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### Stressful Life Events and Postpartum Depression

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## **Stressful Life Events and Postpartum Depression**

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### Abstract

**Background:** Postpartum depression is a common mood disorder experienced by new parents. A history of stressful life events is a known risk factor for the development of depression. Research exploring the number of stressful life events a partner has experienced to their significant other and the development of postpartum depression is limited.

**Objective:** To determine if mothers diagnosed with postpartum depression have a history of more stressful life events than their partners.

**Rationale:** To encourage screening of expecting and new parents for a history of stressful life events in the clinical setting to aid in the identification of clients at an increased risk for postpartum depression.

**Methods:** A secondary analysis was completed on data obtained from a study of 12 couples, who responded to two self-report screening tools. The Life Stressor Checklist-Revised and Edinburgh Perinatal/Postnatal Depression Scale were utilized. Descriptive statistics and comparative analysis were used to understand the participants' scores on each instrument.

**Results:** The mothers had a history of more stressful life events than their significant others. The mothers' postpartum depression was being managed well with treatment. Fathers experienced depressive symptoms at similar rates of severity as the mothers during the time the study was conducted.

**Conclusion:** Our findings endorse a family-centered style of maternal and newborn care. A history of stressful life events affects the transition to parenthood and can raise the risk of developing depression in parents during the postpartum period. Screening both partners for a history of stressful life events and depressive symptoms may assist in prompt identification and diagnosis of postpartum depression.

## Stressful Life Events and Postpartum Depression

### Introduction

Depression is a mental health disorder that is a common complication of childbirth (Henry et al., 2016). Depression during the postpartum period is known as postpartum depression (PPD). Current models of depression support a biopsychosocial understanding of the causes and symptomatology of this disorder. As such, models of depression infer that previous life experiences can influence the development of depression (American College of Obstetricians and Gynecologists, 2019; Nemade, 2020). In current obstetric practice, it is recommended for mothers and birthing people to be screened for mental well-being during perinatal and postpartum care visits, however, reviewing clients' history of stressful life events (SLEs) or assessing their partners' emotional well-being is not a standard of care (American College of Obstetricians and Gynecologists, 2019).

### Depression

Depression is a prevalent mood disorder characterized by emotional and physical manifestations. Symptoms of depressive disorders can include recurring feelings of sadness and/or anxiety, irritability, fatigue, withdrawal from loved ones and activities that used to bring pleasure, inability to feel happiness, forgetfulness, sleep pattern disturbances, weight changes, and overall difficulty with completing activities of daily living (ADLs) (Henry et al., 2016; Centers for Disease Control, 2020). There are many types of depressive disorders recognized by the DSM-5, the diagnostic manual for mental disorders, with differences in severity, timing, and particular features, however, they universally share many of the symptoms listed above (Henry et al., 2016). Treatment for depressive disorders is dependent on the cause and acuteness. Care plans often consist of antidepressant medications such as selective serotonin reuptake inhibitors

(SSRIs), tricyclic antidepressants (TCAs), monoamine oxidase inhibitors (MAOIs), or atypical antidepressants, in addition to psychotherapy. Inpatient treatment may be required during the acute phase of depression, which is when symptoms are the most severe, if suicidal ideation or other critical symptoms are present (Henry et al., 2016).

### **Risk Factors for Depression**

Many factors increase someone's risk of developing a depressive disorder, including a family history of depression, being female, neurotransmitter deficiencies, SLEs, physical illness, and lack of social support. For this reason, a biopsychosocial model of depression is widely recognized (Henry et al., 2016; Centers for Disease Control, 2020; Nemade; 2021; Coryell, 2020, 2021). A biopsychosocial model of disease processes describes that conditions develop because of the interconnections between biological, psychological, and social factors. Therefore, physical and mental illnesses can result from the influences that these elements have on one another (Nemade, 2021; Coryell, 2020).

A history of SLEs or traumatic experiences, in particular, has a strong correlation with the development of depressive disorders (Henry, et al., 2016; Stewart & Vigod, 2016). SLEs are events that occur in someone's life that are undesirable, unplanned, trigger stress, and can be traumatic and/or life-changing (US Department of Veteran Affairs, 2020). SLEs include incidents, such as being in a natural disaster, growing up with divorced parents, losing a loved one unexpectedly, and experiencing emotional or physical abuse. These events are known to impact an individual's mental health. The more events someone has experienced and the greater they perceive that the events affect them, the more significant the risk of a new mental health disorder developing (US Department of Veteran Affairs, 2020; Mukherjee et al., 2017).

