

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem



Shivaughn Hem-Lee-Forsyth¹, Josane Gabriel², N'Diera Viechweg³, Min-Hong Lee⁴, Sehee Kim⁵, Feimatta Sowa⁶, Kelsea Baaney⁷

^{1,2,3,4,5,6,7}Department of Public Health and Preventive Medicine, St. George's University, Grenada, West Indies

ABSTRACT: Euphoric moods characterize the postpartum period, but for many mothers, regardless of economic, social, ethnic, or cultural backgrounds, this period is overshadowed by the negative impact of physical and mental fatigue. This study conducted a comprehensive search across multiple databases, including PubMed, ScienceDirect, and Google Scholar, to gather articles reporting associations between various factors and postpartum fatigue. The findings revealed that cultural and social expectations of motherhood, sleep disturbance, partnering, socio-economic disadvantage, pre-existing mental illness, and labor experiences significantly contributed to postpartum fatigue. At the same time, routine exercise and social support systems served as protective factors. By addressing these factors promptly, healthcare providers can enhance the well-being and quality of life of postpartum women and their infants.

KEYWORDS: Pregnancy, postpartum, burnout, anxiety, depression

INTRODUCTION

Fatigue, a subjective phenomenon unrelated to specific illnesses and relieved by adequate rest, encompasses biological, psychosocial, and behavioral components. Fatigue is characterized by decreased physical or mental ability to carry out daily activities and reduced quality of life [1]. The postpartum period presents unique challenges for mothers, placing them at risk for fatigue and feelings of decreased personal accomplishment. Common manifestations among postpartum women include persistent lack of energy, difficulty concentrating, sleep deprivation, attention deficits, and reduced mental and physical capacity for activity. Postpartum fatigue affects women of all ages, races, and sociocultural backgrounds. A study conducted in the United States of America that utilized questionnaires to assess fatigue found that 83% of women reported symptoms of fatigue at 4 to 6 weeks postpartum [2]. Various factors, such as sleep disturbances, cultural expectations, pre-existing mental illness, exercise availability, support networks, financial strain, and social status, have been found to influence the development of postpartum fatigue.

Postpartum fatigue often leads to psychopathological consequences. These adverse effects include an increased risk of postpartum depression, cognitive impairment, disrupted sleep patterns, breastfeeding difficulties, decreased productivity, and impaired infant development. Simultaneously, mothers may experience self-doubt, guilt, and depressed mood due to their perceived inability to provide optimal care for their infants. Despite its common occurrence, the reality of maternal fatigue is frequently dismissed as inconsequential, leaving the affected individual to suffer silently. The responsibilities of caring for a newborn, coupled with daily life activities, present significant adjustments, and unique challenges, particularly if the mom is expecting perfectionism in all domains. Therefore, it is crucial to establish additional support mechanisms to address the needs of this population. Further, more research should be conducted to identify preventive measures and develop targeted interventions to assist those most susceptible to postpartum fatigue.

METHODS

Unsystematic searches were conducted to gather data for this study. PubMed, Google Scholar, and Science Direct databases were utilized to source the supporting articles. The search terms employed encompassed various aspects such as: (Postpartum fatigue) (Postpartum Burnout) (Sleep and postpartum fatigue) (Socio-economic factors and postpartum fatigue) (Social support and

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

postpartum fatigue) (Labor experience and postpartum fatigue) (Exercise and postpartum fatigue) (Pre-existing mental illness and postpartum fatigue) (Cultural motherhood expectations and postpartum fatigue) (Societal expectations of motherhood and postpartum fatigue) ((Postpartum fatigue) AND (Influencing factors)) ((Postpartum fatigue) AND (Preventative factors)) ((Postpartum fatigue) AND (Influencing and preventative factors)).

The chosen articles underwent a thorough critical review process, considering factors like publication date and article type. Preference was given to cohort studies, meta-analyses, and systematic reviews. Selected articles primarily explored the associations between various protective factors and postpartum fatigue, as well as the influencing factors contributing to postpartum fatigue. To maintain relevancy, outdated, non-English articles discussing postpartum fatigue complications were excluded from the analysis.

Influencing factors

1. *Cultural and Societal Expectations of Motherhood*

The concept of a good mother varies across cultures and societies. Regardless of this variation, motherhood can often be associated with a negative self-image and intensive mothering. The expectations of mothers regarding their role in a child's development, the workplace, and the home contribute to stereotypes and create additional pressures, leading to burnout and increased stress [3]. These expectations reinforce persisting gender roles and often push women to strive for perfectionism, which can be detrimental to their own mental and physical health and that of their children [4]. As society evolves, it is crucial to have positive discussions about common misconceptions and unrealistic expectations of motherhood and its diverse range of experiences.

Intensive mothering is an ideology that expects mothers to prioritize children's needs above their own, regardless of personal circumstances [3-4]. This ideology perpetuates the notion that sacrifice is necessary to be considered a good mother. The effects of intensive mothering extend beyond its followers, as it indirectly pressures all mothers to strive for perfection. This ideology is deeply entrenched in movies, advertisements, and magazines, making it unavoidable [4]. While there has been progress in media representations of motherhood becoming more inclusive and diverse [5], discussions centered around the "right" way to raise children still impose strain on mothers, compelling them to conform to societal expectations.

