



Stress and Breastfeeding: Implication for Maternal and Infant Health

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ABSTRACT

The physiological and psychological experiences involved in breastfeeding pose several challenges to the psychosocial well-being of women and infants in global society. More devastating is the outcome it presents in developing societies. Countries like Nigeria which is predominantly patriarchal have constantly predisposed women to physiological and psychological stress, and consequently, this accounts for the heightened cases of maternal/infant mortality. This theoretical paper therefore, is positioned to examine the effects of stress on breastfeeding mothers and the implications it has on the overall health of women and infants particularly in the Southern Senatorial District of Taraba State. The objectives of this paper are to identify the symptoms of stress on breastfeeding mothers and infants, examine the relationship between stress and breastfeeding and recommend stress reduction therapies for breastfeeding mothers and infants. The paper relied on neurobiological pathway theory and psychosocial theory of stress to buttress its claims, while drawing inferences from clinical observations and cultural patterns to establish its assumptions. The paper observed that the existing patriarchal culture seemingly inhibits the psychosocial disposition of women and consequently exposes them to stress. It also observed that the low educational status of women contributes to heightened stress conditions, particularly during breastfeeding and that the unorthodox approach to breastfeeding creates a hazardous condition that further endangers breastfeeding mothers and infants. The paper, among other recommendations, suggests that there is a need for widespread awareness creation on the effects of stress on breastfeeding mothers and infants and for adherence to clinical therapeutic approaches to stress management during breastfeeding.

Keywords: Stress, Breastfeeding, maternal, infant and health.

Introduction

Breastfeeding is a critical phase for both the mother and infant. This period often presents numerous physiological and psychological challenges that are predominantly stress related. Postpartum stress and anxiety can stem from various factors, including hormonal changes, the demands of caring for a newborn, and adjustments to new family dynamics⁷. These psychological conditions not only affect the overall well-being of mothers but also have significant implications on breastfeeding practices and outcomes, which in turn affect the well-being of the child.

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²Stress in postpartum women is associated with a range of adverse effects, and elevated stress levels can interfere with the milk let-down reflex, reduce milk supply, and shorten the duration of breastfeeding. Additionally, stress can exacerbate feelings of inadequacy and lead to difficulties in establishing and maintaining effective breastfeeding routines¹⁷. Understanding the relationship between postpartum stress and breastfeeding is crucial for developing interventions that support maternal mental health and promote successful breastfeeding experiences for both mother and child. According to the World Health Organization³⁴, exclusive breastfeeding is crucial for reducing infant mortality and morbidity, enhancing sensory and cognitive development, and protecting infants against chronic conditions later in life. The act of breastfeeding also fosters a unique bond between mother and child, which can have lasting psychosocial benefits³².

However, the process of breastfeeding can be significantly obstructed by maternal stress; as women after childbirth become prone to stress, which can arise from various sources, including the physical demands of childbirth, hormonal changes, lack of sleep, and the pressures of balancing new responsibilities⁹. Research indicates that high levels of stress can also adversely affect milk production and ejection, thereby creating a vicious cycle that signals to the mother, that the child is under stress because he/she is not getting adequate breast milk and further compounding the already existing stress in the mother¹².

The relationship between stress and breastfeeding is complex and multifaceted³⁰. Apparently, it influences lactation through both physiological mechanisms, such as the inhibition of oxytocin release, prolactin secretion and psychological pathways, including decreased maternal confidence and increased perception of breastfeeding challenges. Because exclusive breastfeeding is the optimal method of infant feeding approved by the World Health Organization³⁵, as appropriate complementary foods for up to two years or beyond, and according to¹⁹, breastfed infants suffer less incidence of respiratory tract infections, gastrointestinal diseases and other illnesses and similarly, infants, breastfeeding also offers significant health benefits for the mother. It helps in postpartum recovery, reduces the risk of postpartum depression, and lowers the likelihood of developing breast and ovarian cancers⁶. Bearing these significances in mind, this book chapter therefore seeks to explain the effects of stress on breastfeeding mothers and infants in the Southern Senatorial District of Taraba State.