Another significant risk factor for depression is gender and sex. Females between the ages of 15 and 40 years old are twice as likely as their male counterparts to become clinically depressed (Henry et al., 2016). Research has shown that this substantial contrast in prevalence is not simply due to different genetic compositions but also social factors. Social constructs of gender cause women to disproportionately live in poverty and be victims of violence (Maji, 2018; Salk et al., 2017). Both of these circumstances qualify as SLEs and raise the risk of becoming clinically depressed (US Department of Veteran Affairs, 2020). Additionally, women commonly mask emotions that are not acceptable in society as “feminine,” such as anger. Emotional suppression is associated with mental illness development (Maji, 2018). Lastly, the inability to fulfill societal roles like motherhood or marriage can cause women anxiety and stress, plus distort their self-image (Maji, 2018). Women may also feel a need to uphold their image in these expected roles or fear for their safety if they cannot. They may hide their sadness or displeasure with motherhood and/or their relationships, increasing their probability of becoming depressed (Salk et al, 2017; Maji, 2018).

### **Postpartum Depression**

PPD is defined as depression that develops within one year of childbirth and commonly requires professional intervention to treat. PPD occurs in 10 to 15% of mothers or birthing people (Henry et al., 2016) and about 10% of their partners (Cameron et al., 2016). Signs and symptoms include persistent feelings of sadness and inadequacy, difficulty completing ADLs, anxiety, guilt, suicidal thoughts, and more (Henry et al., 2016). Maternal and paternal PPD has effects on the entire family unit. PPD is associated with decreased infant-parent bonding (Qobadi et al., 2016), less involved parenting (Netsi et al., 2018), developmental concerns for the child (Mihelic et al., 2018; Paulson et al., 2016), and relationship distress between partners

(Stadtlander, 2015). Risk factors for PPD are similar to other depressive disorders though the condition is more specifically related to the changes of becoming a new parent (Henry et al., 2016). The transition to parenthood in the early postpartum period is a challenging time for new parents and is considered a stressor for many. Mothers and fathers experience many lifestyle alterations, including within their role, sleep, and finances (Mihelic et al., 2018). Depending on an individual's ability to cope with these adjustments the risk of developing PPD is affected. Additionally, if one parent suffers from PPD their partner is at an increased risk (Paulson et al., 2016). Treatment for PPD includes antidepressant medications and/or talk therapy, like other depressive disorders (Henry et al., 2016; American College of Obstetricians and Gynecologists, 2019). These interventions are suitable for maternal and paternal PPD alike, for consistently low levels of antidepressant medications have been found in breastmilk (American College of Obstetricians and Gynecologists, 2019). The risk for maternal and paternal PPD due to SLEs and the effects of one partner's experience with PPD on their significant other has been well studied, however, little research has been conducted comparing the number of SLEs a partner has experienced to the other and the development of PPD.

### **Aim**

Due to the prevalence of PPD among new parents and the negative long-term effects the disorder can have on individuals, families, and children, early diagnosis and interventions are needed for the successful management and treatment of PPD. Therefore, developing a deeper understanding of the risk factors for PPD and specifically comparing the risks for mothers or birthing people to their partners' to promote more successful screenings and interventions for both parents is essential (Netsi et al., 2018; Mihelic et al., 2018; Paulson et al., 2016). This study aimed to determine if mothers diagnosed with PPD had a history of more SLEs than their

partners. The purpose of this research was to investigate if the screening of both parents prenatally for a history of SLEs would be beneficial for determining an increased risk for PPD. The goal was to bring awareness to the need for more focused PPD risk assessments of both expecting partners in obstetric care to encourage continued interventions to promote timely diagnosis and treatment of PPD in new parents.