The belief that motherhood is innate and natural leads to guilt and shame in women who experience unhappiness in their roles. When personal expectations do not align with societal expectations, this discrepancy contributes to feelings of depression [6]. Depression, in turn, contributes to postpartum burnout, characterized by a decreased interest in daily life and self-esteem. Mothers with low self-esteem are more susceptible to increased burnout as they tend to internalize criticism from others more intensely [7]. These mothers may already harbor doubts about their character and, consequently, their ability to fulfill their maternal role, ultimately leading to a negative self-image. A study among American mothers revealed that those with lower education levels experienced heightened anxiety and guilt in meeting societal [4].

Meeussen & Van Laar (2018) explored the connection between working mothers, their career aspirations, and burnout in a study focused on mothers in the United Kingdom and the United States. The research revealed that the impact of intensive mothering on career ambitions varied depending on the level of pressure experienced by the women involved [3]. The ideology of intensive mothering can motivate women to strive for their goals, driven by the desire to provide their children with the best opportunities available. However, the boundary between this pursuit and overexertion is delicate, as challenges in achieving a work-family balance can intensify burnout [3]. This study had several limitations, such as the specific geo-cultural contexts in which it was conducted and, therefore, its transferability to other settings. Further, it was conducted through online surveys, which may introduce biases due to participants' self-selection and limited internet access [8]. Therefore, the findings of this study cannot be applied to all working mothers; nevertheless, attempting to juggle work, relationships, and childcare simultaneously can contribute to burnout.

Mothers have consistently expressed how the repetitive nature of domestic tasks contributes to fatigue [9]. The perpetuation of traditional gender stereotypes regarding women's roles in the domestic sphere further compounds stress as mothers strive to balance personal relationships, work, childcare, and daily chores. In today's era dominated by social media, many users often present their lives as mothers with a seemingly perfect balance, leading to unfavorable comparisons among mothers engaging with content. Coyne et al. (2017, p. 7) state that "higher levels of social comparisons to other parents on SNS [social network services] were related to more role overload and lower levels of perceived parental competence." The portrayal of seamless experiences of motherhood by social media influencers and celebrities pressures mothers to conform to these unrealistic standards, consequently fostering feelings of inadequacy.

Experiences with postpartum burnout and the influence of societal expectations cannot be generalized across cultures and societies due to variations in family dynamics, postpartum care practices, and individual characteristics. Existing studies

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

predominantly focus on Western Societies and participants who are primarily Caucasian, underscoring the need for more diverse samples to understand how societal expectations impact postpartum burnout among different ethnicities. For example, in Indian families, raising a child is seen as a collaborative effort involving multiple family members and friends [11]. Such a perspective differs significantly from Western norms, where mothers are expected to assume their child's primary caretaker and influencer role. In such contexts, burnout experiences related to societal factors may be more influenced by judgments from friends and family rather than the ideology of intensive mothering or negative self-image. Further research is needed to bridge the knowledge gap regarding the experiences of postpartum mothers from diverse cultural backgrounds and the correlation with societal expectations of burnout.

2. Sleep Disturbance

Adequate sleep is crucial for postpartum women's physical and psychological well-being as they adapt to their new mothering roles. Sleep is vital in maintaining various physiological processes, immune health, executive brain function, and energy levels [12]. While certain aspects of postpartum mothers' sleep may gradually improve, their ability to obtain refreshing and sufficient sleep is often compromised. Sleep deprivation and subsequent fatigue are postpartum women's most reported challenges [13]. Sleep disturbance becomes more prevalent as the pregnancy progresses; approximately 87% of postpartum mothers experience fatigue due to sleep deprivation [14].

Several hypotheses have been proposed to explain the sleep dysregulation experienced by postpartum mothers. One theory suggests that sleep challenges and poor sleep hygiene cultivated during early pregnancy may contribute to sleep difficulties in the postpartum period [15]. Intrusive thoughts and worries about sleep disturbance and loss also played a role. Additionally, physiological changes in circadian rhythm disrupt the sleep-wake cycle of postpartum mothers [16]. These alterations have been identified as contributors to the disrupted sleep experienced by most women during the postpartum period. Finally, irregular sleep patterns and increased fatigue are consequences of the demands of caring for a newborn, including feeding patterns and hormonal changes. In some cases, the sleep disturbance reported by postpartum mothers has been compared to that of a nighttime shift worker [16]. While the challenges with sleep during late pregnancy are well-known, they are further amplified after childbirth and continue throughout the early stages of motherhood [16].

A study assessing sleep quality using the Pittsburgh Sleep Quality Index (PSQI) found that 87.5% of postpartum women experience poor sleep quality owing to factors such as infant disturbance, perceived stress, the sleep status of their babies, and physical postpartum symptoms. Furthermore, the study revealed that postpartum women are more likely to experience chronic sleep disruption and depression than women of the same age who have not given birth [17]. Decreased sleep duration, increased sleep deficiencies, and a sense of time loss were among the associated symptoms reported by postpartum women.

The circumstances outlined above prevent postpartum women from achieving adequate rest, which is crucial for rejuvenation. Consequently, they face a significant risk of fatigue and its subsequent effects. Sleep disturbances during the postpartum period contribute to increased fatigue and have detrimental physical and mental implications for the mother and the baby. Regular postnatal physician visits should include assessments of sleep quality to mitigate the adverse outcomes associated with poor sleep in this vulnerable population. While studies on sleep deprivation are common in other vulnerable groups, there is a lack of specific data about postpartum mothers.