Objective of the Paper

The General Objective of this paper is to unravel the implications of stress and seek a medium of addressing stress in postpartum women and breastfeeding infants in the Southern Senatorial District of Taraba state.

Other objectives are as follows:

1. To identify the symptoms of stress in breastfeeding mothers and infants.
2. To examine the relationship between stress and breastfeeding in mothers and infants
3. To recommend stress reduction therapies for breastfeeding mothers and infants.

An Overview of Southern Senatorial District of Taraba State

Southern Senatorial District of Taraba is a geopolitical area within Taraba state that consist of five (5) Local Government Areas, namely: Donga, Ibi, Takum, Ussa and Wukari Local Government Areas respectively that are connected to Benue State geographically, economically, culturally, politically and socially. In the geographical zone, Wukari Local Government Area happens to be the administrative headquarters. The same Wukari serves as the seat of the traditional monarch "Aku-Uka," who doubles as the Chairman of the Taraba State Council of Chiefs. The local Government Area is the ancestral home of the Jukun people and was the headquarters of the defunct Kwararafa Kingdom. Wukari has an estimated landmass of 4,308 square kilometres and is made up of ten political wards, namely, Avyi, Hospital, Puje, Bantaje, Tsukundi, Jibo, Chunku, Rafin-Kada, Akwana and Kente. Wukari is socially and economically endowed and has to her credit the Largest Yam Market in Northeast Nigeria, three (3) Universities (Federal University Wukari, Kwararafa University and the National Open University of Nigeria study centre), a General Hospital, a newly established Teaching Hospital, A Divisional Police Headquarters, a Sub-Military Cantonment amidst other security agencies, financial institutions and small/medium scales businesses. Wukari is predominantly a culturally exclusive environment with the presence of religious groups such as Christians and Muslims and according to history, Wukari has a shared sociocultural affinity with the Tiv people in Benue state. The Local Government Area, besides her aborigines (Jukun Wapan), houses other tribes and ethnic nationalities such as the Chambers, Kuteb, Igbo, Hausa, Fulani, Bekwarra, Idoma and a host of others who are mostly economic migrants. Her main source of livelihood is farming and trading in farm produce.

Wukari shares a borderline with Ibi Local Government Area, Donga, Ukum in Benue State and Nasarawa State.

The second largest and prominent area under the zone is the Takum Local Government Area. Takum was carved out of the Wukari Local Government Area in 1976. She shares borderlines with the Republic of Cameroon in the South, Ussa Local Government Area to the West and Donga Local Government Area to the North. She has a projected landmass of 3,098 square kilometres. The Local Government Area is made up of the following tribes and ethnic groupings; Kuteb, Kpanzon, Ichens, Chamba, Hausa, and the Tivs, amidst other groups like the Igbo, Bekwarra, Idoma etc. The traditional leader in Takum is known as the Ukwe of Takum and is drawn from Akerten and Likam ruling families. The people of Takum beside civil service, are predominantly farmers.

Next to Takum is Donga Local Government Area. She also has a traditional stool with a paramount ruler that is known and regarded as the Gara of Donga. The Local Government Area has an area of 3,120 square kilometres. The primary occupations of the Donga People include: crop farming and animal husbandry, timber, quarrying, mining, amongst others. A good number of inhabitants of Donga engage in small-scale manufacturing like bakeries, goldsmiths and other cottage industries, and Donga has a mix of Chambers, Ichen, Tiv, Hausa, Fulani and other tribes and ethnic groupings who are majorly economic migrants. The Local Government Area shares borderlines with Wukari, Takum and Ukum Local Government Area of Benue State.

Following Donga Local Government Area in terms of land mass is Ibi Local Government Area. Ibi, is located on the South Bank of the Benue River. The town was part of the Muri Emirate, and it had the Sarkin Ibi as its paramount ruler. The Local Government Area has an Area Landmass of 2,665 square Kilometre with a population density of 49.76/square kilometre. Ibi is mostly dominated by Huasa, Fulani and Tiv speaking people. However, history claimed that the aborigines of Ibi are the Jukun Wanu people who are mostly into fish farming. Ibi shares boundary with Shendam in Plateau State, Gassol Local Government Area in Central Taraba and Wukari Local Government Area in Southern Taraba.

