Yes	Yes	Yes
Brockington et al, 2006[2]	Yes	Yes	Yes	No	Yes	Cannot tell	Issue of comorbidity of various mental health disorders in the postpartum period	Yes	Yes	Yes	Yes
Wenzel et al, 2001[32]	Yes	Yes	Yes	No	Yes	No	Anxiety is a common experience for women within 4–6 months postpartum, but only a small percentage meet *DSM-IV* criteria	Yes	Yes	Yes	Yes

Abbreviations: CASP, Critical Appraisal Skills Program; *DSM-IV*, *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*.

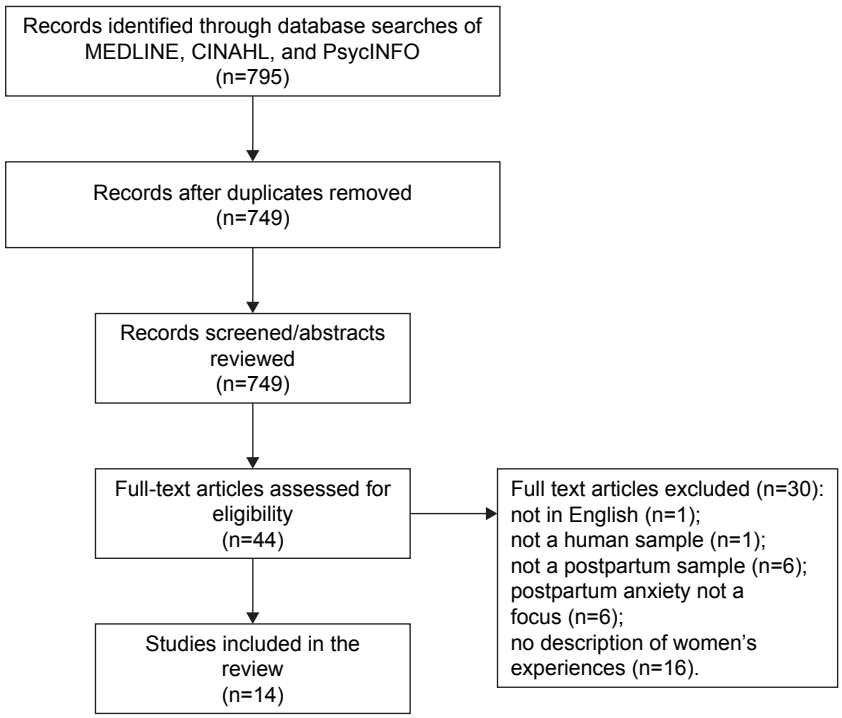

Figure 1 Flow diagram of review.

Quality appraisal

The qualitative studies were generally strong, apart from lack of consistency between stated methodology and analysis,[17] details on participant recruitment,[26] and clear descriptions of critical evaluation of researchers' bias during data collection and analyses.[33,44] In the cohort studies,[29,30,39] some additional confounding factors, such as prepregnancy and/or prenatal mental health, and demographic factors such as education level, may have been important to consider. The observational studies[2,38] provided valuable findings for both clinical and community-based populations.

Table 5 Study characteristics

Characteristics	Study (n)
Country	
United States	7
Canada	1
Australia	2
United Kingdom	3
Germany	1
Year range	
1978–1998	2
1999–2016	12
Design	
Qualitative	6
Quantitative	8
Sample	
<12 months postpartum	5
>12 months postpartum	5
Not specified	4
Data sources	
Surveys, questionnaires	9
Administrative databases, patient records	1
Focus groups	1
Letters	1
Structured interviews	2
Semistructured interviews	8

Women's experiences with postpartum anxiety disorders

I present the key findings of the review of women's experiences with the most commonly researched postpartum anxiety disorders in five content categories: experiences with GAD, experiences with PD, experiences with OCD, and experiences with PTSD. When I use the word "experiences", I refer to one's beliefs and cognitions that are held around particular events, such as "my baby cried all night". The descriptions of cognitive (perceptions and attitudes), affective (feelings and emotions), and somatic (physical) experiential aspects of postpartum anxiety disorders are presented in this review. Further, anxiety disorders are defined as conditions that "share features of excessive fear and anxiety and related behavioral disturbances" and are differentiated by close examination of the types of situations that are feared and the content of associated beliefs.[24] Each anxiety disorder has a number of relevant features that must be present to be