3. Socio-economic Status

Limited research has explored the link between socio-economic status and postpartum fatigue/burnout. One study conducted among Australian women found a slight correlation between education level and fatigue [18]. However, it is essential to note that the weak correlation observed in this study can be attributed to the fact that the participants had a significantly higher percentage of tertiary education than the general population. This imbalance may have introduced bias into the results, as higher education levels have been associated with lower overall stress levels [19].

Conversely, a small qualitative study conducted among low-income mothers specifically focusing on stressors during their pregnancy revealed three main stressors identified by participants: financial stress, violence, and isolation/loneliness. The mothers expressed additional financial stress, driven by a strong desire to provide their children with a life better than their own and experiences of intimate partner violence [20]. While this study specifically examined feelings during pregnancy, the vulnerability to adverse outcomes associated with low socio-economic status and the type of stressors reported are likely to persist during the postpartum period, potentially influencing the experience of fatigue. However, it is vital to acknowledge the limitations of this study, such as its predominantly Caucasian participant sample and reliance on participants' recall of feelings during their pregnancies, which could be subject to recall bias given the time lapse of up to three years prior to the study.

The stressors associated with low socio-economic status, whether during the prepartum, pregnancy, or postpartum periods, can amplify the impact of significant predictors of postpartum health. Numerous studies have demonstrated that a sense

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

of mastery, infant temperament, and received social support are essential predictors of postpartum health [21]. A sense of mastery allows new mothers to navigate the transition into parenthood with confidence and control [21]. Infant temperament can either boost a mother's confidence or require her to exert more energy to interact with the baby, depending on the infant's behavior [21]. Social support is crucial to mothers' self-rated health outcomes. However, it is essential to recognize that a mother's socio-economic status can influence all these predictors. For a mother with a low socio-economic status, achieving mastery may be challenging due to limited self-care resources and options to alleviate fatigue [22]. A mother may be compelled to return to work immediately after postpartum or risk a significant reduction in household income. Both situations can result in increased mental and physical stress, strained family relationships, and an eroded sense of mastery [22].

The cumulative effects of these psychosocial risk factors can predispose mothers to fatigue [22]. Difficult infant temperament is closely associated with sleep deprivation in new mothers, and sleep deprivation is a strong predictor of postpartum fatigue in many studies [23]. With limited financial support, mothers are compelled to allocate time to work and household chores, further contributing to sleep deprivation and hindering mothers' opportunities for child-rearing, education, and managing their children's temperament [22]. Access to social support largely depends on a country's maternity policies and an individual's socio-economic status [24]. The more social support mothers receive, allowing for more rest, energy, and focused attention on their newborns [21]. In addition to the influence of socio-economic status and the strong predictors of postpartum health, a mother's socio-economic status determines the amount of time she can dedicate to relaxation, maintaining a healthy diet, and recovering from the postpartum state [23]. Due to the consistent association between low socio-economic status and adverse health outcomes, further representative studies are necessary to explore the connection between socio-economic status and postpartum burnout.

4. Previous Mental Illnesses such as Anxiety and Depression

The term "burnout" originated in the professional domain during the 1980s, and it was initially defined as an emotionally drained state resulting from chronic stress. This state is characterized by negative feelings and attitudes, leading to suspicious and scornful behaviors toward their clients and a sense of dissatisfaction and sadness regarding personal achievements [25]. Burnout encompasses three dimensions: extreme exhaustion, depersonalization, and a sense of ineffectiveness and lack of personal accomplishment, collectively known as the burnout syndrome [25-26].

Parental burnout refers to a persistent state of emotional, mental, and physical exhaustion experienced by caregivers, which negatively impacts their overall psychosocial well-being, detachment from their children, and doubts about their ability to fulfill the role of the ideal parent [26-28]. Postpartum burnout is a specific subset of parental burnout, characterized by extreme fatigue symptoms occurring in mothers immediately after childbirth and persisting for six weeks or more. The relationship between burnout and depression has been frequently debated in literature. Some argue that burnout leads to anxiety and depression, while others propose reverse causality, and there are also perspectives suggesting an overlap between burnout, depression, and anxiety [29-30]. These contradictions may be linked to different subgroups of burnout symptoms, ranging from mild to severe on a severity scale, with clinical symptoms being the most severe and requiring medications [9].

Maternal exhaustion may be a result of a variety of factors, including self-awareness and preparedness for the maternal role, expectations from family and societal norms, the presence and supportiveness of a co-parent, previous mental health issues, satisfaction with the partner relationship, and having children with special needs [9, 27]. Some argue that the development of burnout symptoms in parents results from a cumulative effect of multiple risk factors.

The presence of previous psychological challenges such as anxiety, depression, increased stress levels, and guilt symptoms during the antenatal and perinatal periods have been linked to the development of burnout and depressive symptoms in the postpartum and postnatal periods (during the child's first year) [26-27, 31-32]. Anxiety, characterized by persistent worry and fear, can manifest as physical symptoms such as increased heart rate, palpitations, chest pains, rapid breathing, sweating, and exhaustion. Prolonged anxiety can contribute to stress accumulation, emotional fatigue, and decreased effectiveness in achieving goals, ultimately leading to burnout [33]. Similarly, depressive symptoms such as lack of interest, loss of energy, low mood, sleep disturbances, appetite changes, and difficulty concentrating can also contribute to burnout. There is an interplay between anxiety, depression, and burnout; it is critical, therefore, to provide appropriate follow-up and treatment for mothers experiencing anxiety or depression during the perinatal period to prevent the prevalence of burnout and disease in the postnatal period.