## **Methods**

### **Design and Participants**

The datasets utilized in this secondary analysis were obtained from a qualitative study conducted by Dr. Alyssa O'Brien that concluded in 2015. The original study was qualitative, the two measures utilized in this secondary analysis were collected to provide context to this interpretive phenomenological study. Twelve couples from a large metropolitan area in the western United States were selected for the study. Subjects were recruited through the use of online and community advertisements. The sample was composed of mothers/birthing people and their partners. All of the couples were in committed relationships and living with one another. Though same-sex couples were not excluded from the study, no same-sex partners enrolled. Inclusion criteria required mothers to have a professional PPD diagnosis at least three months before but no more than three years prior to their enrollment in the study. The diagnosis had to be after the birth of their first child. Additionally, all mothers and their children had to be in good health following the birth and at the time of the study. Participants were required to be at least 18 years of age and English speaking. Mothers who experienced medically complicated pregnancies were excluded from this study. All potential participants were screened for current physical and mental well-being before enrollment. Those with a history of bipolar or schizoaffective disorder were not included (O'Brien et al., 2019).

### **Data Collection/Measurements**

The *Life Stressor Checklist-Revised* (LSC-R) is a self-report tool used to identify SLEs someone has experienced in their lifetime. The tool is designed for use by both women and men. The original LSC was created to detect post-traumatic stress disorder (PTSD) in soldiers. The LSC-R is an adapted version meant to address events more applicable to women and laypeople (US Department of Veteran Affairs, 2020). The survey covers 28 possible stressful or traumatic life events including but not limited to natural disasters, car accidents, physical and psychological abuse, sexual assault, poverty, and the sudden death of a loved one. Two additional questions are posed at the end of the survey to write in any events not included in the list. Respondents are asked to record if they have experienced the specific event reviewed in each question. If they respond “yes,” the subject is then prompted to enter their age when the event took place, if they were afraid of themselves or another being harmed or killed during the event, their feelings during the event, and on a scale of 1-5 (1 indicating not at all and 5 specifying extremely) how much the event affected them in the past year (US Department of Veteran Affairs, 2020). To calculate a total, three options for scoring the LSC-R are used. In this study, two of the methods were utilized. Option one includes adding up each life stressor endorsed by the participant to assign a life stressor score anywhere between 0 and 30, strictly based on the number SLEs the person has experienced. Option two looks at the events more in-depth and assigns a weight based on how much an event has impacted an individual in the past year, for scores ranging from 0-150 based on the sum of 1-5 scores on part “e” for each question. All participants completed an LSC-R for a total of 24 scales.

The *Edinburgh Postnatal Depression Scale* (EPDS) is a self-report scale comprising 10-statements to identify symptoms of PPD. Though originally intended to detect PPD in

expectant and new mothers, it has now been used in research to identify PPD in fathers as well (Paulson et al., 2016). The scale heavily focuses on the mental manifestations of PPD rather than physical signs because of the many somatic symptoms of depression already associated with being a new parent; for example, fatigue and disturbed sleep patterns (Cox et al., 1987; Paulson et al., 2016; Henry et al., 2016). The statements in the EPDS address the ability to laugh and experience pleasure, feelings of anxiety, fear, and sadness, and thoughts of self-harm. To complete the EPDS the respondent checks off one of four possible answers for how they felt within the previous seven days regarding the statement presented. The answers can range from “most of the time” to “never.” Answers are scored based on severity from 0-3, with 3 indicating the frequent occurrence of negative feelings or lack of positive feelings and 0 suggesting little to no incidence of negative feelings and persistent positive feelings dependent on the statement. The scores are then added together for a total. A score above 12 indicates the need for a professional evaluation due to a high possibility of diagnosable depression (Cox et al., 1987). All 24 participants completed the EPDS at the beginning of the study and the end for a total of 48 scales.

To interpret the results of this study, Joan Patterson’s theoretical framework of *Family Adjustment and Adaptation Response* (FAAR) was referenced. The FAAR model is used to analyze and operationalize family stress and coping. It suggests that stressful circumstances impact the family system. The model demonstrates how families use their resources and coping mechanisms to maintain balance and deal with stressors and strains to avoid crisis, however, when resources and coping mechanisms are limited due to unresolved previous stressors imbalance is more likely to happen and result in crisis. Crisis causes disruption and disorganization within the family unit, making everyday functions difficult. Therefore based on

the FAAR model, it can be assumed that if a parent has experienced SLEs that continue to impact them at the time of pregnancy and birth, they will be at an increased risk of experiencing emotional difficulties like anxiety and depression while transitioning to parenthood.