Table 6 Summary of included studies

Study	Year	Aim	Setting	Design	Sample and timing of measure	Data sources
Abramowitz et al[38]	2010	To delineate relationship between depressive and anxiety symptoms, with focus on obsessional thinking and behaviors	Perinatal mood disorders clinic	Descriptive, cross-sectional	60 women, 55% completed study within 0–3 months, 21% within 3–6 months, 14% within 6–9 months, and 10% within 9–12 months postpartum	Demographic survey, full assessment and history, EPDS, Postpartum Thoughts and Behaviour Checklist interview, Yale–Brown Obsessive Compulsive Scale, STAI, Patient Health Questionnaire
Affonso et al[29]	1988	To identify differences in reported stressors between primiparous and multiparous women	Obstetrical outpatient clinic	Descriptive	221 women, 84 primiparas and 137 multiparas, 6 weeks postpartum	Demographic questionnaire, structured interviews
Arnold[36]	1999	To provide demographic and phenomenological characteristics of women with postpartum onset of obsessive compulsive disorder and to evaluate pharmacological treatment	Obstetrical outpatient clinic	Case series	7 women, not specified	Structured clinical interview, semistructured interview
Ayers[44]	2007	To examine development of posttraumatic stress symptoms	Not specified	Mixed methods, comparative	Group I: 25 women with posttraumatic stress symptoms; Group II: 25 women without posttraumatic stress symptoms, 3 months postpartum	Posttraumatic Stress Symptoms Scale, the Impact of Event Scale, review of medical records, semistructured interview
Brockington et al[2]	2006	To report on diversity of psychiatric postpartum illnesses and to examine frequency and comorbidity	Not specified	Descriptive	129 new mothers, not specified	Demographic questionnaire, structured interview
Beck[33]	1998	To describe women's experiences of PD in postpartum period	Women's homes, public places	Colaizzi's phenomenology	6 women, 7 weeks to 5 years postpartum	Open-ended questions and interviews
Beck[43]	2004	To describe the essence of mothers' experiences of postpartum posttraumatic stress disorder	Via Internet and regular mail	Colaizzi's phenomenology	38 women, 6 weeks to 14 years after childbirth	Participants submitted their stories via email and regular mail
Clark et al[26]	2014	To understand how new mothers experience and manage distress	Not specified	Grounded theory	105 women in focus groups, 22 women completed interviews	General Health Questionnaire, focus group discussions, semistructured interviews, field notes
Coates et al[27]	2014	To explore how women experienced the range of emotional distress states in the first year postpartum	Women's homes or over the phone	Interpretative phenomenological analysis	17 women within first year postpartum	Semistructured interviews
Hignet et al[28]	2014	To understand women's experiences with postpartum depression and anxiety	Not specified	Grounded theory	28 women within 0–60 months postpartum	Semistructured interviews

(*Continued*)

Table 6 (*Continued*)

Study	Year	Aim	Setting	Design	Sample and timing of measure	Data sources
Martini et al[30]	2015	To examine risk factors, correlates, and course patterns of anxiety and depressive disorders during pregnancy and postpartum	Gynecological outpatient clinic	Prospective, longitudinal	274 women, postpartum assessments at 10 days and at 2, 4, and 16 months	International Diagnostic Interview, Premenstrual Symptoms Screening Tool, Social Support Questionnaire, Partnership Questionnaire, Rosenberg Self-Esteem Scale, General Self-Efficacy Scale, medical records review, demographic questionnaire
Miller et al[39]	2015	To describe prevalence of obsessive–compulsive symptoms during postpartum period	Not specified	Prospective cohort	461 women, screened at 2 weeks and 6 months postpartum	Yale–Brown Obsessive Compulsive Scale, STAI, Patient Health Questionnaire
Wardrop and Popadiuk[17]	2013	First-time mothers' experiences with postpartum anxiety	University and participants' homes	Feminist biographical approach	6 women within 6 months to 3 years postpartum	Semistructured interview
Wenzel et al[32]	2001	To investigate prevalence of panic and obsessive compulsive symptoms in a sample of postpartum women	Via telephone	Descriptive cohort	788 women, not specified	Structured clinical interview via telephone