Certain personality traits have been identified as additional risk factors for parental burnout. A study examining the five major personality traits - neuroticism, conscientiousness, openness, extraversion, and agreeableness - found that three were associated with increased symptoms of parental burnout [34]. Neuroticism, characterized by excessive worry and emotional instability, was linked to irritability, anxiety, anger, and depression, leading to negative interactions, lower tolerance, and negative affect toward their children. On the other hand, low levels of conscientiousness were associated with a lack of self-discipline,

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

disorganization, carefree behavior, and inattentiveness to details. This trait made it challenging for parents to adhere to child-rearing norms, plan, and effectively manage their child's behavior, resulting in increased stress and eventual burnout symptoms. Agreeableness was also identified as a trait that influences the occurrence of parental burnout. Parents with low empathy, helpfulness, love, and altruism were found to be less considerate and tolerant of their child's needs, increasing their stress levels and exhaustion, ultimately leading to parental burnout.

While limited research explicitly addresses postpartum burnout, the existing studies highlight the impact of psychological, mental, and emotional disorders on the overall development of parental burnout from childbirth to pre- and teenage years. It is crucial to conduct more studies focusing on the perinatal period to facilitate early identification of these conditions, enabling the implementation of interventions and changes to prevent postpartum and parental burnout.

5. Childbirth Experience

Postpartum depression (PPD) is a common and multifaceted phenomenon that can harm children, women, and families [35]. The research by Smorti et al. (2019) suggests that complicated labor and birth, characterized by prolonged duration, increased pain, or medical interventions, can contribute to adverse outcomes ranging from maternal distress to PPD. Acknowledging that other significant events during childbirth can also be associated with PPD is essential. Therefore, numerous milestones may be encountered throughout the birthing experience, which can vary among mothers.

Various risk factors for PPD include a history of psychopathology before and during pregnancy, maternal neuroticism, difficult child temperament, lack of social support, and obstetric difficulties [36]. It is crucial to thoroughly analyze each of these risk factors, considering their unique manifestations depending on the individual circumstances of the patient. While it is understood that obstetric factors, such as the childbirth experience, can contribute to PPD, it is essential to note that research in this area remains limited.

New evidence indicates that the development of PPD is strongly influenced by a traumatic childbirth experience [37-38]. A study conducted by Bay & Sayiner (2021) found that women who perceived their birth experience as highly or very highly traumatic had a four to five times higher risk of developing PPD. While childbirth is an eagerly anticipated event for expectant mothers, it can sometimes leave lasting emotional scars and harm their well-being and relationship with their newborn. Rosseland et al. (2020) also found that a more negative birth experience was significantly associated with PPD, although not persistent pain eight weeks after delivery. As mentioned, the birth experience encompasses various elements, including labor pain.

Emerging research has shed light on the prevalence of PPD among women who gave birth during the COVID-19 pandemic. A study by Mariño-Narvaez et al. (2021) found that 40% of women who gave birth during this period experienced a higher incidence of PPD. The higher incidence of PPD can be ascribed to various factors, primarily the significant stress associated with the global pandemic. The healthcare systems were overwhelmed, increasing the burden and limiting visitation for those seeking treatment, primarily to protect immunocompromised individuals from the virus. At the time, the impact of the coronavirus on pregnant mothers and their unborn children was uncertain, adding to the overall anxiety and uncertainty surrounding the situation. These factors created a highly stressful and potentially dangerous environment for expectant mothers, which could have contributed to adverse long-term health outcomes.

Promoting adequate healthcare and specialized care and implementing screening tests to detect PPD are among the clinical guidelines recommended for reducing its prevalence [41]. Multiple factors contribute to the development of PPD, including socio-economic factors, environment, pre-existing mental conditions, and multiple pregnancies, making it challenging to pinpoint specific aspects of delivery or birthing experiences that directly correlate with its onset. However, integrating primary care with mental health services has enhanced overall medical care and decreased costs [42]. Ensuring comprehensive care for both the mother and child before and after birth is crucial for establishing an appropriate continuum of care.

PREVENTATIVE FACTORS

1. Exercise

Regular and moderate-intensity exercise is known to enhance feelings of energy and decrease fatigue [43]. Not only limited to healthy individuals, symptoms of fatigue in patients with medical conditions including systemic lupus erythematosus, rheumatoid arthritis, multiple sclerosis, and cancer are also known to improve significantly with exercises [44-47]. If exercise interventions can relieve fatigue symptoms in these medical conditions, there is a possibility that the same can take place with mothers experiencing postpartum fatigue. However, postpartum fatigue is not considered a medical condition. Postpartum fatigue is yet to be adequately studied as it is still perceived as an unavoidable, temporary, and relatively minor symptom associated with new mothers [48]. Fortunately, although not many, several studies have been done to investigate the effect of scheduled exercise on

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

postpartum fatigue in mothers, and results show that there is a clinically and statistically significant improvement in fatigue levels in women who have undergone varying exercise programs.