The list Local Government Area in terms of land mass and population is Ussa Local Government Area. She was created out of the Takum Local Government Area in 1996 under the Military rule of General Sani Abacha. The headquarters of Ussa is known as Lissam. She is made of an area council consisting of the following districts: Ussa, Lissam, Kpambo, Lumbu, Rufu, Bika, Aticwo, Fikyu, Kwambai, Jenuwa, kwesati, Lufu, Liji, Tati, Shibung and Acha. Ussa has an area of 946.1 square kilometre. Like every Local Government area within Southern Taraba, Ussa owes allegiance to a traditional ruler known as the Ukwe. The major ethnic group found within Ussa are the Kuteb People, alongside other economic migrants like the chambers, Tiv, Fulani, Hausa, Ichens etc. Their major source of livelihood is agriculture; precisely crop farming and poaching. Ussa Local Government shares boundary with Takum, Donga and the Republic of Cameroon.

In the Southern Senatorial District of Taraba, one common feature is that all the traditional chiefs show allegiance to the Aku-Uka of Wukari. In addition to this commonality, these areas are predominantly patriarchal, as the rights and privileges of women therein are subdued and dominated by that of men. In addition to their social dispositions, the cultural attribution of the senatorial district has great tendency of been diffused into the lifestyle of their bordering neighbors like the Tiv people in Benue State.

Excerpts on the Symptoms of Stress in Breastfeeding Mothers and infants

Globally and in the continent of Africa, Postpartum women often experience significant psychological stress and anxiety, which are linked to numerous sociocultural, economic and psychological dispositions and adjustments that take place after childbirth. The postpartum period, typically defined as the first six weeks following delivery, is usually, a critical time for new mothers as they adapt to the demands of caring for a newborn while recovering from the physical and emotional challenges of childbirth¹. Most developed societies have established policies around maternal and infant care during the period of lactation. Whereas almost all societies promote the use of maternity leave of absence for working class nursing mothers, it has been observed that adequate attention has not been given to breastfeeding mothers especially in developing societies like Africa. The outcome of this poor treatment on nursing mothers and infants seemingly has adverse effects on these classes of people. In Northeast Nigeria and precisely the Southern Senatorial District of Taraba; a predominantly patriarchal community, postpartum women and infants are constantly exposed to stress and this seemingly affects the mental health of women and inhibits effective growth and development of infants.

Up to 20% of postpartum women experience some form of stress disorder, including generalized anxiety disorder, panic disorder, and obsessive-compulsive disorder¹³. Another study claimed that several factors contribute to postpartum stress and these include hormonal fluctuations, sleep deprivation, and the pressures of maternal responsibilities¹⁵. In addition, women with a history of mental health issues or those who lack adequate social support are at a higher risk of developing postpartum stress⁸. Following these assertions, it is pertinent to note herein that the sociocultural disposition of women in developing societies of the world, particularly Southern Senatorial District of Taraba in Nigeria, predisposes them indirectly to mental health challenges. This has been mostly attributed to their belief system, which constantly isolates women even during postpartum periods.

The outcome of this poor social attention are symptoms of postpartum stress, which ranges from excessive worry and restlessness to physical manifestations such as palpitations, weakness and dizziness³³. These symptoms can interfere with a mother's ability to bond with her baby and manage daily tasks, potentially affecting the infant's development and the overall family dynamic¹⁸. If left untreated, postpartum stress can have long-term consequences for both mother and child. Chronic anxiety can lead to persistent mental health issues for the mother, including depression and anxiety disorders²⁵. Consequently, the challenges of maternal stress have been linked to behavioural problems and cognitive delays in Children²⁷. This analysis might be linked to heightened cases of stress-related issues associated with nursing mothers within the study area and equally the high incidence and prevalence of maternal/infant mortality rate.

Relationship between Stress and Breastfeeding in Mothers and Infants

Stress is a significant factor influencing the initiation of breastfeeding, with numerous studies demonstrating its adverse impact on new mothers' ability to start breastfeeding successfully. The initiation of breastfeeding is a critical phase, often occurring within the first hour after birth, and can be sensitive to the mother's psychological state.