Abbreviations: EPDS, Edinburgh Postnatal Depression Scale; PD, panic disorder; STAI, State–Trait Anxiety Inventory.

considered a clinical disorder, as well as specific duration criteria, meaning that elevated anxiety alone is not sufficient to meet diagnostic criteria.[24] Further, anxiety disorders tend to be highly comorbid.[15]

Characteristics of GAD

This anxiety disorder is a condition characterized by excessive worry that lasts for at least 6 months and is accompanied by restlessness, fatigue, poor concentration, muscle tension, and sleep disturbance.[24] The prevalence of GAD in the general population is 2.9%, with females being twice as likely as males to be affected.[25] In postpartum women, GAD may be more common than among the general population, with the prevalence ranging from 4.4% in a community-based sample of 68 women to 8.2% in a sample of 147 women at 6–8 weeks postpartum.[13,15] Wenzel et al[13] found that 19.7% of women displayed symptoms of subsyndromal GAD, meaning that although the participants fulfilled the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*)*-5* diagnostic criteria for the disorder, their symptoms did not cause significant life interference or distress. As a result, these measurements make it difficult to differentiate between normal and clinical levels of anxiety in the postpartum period and may result in the pathologizing of normal components of new motherhood. Therefore, it is possible that there could be a difference between women's lived experiences of anxiety in the postpartum period, whether those symptoms are problematic to women or a normal part of motherhood, and how those experiences are reported subject to current measurements.

Women's experiences with GAD

Women's experiences with GAD were described in four qualitative[17,26–28] and three quantitative studies.[2,29,30] Coates et al[27] undertook an interpretative phenomenological analysis of data derived from semistructured interviews with 17 women who experienced psychological difficulties in the first year after childbirth. Seven mothers disclosed a previous mental health issue. While the study was not diagnostic in nature, participants reported feeling debilitated by symptoms of anxiety. Participants expressed feelings of guilt, avoidance, distancing and were completely distressed and overwhelmed by the responsibilities of motherhood. Accessing support and help was described as difficult; however, when participants were able to speak to other women in similar situations, they found it invaluable: "not to feel like you are the only one who's completely mad having a baby".[17]

Lack of social and health practitioner support was also identified as an important factor in the experiences of anxiety among six Canadian first-time mothers.[17] From the in-depth interviews, the researchers concluded that participants felt misunderstood and alienated because their symptoms – worries, feelings of dissociations, guilt, and being overwhelmed – did not fit the dominant discourse of postpartum depression. However, the study had some methodological flaws, for example, the researchers claimed to use the feminist biographical approach but, in fact, utilized hermeneutic inquiry as the approach to data collection and analysis. Data were generated by onetime only narrative interviews, and the analysis included a very procedural method of coding data, which is not compatible with Heideggerian hermeneutic inquiry.[17] In another study of 28 Australian mothers, the researchers applied the grounded theory approach to analyzing participants' responses from semistructured interviews and described the experience of postpartum anxiety as "loss" and "frustration".[28] The symptoms of anxiety, although distinct, were often not sufficiently differentiated by health care providers and women themselves from the symptoms of postpartum depression, causing participants greater confusion and apprehension.[28] The participants who had given birth within the past 5 years and self-reported as having experienced postpartum anxiety, felt restless, unable to make decisions, fatigued, angry, overwhelmed, and had difficulty sleeping. The women experienced excessive worries that focused on baby's well-being, feelings of disconnect, and agoraphobia (avoidance of social situations). Similar to Coates et al[27] and Wardrop and Popadiuk,[17] the researchers suggested that a significant discrepancy between women's expectations and beliefs and their actual experiences of motherhood may have facilitated the development of feelings of anxiety.[28] While the aforementioned studies included mostly white, middle class, educated women, postpartum distress appears to manifest similarly in South Asian mothers, who suffer from gender-based, economic, and social disadvantages in their home country. In a grounded theory study, researchers conducted focus groups and individual interviews with 105 women in rural Nepal and applied a grounded theory approach to conceptualize postpartum anxiety as "tension".[26] Postpartum anxiety was described in terms of physical symptoms such as disturbed sleep, palpitations, body aches, fatigue, numbness, and tingling, and cognitive symptoms such as poor concentration, inability to make decisions, self-blame, and suicidal thoughts.[26] However, because the researchers used focus groups to collect data, a possible limitation of their findings was the possibility of social desirability in participants' responses.