In one of the first randomized control trials exploring the impact of home-based exercise on postpartum fatigue, Dritsa et al. (2008) conducted a study focusing on fatigue symptoms in PPD patients. Participants were selected based on their depression scores using the Edinburgh Postnatal Depression Scale (EPDS), and fatigue levels were measured using the Multidimensional Fatigue Inventory (MFI). The intervention group was free to choose any form of exercise for an intervention for 12 weeks, mainly walking and jogging, if it was an aerobic exercise with 60-85% of the max heart rate target [49]. The study's results indicated improvements in physical fatigue among the intervention group. However, the limitations of this study also must be addressed. Generalizability is a concern as the sample specifically focused on patients diagnosed with PPD, participants who were highly educated. Although there were improvements in fatigue, the results were not statistically significant. Additionally, although follow-up was made in weeks 1, 3, and 9, the intervention was a home-based exercise program, where investigators could only rely on the participants for the authenticity of the intervention.

In a study by Ko et al. (2008), the researchers had a higher control over their participants and intervention. Participants were randomly selected in a Maternity Center where new mothers would stay for a month to recover from giving birth. Participants were given Fatigue Symptom Checklist before and after the exercise program [50]. The program consisted of 1-hour light-intensity workouts three times a week, focusing on achieving 50-60% of maximum heart rate through Pilates and Yoga exercises instructed and performed within the Maternity center [50]. The results indicated a statistically significant difference between the intervention and control groups. However, the study had limitations, including a lack of follow-up after the intervention, a small sample size, and the challenges of maintaining a strictly randomized control trial in a practical setting.

Ashrafinia et al. (2015) found significant differences in general fatigue, physical fatigue, reduced activity, reduced motivation, and mental fatigue at weeks 4 and 8 for participants who engaged in Pilates exercises. This study had similarities with the studies by Dritsa et al. (2008) and Ko et al. (2008) regarding using home-based workouts and providing instruction to the intervention group before delivery. However, the Ashrafinia et al. (2015) study differed in that the intervention consisted of exercises that gradually increased in difficulty rather than targeting a specific heart rate. One limitation of this study was the potential for recall bias, as data were collected through participant interviews.

In the last three studies, the intervention started less than a week after delivery, but Yang et al. (2018) initiated the intervention six weeks postpartum. The intervention involved aerobic gymnastic exercises conducted three times a week for three months. The study provided the participants with DVDs to perform the exercises at home to ensure equal intervention for all participants in the group. However, this study has limitations due to its reliance on self-reported questionnaires for data collection and its small sample size.

Several studies have explored the impact of exercise on improving sleep quality in new mothers, as sleep quality in early parenthood is a significant predictor of postpartum fatigue [48]. Ashrafinia et al. (2014) and Liu et al. (2021) conducted studies explicitly focusing on sleep quality in new mothers. Ashrafinia et al. (2014) examined the effects of Pilates on subjective sleep quality, sleep latency, and daytime dysfunction. At the same time, Liu et al. (2021) investigated the effects of walking exercise on sleep inefficiency, fatigue, and depression. The results indicated that both Pilates and walking exercises significantly improved sleep quality, as reported in the respective studies. However, only Pilates exercise improved fatigue and depression, suggesting that walking alone may not alleviate fatigue symptoms. As such, it may be necessary to incorporate more intense forms of exercise to achieve better outcomes regarding fatigue reduction.

Further research is needed to establish a conclusive link between exercise and its effectiveness in alleviating postpartum fatigue. Numerous studies examining exercise programs and postpartum fatigue encounter similar limitations, such as varying intervention durations and types, small sample sizes, lack of follow-ups, recall bias, and challenges in blinding the interventions. Despite these limitations, the results of these studies demonstrate promising outcomes for women experiencing postpartum fatigue daily. By conducting additional studies that address and overcome these limitations individually, exercise programs can be tailored specifically for postpartum women.

2. Social Support

Social support is a fundamental aspect of human adaptation to their dynamic environment, playing a vital role in navigating life's transition phases. Its significance varies across life cycle stages, with resources provided by family, friends, spouses, and children serving distinct purposes in childhood and adulthood. The presence or absence of social support has been identified as a significant factor influencing physical and psychological illnesses [55]. The same holds for women in the postpartum period as well.

Social support protects mothers from stress and promotes physical, emotional, and psychological well-being [56]. Research has demonstrated a positive correlation between the support mothers receive and their perceived efficacy in childcare,

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

child bonding, and overall sense of security (Warren, 2005). Emotional, informational, psychological, and practical support are essential for postpartum mothers to feel a sense of belonging and nurturance [56]. The primary providers of such support are typically other mothers, spouses, family members, and friends.

In a prospective cohort study conducted at six weeks postpartum, the Edinburgh Postnatal Depression Scale (EPDS), Maternity Social Support Scale, and WHO Quality of Life assessment questionnaire were utilized to gather data [57]. The findings revealed that women who received higher levels of social support scored lower on the depression scale and higher on quality-of-life assessment scales. This study highlights the significance of having supportive individuals who can assist with the social aspects of motherhood, enabling mothers to rest and focus on mastering the new maternal responsibilities. Ultimately, this support can have positive implications for the physical and mental well-being of both the mother and the baby.

On the other hand, lacking social support can leave a mother vulnerable to feelings of inadequacy, frustration, anxiety, depression, and fatigue. The postpartum period introduces unique challenges as mothers navigate childcare, household responsibilities, and self-care. Without sufficient support, it is easy to become overwhelmed, resort to ineffective coping mechanisms, and become trapped in a cycle of postpartum fatigue. These circumstances can harm both the mother and baby's health. Extensive research has demonstrated that women with lower levels of social support are at a greater risk of developing postpartum fatigue, including PPD [58].