One of the primary ways stress affects breastfeeding initiation is through its impact on the hormonal pathways essential for milk production, secretion and ejection. High stress levels can elevate cortisol and adrenaline, hormones that can inhibit the release of oxytocin and prolactin²³. Oxytocin is crucial for the milk ejection reflex, and insufficient levels can delay the onset of lactation, making breastfeeding more challenging to initiate. More so, prolactin is needed for the secretion of breast milk, without which breast milk production may be significantly impaired, posing challenges during the lactation period

Moreover, the psychological burden of stress can also diminish a mother's confidence and perceived ability to breastfeed. Self-efficacy theory suggests that mothers who feel stressed and anxious are more likely to doubt their capability to successfully breastfeed, which can negatively influence their commitment to initiating breastfeeding⁷. These mothers might experience a higher incidence of breastfeeding difficulties and might be more likely to resort to formula feeding, either partially or exclusively in the early postpartum period⁴. Additionally, environmental stressors, such as a lack of social support, financial difficulties, or an unsupportive work and even home environment, can further compound the stress experienced by new mothers. For example, it was found that women who reported higher levels of perceived stress due to environmental factors were less likely to initiate breastfeeding within the first hour after delivery²⁶. This suggests that comprehensive support systems and stress-reduction interventions might be significant in promoting successful breastfeeding initiation.

Theoretical Framework

A theory is a set of ideas that explain and give insight into circumstances, conditions and/or situations. Generally, theories are logical sequence that aids in the analysis and descriptions of phenomena especially as they affects humans. This paper shall adopt the neurobiological pathway theory and psychosocial theory of stress respectively. The reason for the adoption of both theories stems from the fact that, while the former focuses on the physiological mechanisms of stress on postpartum women and breastfeeding infants, the latter emphasises the impact of psychosocial environmental factors in generating stress for both mother and child and provided coping mechanisms for overcoming stress among breastfeeding mothers and infants.

Neurological Pathway Theory: The Neurobiological Pathway Theory is a physiological theory that was first introduced in 1930s by Hans Selye and was popularised by Bruce McEwen and Robert Sapolsky in the late 20th century. This theory holds that stress triggers a cascade of neuroendocrine responses primarily involving the hypothalamic-pituitary-adrenal (HPA) axis and autonomic nervous system. These systems regulate the body's response to stress and influence various bodily functions, including immune response, metabolism and mood²⁴. The theory also posits that cortisol, a physiological hormone is released in response to activation of the HPA axis, which is essential for normal bodily functions. However, chronic elevation of cortisol due to prolonged stress would harm health²⁹. Lastly, the theory connotes that the structure and function of the brain are highly adaptable but can be negatively influenced by chronic stress and this could lead to changes in the hippocampus, prefrontal cortex and amygdala, which are involved in memory, decision-making and emotional regulation²⁴.

In relation to stress in postpartum/breastfeeding mothers and infants, Neurological Pathway Theory claims that stress is psychologically related and could be responsible for stressors such as sleep deprivation, societal pressures and concerns about milk supply. This could result in increased cortisol²², this increase in cortisol can inhibit the release of oxytocin which predisposes the breastfeeding mothers to stress³¹. This stress in turn has the potential to alter maternal behaviour, making them irritable and less responsive towards establishing mother-infant bonding. In relation to infants, this theory equally posits that elevated maternal cortisol can be transferred via breast milk to the infant and consequently this can disrupt the physiological and psychological growth process of the infant. The outcome would result in immune suppression and this would make the infant prone to infection, mostly likely obese, mentally retarded and emotionally unstable.

In essence, the neurological pathway theory is of the view that, maternal and infant stress has negative outcomes on the overall physiological and psychological well-being of both mother and child.

Psychosocial Theory of Stress

The major proponents of this theory are Richard Lazarus and John Bowlby. Whereas the former looked at the transactional model of stress and coping, the latter focused on the attachment model. The tenet of this theory is situated on the position that stress is a factor of human psychology in relation to his/her social environment. The emphasis herein denotes that social environmental factors when psychologically perceived as a negation, influences stress and grossly impede the overall well-being of individuals in society. Stress is the outcome of individual's evaluation of a situation and their perceived ability to cope with it²¹. On the other hand, early relationships with caregivers' shape and individual's ability to handle stress³. Put together, the absence or incapability of a caregiver impedes the ability of an individual to cope with stress and where stress abounds, this destabilizes the psychological and social functioning of the individual.