Additionally, their partner may also struggle due to their significant other's heightened stress (Patterson, 1988).

### **Analysis**

Descriptive statistics and comparative analysis were utilized to examine the sample. All analyses were performed using Microsoft Excel 2019 version 16.0 and Stata version 16.0. The measures completed by participants were reconciled with the databases to ensure accuracy. The number of SLEs endorsed by each participant, along with how many SLEs they had marked as affecting them within the year before the study, were recorded. The mothers' and fathers' average scores were compared. Additionally, EPDS average results by gender were examined and the severity of symptoms was noted. Members of the research team discussed the analysis of the data on many occasions as the research was going on to investigate the relationship of the findings to the initial study and existing literature. Frequent check-ins were incorporated to ensure the validity of the results. Multiple correlational analyses were run in an attempt to determine any statistically significant connections between PPD and other factors reviewed in this study..

## **Results**

### **Participant Characteristics/Enrollment**

The small sample size was composed of 12 couples for a total of 24 participants. The subjects were primarily born in the United States and were of European descent. Additionally, the subjects were highly educated; about half of the participants held graduate or professional

degrees. The subjects were all in long-term committed relationships. On average, the couples had high monthly incomes as well. All the mothers included in the study had a diagnosis of PPD within six to twelve weeks postpartum and still felt that they were dealing with PPD when the study was conducted. All the mothers had professional treatment for PPD consisting of talk therapy, medication, or both. Some of the fathers in the sample were also in counseling and two had diagnosed episodes of depression. The children of all the couples spent most days at home with their parents or another care provider. None of the sample's children attended day-care or school full-time. Two of the mothers were pregnant with their second children during the study, while another two couples already had two children. During the time of the study, all the participants lived as nuclear families. Participant demographics can be viewed in Table 1.

**Table 1. Participant Demographic Information**

<b>Demographics</b>	<b>Average</b>	<b>SD +/-</b>
Participant Age (Years)	35.1	5.47
Years of Education	14.1	2.37
Length of Relationship (Years)	7.6	4.43
Monthly Household Income	8,650	6,315
Number of Weeks Postpartum at Time of Maternal PPD Diagnosis	8.8	2.21
Months Postpartum at Time of Enrollment in Study	18.3	9.69

### Key Findings

Key findings of this study included that the mothers on average experienced more SLEs than the fathers. The mothers' mean number of SLEs was 5.4 events while their partners' was 3.2 with a standard deviation (SD) of 3.4 and 2.9, respectively. The weight of the events endorsed by the participants produced an average of 11.1 points total for each woman and 5.7 for each man. A greater SD was noted with the option two (weighted events) scoring method. A SD of 8.5 was seen amongst the mothers and 7.5 between the fathers. The LSC-R results are displayed in Table 2.

**Table 2. Life Stress Checklist Revised Average Scores**

	Total Events	SD+/-	Weighted Event Scores	SD+/-
Mothers	5.4	3.4	11.1	8.5
Fathers	3.2	2.9	5.7	7.5

### Secondary Findings

Secondary findings of this research include the EPDS results. The data showed that the mothers and fathers on average scored within the same ranges of risk for PPD. For this study cutoff scores were defined as low risk for 8 and under, moderate risk was indicated as 9-11, and high risk include values of 12 and above. Nine female and nine male participants scored as low risk, two mothers and two fathers scored within medium risk, and one woman and one man scored as high risk on the EPDS tool. The EPDS averages by gender and level of risk are shown in Table 3.