Adequate social support plays a vital role in the well-being of mothers and babies during the postpartum period. However, the full extent of the impact of inadequate social support on maternal fatigue remains unclear. Studies are needed to address the knowledge gap by further exploring the effects. These studies would help inform the development of structured interventions to optimize social support for this vulnerable population as they navigate the challenges of the postpartum experience.

CONCLUSION

Various factors influence postpartum fatigue, including cultural and societal expectations of motherhood, sleep disturbances, socio-economic disadvantage, pre-existing mental illnesses, and labor experiences. Conversely, exercise and social support are protective factors against postpartum fatigue. Given its prevalence and detrimental effects on psychological and physical well-being, further research is crucial to develop personalized and more holistic intervention protocols for fatigued women postpartum, which are based on multiple factors: age, health status, educational levels, socio-economic status, marital status, geographic location, and access to social support and healthcare. Additionally, women at higher risk of experiencing postpartum fatigue should receive education, close monitoring, and appropriate interventions to prevent adverse outcomes.

REFERENCES

- 1) Aaronson LS, Teel CS, Cassmeyer V, et al. Defining and measuring fatigue. *Image J Nurs Sch.* 1999;31(1):45-50. doi:10.1111/j.1547-5069.1999.tb00420.x
- 2) Cheng CY, Pickler RH. Perinatal stress, fatigue, depressive symptoms, and immune modulation in late pregnancy and one month postpartum. *ScientificWorldJournal.* 2014;2014:652630. Published 2014 Jan 22. doi:10.1155/2014/652630
- 3) Meeussen L, Van Laar C. Feeling Pressure to Be a Perfect Mother Relates to Parental Burnout and Career Ambitions. *Front Psychol.* 2018;9:2113. Published 2018 Nov 5. doi:10.3389/fpsyg.2018.02113
- 4) Henderson A, Harmon S, Newman H. The Price Mothers Pay, Even When They Are Not Buying It: Mental Health Consequences of Idealized Motherhood. *Sex Roles.* 2015 Sep 2;74(11-12):512–26.
- 5) Heffernan V, Wilgus G. Introduction: Imagining motherhood in the Twenty-First Century—Images, Representations, Constructions. *Women: A Cultural Review.* 2018 Jan 2;29(1):1–18.
- 6) Law NK, Hall PL, Cheshire A. Common Negative Thoughts in Early Motherhood and Their Relationship to Guilt, Shame and Depression. *Journal of Child and Family Studies.* 2021 Jun 7;
- 7) Raudasoja M, Sorkkila M, Aunola K. Self-Esteem, Socially Prescribed Perfectionism, and Parental Burnout. *Journal of Child and Family Studies.* 2022 May 5;
- 8) Bethlehem J. Selection Bias in Web Surveys. *International Statistical Review.* 2010 Jun 18;78(2):161–88.
- 9) Sanchez Rodriguez R, Laflaquière E, Orsini E, Pierce T, Callahan S, Séjourné N. Maternal fatigue and burnout: From self-forgetfulness to environmental expectations. *European Review of Applied Psychology.* 2020 Dec;70(6):100601.
- 10) Coyne SM, McDaniel BT, Stockdale LA. “Do you dare to compare?” Associations between maternal social comparisons on social networking sites and parenting, mental health, and romantic relationship outcomes. *Computers in Human Behavior.* 2017 May;70:335–40.
- 11) Tuli M. Beliefs on Parenting and Childhood in India. *Journal of Comparative Family Studies.* 2012 Jan;43(1):81–91.