In these qualitative studies, the researchers provided information about what women themselves considered impairing in their postpartum experiences. Symptoms focused on infant safety and well-being, infant care, and the perceived inability to meet the social ideal of a perfect mother, along with somatic symptoms of fatigue, insomnia, and restlessness were prominent. The desire to share feelings in groups and on a one-to- one basis was universal. However, the results of these studies may be limited due to the participants being self-selected and, in all but one study,[26] being mostly white, employed before having a baby, well-educated, and in long-term relationships. Further studies on women of different ethnicities and relationship status would be beneficial to expand on the findings. The studies were not diagnostic in nature; therefore, no differentiating diagnoses could be made between postpartum anxiety and postpartum depression. Specifically, the participants may not have been suitable for informing this particular research, as it is unclear whether they had experiences with the phenomenon under investigation. Moreover, because in all of the studies, the data were collected at one time point only, the findings could lead to inclusion of women whose emotional distress was transient and would dissipate over time on its own. It is common for new mothers to experience anxiety as they adjust to the many physical, emotional, and psychological demands of motherhood.[31]

Brockington et al[2] noted that the focus of maternal worry is often limited to the topics of motherhood and the baby; thus, some women, despite being significantly distressed, may not meet existing criteria for an anxiety disorder. In this study of 129 mothers, recruited from an obstetrical psychiatric clinic, postpartum anxiety was diagnosed by structured clinical interview, wherein the frequency of anxiety "themes" were noted and rated, and the degree of anxiety was assessed on a five-point scale (none, mild, moderate, severe, and incapacitating). The interviews were conducted by various research assistants, and the interview probes did not include a detailed exploration of individual symptoms, as required by *DSM-IV*. Anxiety was found to be moderate in 56 mothers (43%) and severe in 18 (14%), with the most frequent themes being fear of baby's death (32%), fear of criticism from others (19%) – which was associated with emotional distancing from the infant ($p<0.001$); and fear of lack of support from partner (16%).[2] However, because this study was conducted in highly selected participants who were receiving psychiatric treatment, it makes it difficult to draw conclusions and generalize its results about anxiety to the community-based postpartum population.

In a prospective-longitudinal study of 274 German mothers, researchers used the Composite International Diagnostic Interview for Women (CIDI-V) to assess anxiety disorders throughout pregnancy and at 10 days, as well as at 2, 4, and 16 months postpartum.[30] The strongest predictor for postpartum anxiety was prepregnancy anxiety (95% CI [2.99, 10.26], $p<0.001$), and 58 women were identified as being affected by postpartum anxiety.[30] The participants reported worries about health of the baby, worries about work and school performance, worries about breastfeeding, and worries about life in general. Interestingly, women with a history of GAD prior to pregnancy reported a shift in their feared situations, such as unspecific fears about the health of family members shifting to more specific fears about health of the baby.[30] While the sample size in this study was small, the variable pattern of anxiety suggests that postpartum anxiety is complex, and different trajectories of anxiety from prepregnancy to postpartum may be expected.

Affonso et al[29] investigated the possible effect of parity on postpartum anxiety in a study of 84 primiparous (35.8%) and 137 multiparous (64.2%) women at 6 weeks postpartum. The researchers used structured interviews, analyzed data by categorizing responses, and calculating means for frequency and intensity of responses. The most frequently reported and intensely rated categories of responses for both groups were concerns over the health of the baby, with multiparas reporting a higher degree of stress related to social situations (ie, reactions of friends and strangers to new baby, decreased socialization) as compared to primiparas ($p=0.001$). The researchers highlighted the need to tailor postpartum care to meet the needs of multiparous women.[29] However, the sample consisted of more multiparas, and the *p*-values were based on the calculation of mean scores of participants' responses, which may not provide information about specific, individual responses. Moreover, because the findings were correlational, a direct cause-and-effect relationship between parity and anxiety could not be established.