**Table 3. Edinburgh Perinatal/Postnatal Depression Scale Average Levels of Risk**

	Low Risk	Medium Risk	High Risk
Mothers	9	2	1
Fathers	9	2	1

### Discussion

In this small pilot study, it was determined that amongst the participants the mothers on average experienced more SLEs than their partners, consistent with the hypothesis of this study. This finding relates to previous research that indicates women are at an increased risk of experiencing SLEs compared to men due to disproportional rates of poverty, violence, and sex-specific SLEs like abortion and miscarriage (Salk et al., 2017). Additionally, the LSC-R results showed that the mothers appraised events more heavily than the fathers as having affected their lives in the past year at the time of the study. The results emphasize the lasting impact of SLEs events on the mothers and confirm the added stressors they had experienced during the transition to parenthood. Current literature shows that SLEs impact people's mental health and positively correlate with the development of anxiety and depressive disorders, supporting the findings in this study (APA, 2013; Hassanzadeh, 2017). Studies have additionally seen a greater risk of PPD in mothers who have experienced more SLEs and in people in general who have been diagnosed with psychological disorders (Hassanzadeh, 2017; Ward, 2016; Mukherjee, 2017). The mothers, on average, had been 10 months post-diagnosis of their PPD and had been in treatment consisting of medication and/or talk therapy when the original study was completed. The findings in this study, therefore, also suggest that the mothers were managing their PPD

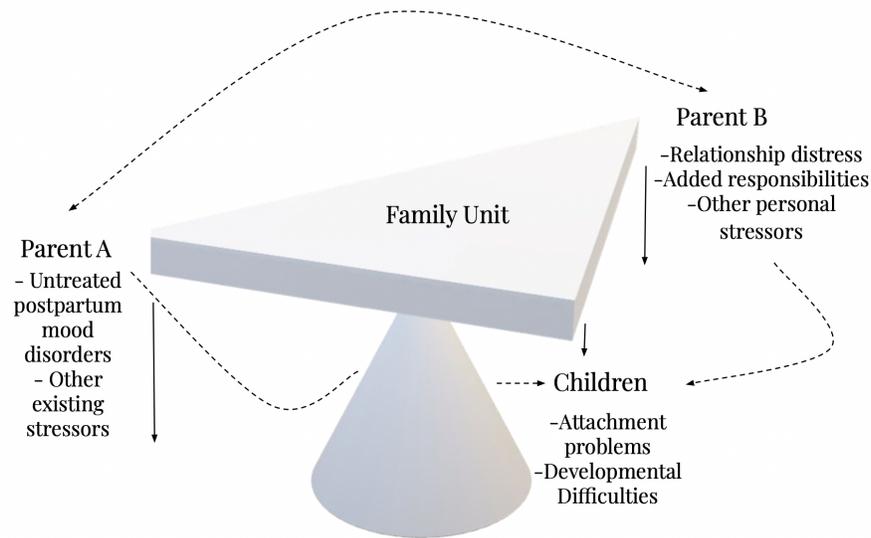
symptoms well, for their scores were lower than would be expected of someone newly diagnosed and severely struggling with depression.

The secondary aim of this study produced interesting results. The strikingly similar EPDS average scores between the mothers and fathers indicated that the partners were experiencing some depressive symptoms on average at the time the initial study was conducted. This discovery is backed by many studies that point out higher rates of stress and PPD in fathers whose partners have PPD and the common occurrence of paternal symptoms strengthening after their partners' PPD is managed (Stadtlander, 2015; Cameron, 2016; Paulson; 2016). It is important to emphasize this occurrence because it endorses the need for fathers and partners of birthing people to be assessed for postpartum depressive symptoms.

The results of this secondary analysis support a multidimensional or biopsychosocial theory of depression due to the increased number of SLEs experienced by the mothers, their diagnoses of PPD, and the fathers' depressive symptoms (Nemade, 2020). This study suggests that previous life experiences have an impact on the development of postpartum depressive symptoms in new parents in addition to the adjustment to parenthood being a precipitating factor. Existing evidence about PPD and SLEs shows that women experience higher rates of PTSD, anxiety, and perceived impact after experiencing traumatic events, corresponding with the LSC-R results (Van den Berg, 2017). Men, however, can also feel long-term effects from SLEs, influencing the development of mental health disorders, including paternal PPD (Van den Berg, 2017; Stone et al., 2015). The findings of this study demonstrate the social factors affecting the development of PPD.