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

- 12) Song C, Tagliazucchi E. Linking the nature and functions of sleep: insights from multimodal imaging of the sleeping brain. *Current Opinion in Physiology* [Internet]. 2020 Jun;15:29–36. Available from: <https://doi.org/10.1016/j.cophys.2019.11.012>
- 13) Yang Y, Li W, Ma TJ, Zhang L, Hall BJ, Ungvari GS, et al. Prevalence of Poor Sleep Quality in Perinatal and Postnatal Women: A Comprehensive Meta-Analysis of Observational Studies. *Frontiers in Psychiatry* [Internet]. 2020 Mar 13;11. Available from: <https://doi.org/10.3389/fpsy.2020.00161>
- 14) Ko SH, Chen CH, Wang HH, Su Y. Postpartum Women's Sleep Quality and Its Predictors in Taiwan. *Journal of Nursing Scholarship*. 2013 Oct 11;46(2):74–81.
- 15) Swanson LM, Kalmbach DA, Raglan GB, O'Brien LM. Perinatal Insomnia and Mental Health: A Review of Recent Literature. *Current Psychiatry Reports*. 2020 Oct 26;22(12).
- 16) Belete H, Misgan E. Determinants of Insomnia among Mothers during Postpartum Period in Northwest Ethiopia. *Sleep Disorders*. 2019 Apr 1;2019:1–7.
- 17) Sharkey KM, Iko IN, Machan JT, Thompson-Westra J, Pearlstein TB. Infant sleep and feeding patterns are associated with maternal sleep, stress, and depressed mood in women with a history of major depressive disorder (MDD). *Archives of Women's Mental Health* [Internet]. 2016 Apr 1;19(2):209–18. Available from: <https://doi.org/10.1007/s00737-015-0557-5>
- 18) Taylor J, Johnson M. The role of anxiety and other factors in predicting postnatal fatigue: From birth to 6 months. *Midwifery*. 2013 May;29(5):526–34.
- 19) Cohen S, Janicki-Deverts D. Who's Stressed? Distributions of Psychological Stress in the United States in Probability Samples from 1983, 2006, and 2009. *Journal of Applied Social Psychology*. 2012 Apr 16;42(6):1320–34.
- 20) Bloom T, Glass N, Curry MA, Hernandez R, Houck G. Maternal Stress Exposures, Reactions, and Priorities for Stress Reduction among Low-income, Urban Women. *Journal of Midwifery & Women's Health*. 2012 Dec 27;58(2):167–74.
- 21) Ahn S, Youngblut JM. Predictors of Women's Postpartum Health Status in the First 3 Months After Childbirth. *Asian Nursing Research*. 2007 Sep;1(2):136–46
- 22) Giallo R, Seymour M, Dunning M, Cooklin A, Loutzenhiser L, McAuslan P. Factors associated with the course of maternal fatigue across the early postpartum period. *Journal of Reproductive and Infant Psychology*. 2015 Apr 10;33(5):528–44.
- 23) Park J, Park CG, Lee K. A Quantile Regression Analysis of Factors Associated with First-Time Maternal Fatigue in Korea. *International Journal of Environmental Research and Public Health*. 2021 Dec 25;19(1):215.
- 24) Iwata H, Mori E, Sakajo A, Aoki K, Maehara K, Tamakoshi K. Course of maternal fatigue and its associated factors during the first 6 months postpartum: a prospective cohort study. *Nursing Open*. 2018 Feb 21;5(2):186–96.
- 25) Maslach C, Jackson SE. The measurement of experienced burnout. *Journal of Organizational Behavior* [Internet]. 1981 Apr;2(2):99–113. Available from: <https://doi.org/10.1002/job.4030020205>
- 26) Roskam I, Raes ME, Mikolajczak M. Exhausted Parents: Development and Preliminary Validation of the Parental Burnout Inventory. *Frontiers in Psychology*. 2017 Feb 9;8.
- 27) Lebert-Charron A, Dorard G, Wendland J, Boujut E. Who are and are not the burnout moms? A cluster analysis study of French-speaking mothers. *Journal of Affective Disorders Reports*. 2021 Apr;4:100091.
- 28) Kawamoto T, Furutani K, Alimardani M. Preliminary Validation of Japanese Version of the Parental Burnout Inventory and Its Relationship With Perfectionism. *Frontiers in Psychology*. 2018 Jun 20;9.
- 29) Creedy DK, Sidebotham M, Gamble J, Pallant J, Fenwick J. Prevalence of burnout, depression, anxiety and stress in Australian midwives: a cross-sectional survey. *BMC Pregnancy and Childbirth*. 2017 Jan 9;17(1)
- 30) Bianchi R, Schonfeld IS, Laurent E. Burnout–depression overlap: A review. *Clinical Psychology Review* [Internet]. 2015 Mar;36(36):28–41. Available from: <https://doi.org/10.1016/j.cpr.2015.01.004>
- 31) O'Hara MW, Wisner KL. Perinatal mental illness: Definition, description and aetiology. *Best Practice & Research Clinical Obstetrics & Gynaecology* [Internet]. 2014 Jan;28(1):3–12. Available from: <https://doi.org/10.1016/j.bpobgyn.2013.09.002>
- 32) Farr SL, Dietz PM, O'Hara MW, Burley K, Ko JY. Postpartum Anxiety and Comorbid Depression in a Population-Based Sample of Women. *Journal of Women's Health* [Internet]. 2014 Feb;23(2):120–8. Available from: <https://doi.org/10.1089/jwh.2013.4438>
- 33) Koutsimani P, Montgomery A, Georganta K. The Relationship Between Burnout, Depression, and Anxiety: A Systematic Review and Meta-Analysis. *Frontiers in Psychology* [Internet]. 2019 Mar 13;10(284). Available from: <https://doi.org/10.3389/fpsyg.2019.00284>
- 34) Le Vigouroux S, Scola C, Raes ME, Mikolajczak M, Roskam I. The big five personality traits and parental burnout: Protective and risk factors. *Personality and Individual Differences*. 2017 Dec;119:216–9.