To conclude this section on GAD, it seems logical that the postpartum period would be a time of risk for development of GAD, as women may be overwhelmed by new responsibilities, roles, and multiple demands. While the studies were limited by small sample sizes and a lack of diagnostic tools, the findings suggest that there may be a large number of women who experience a significant amount of nervousness and worry associated with caring for their infant. Without doubt, there is a need to determine whether GAD has unique characteristics and onset in new mothers.

Characteristics of PD

PD is characterized by sudden and recurrent panic attacks, with symptoms typically including shortness of breath, palpitations, chest pain, dizziness, and fear of dying.[24] The prevalence rates of PD in the general population range from 1.5% to 3.5%.[24] The postpartum period represents a time of great risk for the worsening of panic symptoms in women with preexisting PD, as well as for women without a previous history.[13]

Women's experiences with postpartum PD

Wenzel et al[32] reported that 11% (n=87) of their community-based sample of 788 women who were between 4 and 7 months postpartum reported having a panic attack in the previous month, although only 1.5% (n=12) were diagnosed with PD by using a standard clinical interview for *DSM-IV*. All participants had at least moderate symptoms of depression.[32] The most commonly reported panic symptoms did not appear to be different from PD in the general population and included palpitations, sweating, trembling, feeling as they were going to die, and choking.[32] Although this study had a prospective design and was generalizable to postpartum women in the community, the panic symptoms were assessed cross-sectionally; thus, the presence of symptoms prior to 4 months and after 7 months postpartum, as well as the longitudinal course of these symptoms, is unclear.

In a descriptive phenomenological study of six women, who experienced their initial onset of PD during the postpartum period, symptoms of panic were interpreted in the context of their postpartum state.[33] Participants reported feeling unable to leave their homes to take their children to groups and activities and being worried about the long-term impact of their PD and the resulting isolation of their children.[33] The women endured distressing symptoms, such as chest pain, palpitations, shortness of breath, dizziness, tightening of throat, blurry vision, amplified sounds, and tingling in extremities: "like somebody injected Coca-Cola into my veins",[33] in addition to heart-wrenching guilt and disappointment with themselves. Four out of six women were diagnosed with postpartum depression, and all women were diagnosed with PD; further, five out of six mothers were taking prescribed medication for their conditions. Mothers may be misdiagnosed with postpartum depression, when in fact they are suffering from the postpartum onset of PD.[33] Women who met diagnostic criteria for postpartum depression indicated that the panic attacks they experienced were harder to bear than depressed mood.[34] More research is needed to gain and place, within the postpartum context, descriptions of

women's experiences with new onset of PD and to understand what impact this disorder may have on the quality of life of the new mothers and their infants.

Characteristics of OCD

This disorder is characterized by intrusive images or thoughts (obsessions) as well as repetitive behaviors or thought patterns (compulsions). Usually, obsessions are anxiety provoking, and compulsions are aimed at temporarily reducing anxiety.[24] The perinatal period is a time of high risk for the onset of OCD.[35] It has been reported that obsessions in perinatal women often include intrusive thoughts of intentionally or accidentally harming the baby.[36] Mothers suffering from OCD may feel embarrassed about these thoughts and disinclined to discuss their symptoms with care providers, thus making misdiagnosis common.[37] Yet, it is important to note that thoughts about harming the baby, at a subclinical level, may also be a normal feature of new parenthood and may cause the parent to be vigilant in protecting the baby from potential harm.[38] Thus, the boundaries between adaptive, subclinical symptoms, and a functionally impairing disorder are often difficult to define.[39]

Women's experiences with postpartum OCD

Arnold[36] described new onset of OCD in seven postpartum women with a previous history of other psychiatric disorders. All of the participants reported aggressive obsessions that involved their babies. While none of the women acted on their obsessions to harm the infants, five out of seven women reported to modify their behavior around their babies, resulting in an inability or refusal to care for them.[36] Some women showed avoidance, others exhibited excessive involvement: one woman took her baby for frequent health checkups, and another did not allow anyone to hold her infant because of fear of something bad happening to the baby: "I wish he [baby] was back in my belly".[36]

However, in a sample of 47 postpartum women with symptoms of both OCD and depression, the thought content excluded infant harm.[32] In contrast, participants often endorsed compulsive cleaning and checking behaviors, without aggressive urges to harm the infant. The researchers found that compulsive hand washing or cleaning behavior was attributed to concern that the infant would be exposed to germs. The study did not include a structured tool to probe thoughts about infant harm. Furthermore, data collection was conducted over the phone, and as a result, participants may not have felt comfortable reporting these thoughts, especially if they were not directly asked about them.