In relation to stress in postpartum/breastfeeding mothers and infants, the psychosocial theory depicts that breastfeeding mothers are prone to suffer role conflict, lack of support, inability to meet societal expectations, negative cultural influence, inferiority complex. Marital cum family challenges and low financial status. These conditions can lead to feelings of inadequacy and anxiety and consequently influence effective breastfeeding¹¹. The theory however, posits that, with adequate support from spouse, family and healthcare providers, maternal confidence and wellbeing would be boosted, breastfeeding would be enhanced, and stress would be drastically reduced. On the part of the infant, this theory holds that the psychological and social disposition of the breastfeeding mother has a direct impact on the overall well-being of the infant. That is to state that, if the mother is psychologically and socially unstable, this would have a negative in overall growth and psychological structure of the child.

In a nutshell, the psychosocial theory of stress is of the view that stress creates a valuable framework for understanding the complex interplay between psychological and social environmental factors affecting breastfeeding mothers and infants. The theory also recognizes the significant role of social support systems in ensuring and enhancing a stress coping mechanism that would promote the overall well-being of mother and child.

Strategies for Curbing Stress in Breastfeeding Mothers and Infants

The study area in this book is predominantly an agrarian society that practices an exclusive patriarchal culture which, to a large extend excludes women from being exposed to or involved in social activities with medical implications. Clinical observation shows that women in Southern Taraba tend to shy away from attending antenatal and postnatal clinics, a condition that limits their ability to interact and learn about breastfeeding initiation and maintenance and infant wellbeing. This considerably accounts for the high incidence of maternal and infant mortality, as well as other factors that affect breastfeeding mothers and children within the geopolitical zone. Strategically, research on the impact of stress and anxiety on breastfeeding has identified the following as strategies for curbing stress in breastfeeding mothers and infants: psychological support and counselling, breastfeeding education programmes, peer support groups, mindfulness relaxation techniques, and practical breastfeeding support programs.

Psychological Support and Counselling

Studies have shown that cognitive-behavioural therapy (CBT) and other forms of counselling can significantly reduce anxiety and stress levels in new mothers, leading to improved breastfeeding outcomes. For instance, a randomized controlled trial conducted, found that mothers who received CBT exhibited lower anxiety levels and were more likely to continue breastfeeding for six months compared to those who did not receive such support¹⁴. In relation to the study area, clinical observation shows that there is low turnout for antenatal and postnatal clinics, which is mostly attributed to their total or partial dependence on the men for finance and rigorous engagement in farm activities, tending to domestic chores amidst other cultural feminine inhibiting factors which expose women to a high level of stress during the lactation period. In this regard, there is a need for advocacy aimed at promoting awareness on the need for women, especially postpartum and breastfeeding mothers, to avail themselves of antenatal and post-natal clinic to enhance their ability to cope with stress during the lactation period.

Breastfeeding Education Programs

Educational programs that focus on breastfeeding techniques and stress management have also been found effective. These programs often include information on the benefits of breastfeeding, practical advice on how to breastfeed, and strategies to manage stress and anxiety. A study indicated that mothers who participated in structured breastfeeding education programs were more confident in their breastfeeding abilities and experienced lower levels of stress and anxiety, which in turn positively influenced their breastfeeding practices⁹.

In relation to the Southern Senatorial District of Taraba, clinical observation shows that the literacy level of women is low, and this gap in educational exposure coupled with the overbearing patriarchal culture, undermine the ability and capability of postpartum and breastfeeding women to effectively engage in breastfeeding education programmes. In addition, the belief in alternative medicine tends to contravene the need to attend to orthodox medicine, and this controversy equally contributes to a low turnout of women in breastfeeding education programmes.