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

- 35) Smorti M, Ponti L, Pancetti F. A Comprehensive Analysis of Postpartum Depression Risk Factors: The Role of Socio-Demographic, Individual, Relational, and Delivery Characteristics. *Frontiers in Public Health*. 2019 Oct 24;7.
- 36) Yakupova VA, Suarez A. Postpartum Depression and Birth Experience in Russia. *Psychology in Russia: State of the Art*. 2021;14(1):28–38. <https://doi.org/10.11621/pir.2021.0103>
- 37) Bell AF, Andersson E. The birth experience and women's postnatal depression: A systematic review. *Midwifery* [Internet]. 2016 Aug;39:112–23. Available from: <https://doi.org/10.1016/j.midw.2016.04.014>
- 38) Gosselin P, Chabot K, Béland M, Goulet-Gervais L, Morin AJS. Fear of childbirth among nulliparous women: Relations with pain during delivery, post-traumatic stress symptoms, and postpartum depressive symptoms. *L'Encéphale* [Internet]. 2016 Apr 1;42(2):191–6. Available from: <https://doi.org/10.1016/j.encep.2016.01.007>
- 39) Bay F, Sayiner FD. Perception of traumatic childbirth of women and its relationship with postpartum depression. *Women & Health*. 2021 May 12;61(5):479–89. <https://doi.org/10.1080/03630242.2021.1927287>
- 40) Rosseland LA, Reme SE, Simonsen TB, Thoresen M, Nielsen CS, Gran ME. Are labor pain and birth experience associated with persistent pain and postpartum depression? A prospective cohort study. *Scandinavian Journal of Pain*. 2020 Jul 28;20(3):591–602.
- 41) Mariño-Narvaez C, Puertas-Gonzalez JA, Romero-Gonzalez B, Peralta-Ramirez MI. Giving birth during the COVID-19 pandemic: The impact on birth satisfaction and postpartum depression. *International Journal of Gynecology & Obstetrics*. 2020 Dec 23;
- 42) Lim G, LaSorda KR, Farrell LM, McCarthy AM, Facco F, Wasan AD. Obstetric pain correlates with postpartum depression symptoms: a pilot prospective observational study. *BMC Pregnancy and Childbirth* [Internet]. 2020 Apr 22;20. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7178606/>
- 43) Loy BD, O'Connor PJ, Dishman RK. The effect of a single bout of exercise on energy and fatigue states: a systematic review and meta-analysis. *Fatigue: Biomedicine, Health & Behavior*. 2013 Oct;1(4):223–42.
- 44) Heine M, van de Port I, Rietberg MB, van Wegen EE, Kwakkel G. Exercise therapy for fatigue in multiple sclerosis. *Cochrane Database of Systematic Reviews*. 2015 Sep 11;(9).
- 45) Monga U, Garber SL, Thornby J, Vallbona C, Kerrigan AJ, Monga TN, et al. Exercise Prevents Fatigue and Improves Quality of Life in Prostate Cancer Patients Undergoing Radiotherapy. *Archives of Physical Medicine and Rehabilitation*. 2007 Nov;88(11):1416–22.
- 46) Rongen-van Dartel SAA, Repping-Wuts H, Flendrie M, Bleijenberg G, Metsios GS, van den Hout WB, et al. Effect of Aerobic Exercise Training on Fatigue in Rheumatoid Arthritis: A Meta-Analysis. *Arthritis Care & Research*. 2015 Jul 26;67(8):1054–62.
- 47) Tench CM. Fatigue in systemic lupus erythematosus: a randomized controlled trial of exercise. *Rheumatology*. 2003 Mar 31;42(9):1050–4.
- 48) Henderson J, Alderdice F, Redshaw M. Factors associated with maternal postpartum fatigue: an observational study. *BMJ Open* [Internet]. 2019 Jul 27;9(7). Available from: <https://doi.org/10.1136/bmjopen-2018-025927>
- 49) Dritsa M, Da Costa D, Dupuis G, Lowensteyn I, Khalifé S. Effects of a Home-based Exercise Intervention on Fatigue in Postpartum Depressed Women: Results of a Randomized Controlled Trial. *Annals of Behavioral Medicine*. 2008 Mar 27;35(2):179–87.
- 50) Ko YL, Yang CL, Chiang LC. Effects of Postpartum Exercise Program on Fatigue and Depression During “Doing-the-Month” Period. *Journal of Nursing Research*. 2008 Sep;16(3):177–86.
- 51) Ashrafinia F, Mirmohammadali M, Rajabi H, Kazemnejad A, Haghighi KS, Amelvalizadeh M. Effect of Pilates exercises on postpartum maternal fatigue. *Singapore Medical Journal* [Internet]. 2015 Mar 1;56(3):169–73. Available from: <https://doi.org/10.11622/smedj.2015042>
- 52) Yang CL, Chen CH. Effectiveness of aerobic gymnastic exercise on stress, fatigue, and sleep quality during postpartum: A pilot randomized controlled trial. *International Journal of Nursing Studies*. 2018 Jan;77:1–7. Available from: <https://doi.org/10.1016/j.ijnurstu.2017.09.009>
- 53) Ashrafinia F, Mirmohammadali M, Rajabi H, Kazemnejad A, Sadeghniai Haghighi K, Amelvalizadeh M, et al. The effects of Pilates exercise on sleep quality in postpartum women. *Journal of Bodywork and Movement Therapies*. 2014 Apr;18(2):190–9. Available from: <https://doi.org/10.1016/j.jbmt.2013.09.007>
- 54) Liu Y, Chang C, Hung H, Chen C. Outcomes of a walking exercise intervention in postpartum women with disordered sleep. *Journal of Obstetrics and Gynaecology Research*. 2021 Jan 25;47(4):1380–7.
- 55) Hale CJ, Hannum JW, Espelage DL. Social Support and Physical Health: The Importance of Belonging. *Journal of American College Health*. 2005 May;53(6):276–84.

Postpartum Burnout Among Women of Childbearing Age: A Neglected Global Public Health Problem

- 56) De Sousa Machado T, Chur-Hansen A, Due C. First-time mothers' perceptions of social support: Recommendations for best practice. *Health Psychology Open*. 2020 Jan;7(1):205510291989861.
- 57) Webster J, Nicholas C, Velacott C, Cridland N, Fawcett L. Quality of life and depression following childbirth: impact of social support. *Midwifery*. 2011 Oct;27(5):745–9.
- 58) Kim TH, Connolly JA, Tamim H. The effect of social support around pregnancy on postpartum depression among Canadian teen mothers and adult mothers in the maternity experiences survey. *BMC Pregnancy and Childbirth* [Internet]. 2014 May 7;14(1). Available from: <https://doi.org/10.1186/1471-2393-14-162>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.