The LSCR and EPDS findings relate to Patterson's FAAR model for they emphasize how previous stressors alter a person's ability to manage change and new stressors and the effect the

health of an individual has on the entire family system. Those who have experienced trauma but have dealt with it have less of a risk of facing a crisis than people still feeling the impact of previous traumas (Patterson, 1988). As seen through the results, all the mothers were still appraising at least some of the SLEs they had experienced as continuing to affect them within one year of the study and many of the fathers did as well. It can be inferred through reference to the FAAR model and other literature that the mothers' previous stressors impacted their ability to process and deal with the transition to parenthood, influencing their development of PPD (Patterson, 1988). Additionally, the fathers' history of SLEs can be assumed to have had a similar effect. Research showing maternal PPD being a major risk factor for paternal PPD (Paulson et al., 2016) and the EPDS findings of this study are also supported and explained by the FAAR model (Patterson, 1988). Figure one illustrates the researcher's preliminary understanding based on this pilot data of the interconnections between parents' management of stressors during the postpartum period and the effects each partner has on the functioning of each other and the entire family unit.

**Figure 1. Impact of PPD and other Stressors on the Family Unit**

*Note.* When one partner's stressors are unmanaged the other partner takes on unmet needs for themselves and the family, causing an imbalance in the lives of the individual members, including the children, as well as the entire family unit. This model emphasizes the importance of diagnosis and management of postpartum mood disorders like PPD so that appropriate treatment interventions can be implemented for balance of the family system to be maintained.

### **Recommendations**

A family-centered style of maternal and newborn care is supported by these results. Actively involving the partner of a birthing person in prenatal and postpartum care and assessments improves the birthing experience for both partners and increases preparation for parenthood (Katz, 2017). The significance of this study in practice is its support for the screening of SLEs and PPD of both mothers and their partners antenatally to determine increased risk for PPD. The measurement tools used in this study would be appropriate for these interventions in a clinical setting. The EPDS is already standardly used in obstetric care for birthing people (American College of Obstetricians and Gynecologists, 2015) and it has been proven to be

successful at recognizing PPD symptoms in men as well (Paulson et al., 2016). Additionally, the LSC-R covers a wide range of SLEs known to impact people's mental health and allows respondents to indicate if and how the SLEs continue to play a role in their daily lives. The LSC-R also includes a write-in section for individuals to note any events not mentioned on the list or to discuss any events that have happened to someone close to them and have affected them. These elements of the checklist provide a comprehensive review of social stressors.

### **Strengths and Limitations**

Strengths of this secondary analysis include the additional background knowledge that was available about the sample group from the results of the qualitative interpretative phenomenological study on which this study was based. Details about two of the fathers who had been in treatment for depression in addition to the mothers being treated for PPD were known from the interviews conducted during the original study. Frequent discussions about the data and analysis among the research team members also validated the conclusions of this study. Limitations of the study include the small sample size, demographics of the participants, and the use of self-report scales. Only 24 subjects participated in the study, increasing the difficulty of finding correlations between the investigated factors. The participants were also mainly of Western European descent, well educated, and had a high level of income, limiting the generalizability of these results. No same-sex couples or non-binary people participated in the study. Moreover, all the mothers were in treatment for their PPD, so the EPDS scores were not at their peak values. It is important to recognize that due to these limitations couples from other geographical areas and of varying socioeconomic backgrounds may produce different results. Lastly, the LSC-R and the EPDS are self-report measures that can produce unreliable results because of self-report bias due to factors such as recall and social desirability (Althubaiti, 2016).

**Future Directions**

This research should be seen as a pilot study for future larger-scale studies about mothers' and birthing people's experiences with SLEs in comparison to their partners. In addition, research investigating birthing people's partners' risk for PPD in association with their significant others' risk factors should be conducted. The ultimate goal is to gather evidence to influence policy development to improve the rate at which expecting and new parents are screened for risk factors for PPD in the clinical setting.

**Conclusion**

PPD is a prevalent mood disorder experienced by new parents that affects individuals and the functioning of the family system. A history of SLEs and the significant lifestyle change of becoming a parent are key risk factors for the development of PPD. In the clinical setting, birthing people are screened for PPD symptoms during obstetric care appointments, although in-depth evaluations are not standard among all practices. Additionally, it is not routine for patients' partners' mental well-being to be assessed. Our findings highlight a history of SLEs in mothers diagnosed with PPD and fathers who have depressive symptoms. This study supports screening birthing people and their partners for a history of SLEs and depressive symptoms.

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