In another prospective cohort study from the USA, researchers also suggested that comorbid depression is common among postpartum women with syndromal and subsyndromal OCD.[39] Out of 461 new mothers who were self-screened for OCD, anxiety, and depression, 52 (11%) screened positive for OCD at 2 weeks postpartum, and an additional 22 (5.4%) developed new OCD at 6 months postpartum.[39] Furthermore, depression and anxiety scores were higher in women who screened negative for OCD with subclinical symptoms compared to women without OCD symptoms ($p<0.001$ for both), and higher in OCD-positive women compared to women with subclinical OCD symptoms ($p<0.001$ for both).[39] Furthermore, 173 women, who screened negative for OCD, also experienced some obsessions and compulsions. In this OCD-negative group, the prevalence of specific obsessions and compulsions was similar between 2 weeks and 6 months postpartum, with concerns about dirt and germs being the most common obsession, and checking about not making a mistake being the most common compulsion. The study findings may be limited by the use of self-reported screens for OCD, anxiety, and depression that were not confirmed with clinical diagnostic interview. Abramowitz et al[38] used self-reported instruments to delineate the relationship among depression, anxiety, and OCD in 60 postpartum women seeking treatment in an obstetrical mood disorder clinic. The participants were referred to the clinic at various points during the first 12 months postpartum. The researchers concluded that severity of OCD symptoms was moderately related to both depressive and anxious symptoms, with 23 women exhibiting clinically significant levels of OCD.[38] While the researchers reported that the mean score for all participants who completed the screen for depression was 14.6 (cutoff score of $\geq$11 being a positive screen), it was unclear how many participants had a clinically significant level of depression. In women with OCD, the most prevalent obsessive thoughts included fears of sudden infant death syndrome (SIDS) (57%), infant being harmed by germs or poison (32%), and slapping or shaking the infant (15%).

The participants reported the following neutralizing strategies in response to their obsessions: frequent checking on the infant, trying to rationalize thought, and obtaining social support and prayer, with avoidance of the infant being fairly rare (10%). While the findings indicate the need to assess for both depressive and anxiety symptoms in the postpartum period, the researchers acknowledged several limitations in this study: the participants were patients at an obstetrical

psychiatric clinic and may have been at higher-than-average risk for psychiatric disorders; anxiety was not measured by a structured diagnostic tool; and participants were recruited at various points during their first-year postpartum.[38]

Characteristics of PTSD

This anxiety disorder was initially described in American soldiers who served in the Vietnam War.[40] It is characterized by exposure to a traumatic event that a person deems could result in serious injury or death, and it is accompanied by intense fear or helplessness.[24] The two most common features of childbirth that can make it potentially traumatizing for some women are extreme pain and a sense of loss of control.[41] The *DSM-5*[24] does not identify childbirth as an example of a traumatic event that could result in PTSD, and many health care professionals may not recognize the signs of psychological and emotional trauma during childbirth due to their perception that birth trauma is a physical injury.[42] Yet, as Beck[43] eloquently argued, "the birth trauma lies in the eye of the beholder", implying that birth trauma is what women themselves perceive to be traumatic during their childbirth experience.

Women's experiences with PTSD

Two qualitative reports suggest that childbirth can qualify as a traumatic event that results in PTSD in some women.[43,44] Ayers[44] used thematic analysis to explore how thoughts and emotions about childbirth differed between women with PTSD (n=25) and women without PTSD symptoms (n=25) at 3 months postpartum. Study participants were selected from a sample recruited for the purposes of a larger longitudinal quantitative study and were matched for obstetric events, age, and parity. Compared to women without PTSD symptoms, women who screened positive for PTSD on a self-report scale reported more panic, anger, thoughts of death, mental defeat, and dissociation during birth, as well as painful and intrusive memories during the postpartum stage.[44] Participants in the PTSD group actively avoided situations that would remind them of birth, for example, watching a woman giving birth on television, entering a hospital, or breastfeeding. While it is difficult to be certain about causality in this study due to its qualitative design, the researcher concluded that women may be more likely to develop PTSD if their childbirth experience included panic, thoughts of death, and dissociation.[44]