Peer Support Groups

Peer support groups provide an opportunity for mothers to share their experiences and receive emotional and practical support from others who are in similar situations. Research²⁰ demonstrated that peer support groups not only help reduce feelings of isolation and stress but also encourage sustained breastfeeding. Mothers who participated in these groups reported higher breastfeeding rates at three and six months postpartum compared to those who did not have access to such support. In relation to the Southern Senatorial District of Taraba, married women are seemingly isolated from peer relations because of an impending patriarchal culture which limits their social involvement with their fellow women for fear of promoting extramarital affairs. On the contrary, unmarried women, women separated from their spouses and divorcees are found to promote peer relation activities more: a condition that is frowned upon culturally because it paves the way for promiscuity and frivolity, a behaviour that customarily is believed to undermine the potency of the men.

However, it is significant to note that women's exposure to peer relations creates openings for learning and unlearning conditions through experience sharing, and these systematically help in overcoming stressors, particularly as it relates to postpartum and breastfeeding women. This outcome also significantly impacts the well-being of the child.

Mindfulness and Relaxation Techniques

Mindfulness and relaxation techniques, including meditation, have been shown to effectively reduce stress and anxiety in breastfeeding mothers. Mothers who practiced mindfulness-based stress reduction techniques experienced lower stress levels and were more likely to breastfeed exclusively for the recommended six months⁵. In relation to the Southern Senatorial District of Taraba, women contribute greatly to farming activities and are solely responsible for taking care of the chores and tending to other family needs. Women who are not seen doing these are lazy or weaklings. These everyday tasks keep them preoccupied almost throughout the whole day with little or no time to rest or even pay attention to their own personal needs, even during the postpartum and lactation period, and these predispose them to stress. So, it is significant that women consciously create time out of their many chores to relax and possibly engage in recreational activities that could ease tension accrued from work to be able to recharge themselves for effective productivity and social wellbeing.

Practical Breastfeeding Support

Interventions that provide practical breastfeeding support, such as lactation consultant services, have been particularly effective. These services offer personalized guidance and troubleshooting for breastfeeding challenges, which can significantly reduce maternal stress and anxiety. Access to lactation consultants was associated with higher breastfeeding rates and improved maternal mental health, as these professionals help mothers navigate breastfeeding difficulties and build confidence in their breastfeeding capabilities³⁶. In relation to the Southern Senatorial District of Taraba, postpartum women and breastfeeding mothers are more likely to be tutored on breastfeeding practices by older postmenopausal women instead of consulting with a professional because of their seemingly traditional/cultural belief system. These old postmenopausal women may not have adequate knowledge of best breastfeeding practices, which may eventually have an undesirable outcome.

For instance, the age-old unscientific belief that consumption of palm wine and locally brewed alcohol stimulates breast milk production and secretion in postpartum women. Therefore, there is a need to create awareness on the significance of seeking the attention of a professional when there are hurdles during breastfeeding, who will effectively guide breastfeeding mothers to surmount any challenge associated with lactation.

Conclusion

The outcomes of these interventions are multifaceted. Reduced stress and anxiety levels among breastfeeding mothers not only lead to longer breastfeeding duration but also contribute to better mental health and overall well-being of breastfeeding mothers and infants. Additionally, infants benefit from the prolonged breastfeeding period through enhanced nutritional intake and a stronger immune system. Collectively, these interventions underscore the importance of a holistic approach to supporting breastfeeding mothers, addressing both psychological and practical needs to foster a positive breastfeeding experience.

In essence, stress has a significant impact on breastfeeding mothers and infants. The clinical observations in this book chapter show that high levels of maternal stress and anxiety are associated with various challenges in breastfeeding, including reduced milk supply, difficulties with latching, and a shorter overall duration of breastfeeding. These challenges can have cascading effects on both maternal and infant health, potentially leading to negative physical and psychological outcomes.

This study however, highlights the need for comprehensive support systems for new mothers and recommend that healthcare providers, lactation consultants, mental health professionals, and pediatrician, should play a crucial role in creating more awareness on the need to identify and address the effects of stress on breastfeeding mothers and infants through the provision of stress management intervention strategies such as peer support groups, breastfeeding education programs, mindful relaxation techniques and psychological support and counselling as a step towards promoting effective breastfeeding initiation and maintenance. In addition, there is a need to create a culturally supportive environment that is gender friendly and considerate towards the plights of breastfeeding mothers and infants within the study area.

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