Furthermore, in a phenomenological study of 38 women, whose time since childbirth ranged from 6 weeks to 14 years, childbirth experience was also perceived as traumatic.[43] All of the women had complicated childbirth experiences, and the diagnosis of PTSD was made by mothers' self-report that the disorder was identified by a health care professional. Perceived lack of communication and support by labor and delivery staff also contributed to participants' appraisal of a traumatic childbirth.[43] Specifically, one woman recounted as follows: "the hospital staff discussed my baby's possible death in front of me just as if I weren't there".[43] Participants felt trapped in their vivid memories of traumatic birth and described their symptoms as terrifyingly realistic nightmares, anger, anxiety, depression, dissociation, numbness, and suicidal thoughts. Traumatic childbirth experiences prompted four women to avoid future childbearing; several women abstained from sexual activities with their partners because intercourse resulted in flashbacks of pain and distress during labor. Several participants avoided their infants, sometimes for several years, as the baby was a stimulus for reexperiencing the traumatic delivery; some women avoided other mothers and babies, which resulted in increased maternal isolation.[43] While women's accounts in both studies are compelling, the results are limited by reliance on self-report to measure PTSD, as well as by the cross-sectional description of symptoms.

Discussion

The aim of this article is to review the literature on women's experiences with postpartum anxiety. The review is limited by the quality of the available research evidence. First, few studies have examined women's experiences with postpartum anxiety disorders as defined by established diagnostic criteria, and the measures used to assess anxiety varied from study to study. For example, in the case of PTSD, no distinction was made between appraising a birth as being traumatic and clinically meeting the *DSM-5* criteria for diagnosis for PTSD. Second, there was a lack of prospective longitudinal studies that determined precise times within the postpartum period when the risk of onset of anxiety is highest. No clear pattern emerged regarding the trajectory of symptoms of anxiety disorders during the postpartum period. Third, several studies were conducted in psychiatric clinic settings with participants receiving interventions for their anxiety disorder.[2,36,38] Thus, the studies were not conducted specifically to assess postpartum anxiety in a community sample representative of all childbearing women. Last, most of the studies were conducted with married, white, middle-income, well-educated participants, therefore, the findings of this review may not reflect the experiences of postpartum anxiety disorders in

other groups of women who differ in socioeconomic/ethnic status and raise their children without a partner. In spite of these limitations, the research indicates that anxiety disorders are common during the postpartum period. However, universal assessment for anxiety disorders has not been implemented as a routine part of postpartum care.[11] It may be important to include effective assessment instruments for anxiety disorders in postpartum care, as well as to educate health care providers to address these psychological issues either at a primary care level or through timely referral to obstetrical mental health professionals. Raising public awareness about postpartum anxiety disorders is also beneficial, so that new mothers can seek appropriate help should they develop symptoms of anxiety during postpartum period.

Furthermore, while the available evidence suggests that clinical symptoms of postpartum anxiety disorder may have important implications for the mother–infant relationship,[2,33,36,43] the nature of these disruptions (ie, the relationship between severity of maternal distress and infant development) remains underinvestigated. Future longitudinal studies with rigorous screening and diagnostic methods are needed to examine the symptoms of GAD, PD, OCD, and PTSD throughout the postpartum period, as well as their effect on social functioning of the new mother and the relationship between mother and her baby.

Conclusion

In this paper, I conducted a narrative review of the available literature on women's experiences with postpartum GAD, PD, OCD, and PTSD. The findings suggest that all postpartum anxiety disorders may have a detrimental effect on the mother and her family. Many mothers had more than one anxiety disorder, which were often also accompanied by postpartum depression. Most research so far focused on the prevalence rates of postpartum anxiety disorders, and evidence about clinical and subclinical symptomatology of postpartum anxiety disorders and their impact on mother–baby relationship is limited.

Large, prospective, longitudinal studies of women from various socioeconomic and ethnic backgrounds, which examine the nature, risk factors, trajectory, and consequences of clinically diagnosed anxiety disorders, are essential for the effective recognition and treatment of postpartum anxiety.

Disclosure

The author reports no conflicts of interest in this work.

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