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Relationship Between Postpartum Care Practices and Mental Health Outcomes: Understanding the Impact on Maternal Well-Being

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Abstract **Original Research Article**

Introduction: Postpartum depression (PPD) is a major mental health condition affecting mothers during the first year postpartum, often beginning within the initial six weeks. The purpose of the study was to assess the relationship between postpartum care practices and their effects on maternal mental health outcomes. ***Aim of the study:*** The aim of the study was to evaluate the relationship between postpartum care practices and their effects on maternal mental health outcomes. ***Methods:*** This prospective observational study included 130 postpartum women aged 18-45, recruited from the outpatient and inpatient departments of BSMMU and Dhaka Medical College, Dhaka, from July 2020 to June 2021. Women were eligible if they were within six months postpartum and provided informed consent. Data were collected through face-to-face interviews using structured questionnaires, including the EPDS and GAD-7 scales. Analysis was performed using SPSS software version 22.0. ***Result:*** The majority of patients, 83 (63.85%), are in the ≥30 age group, have completed primary school, 92 (70.77%), and are Muslim, 104 (80.00%). For pre-pregnancy BMI, 58 (44.62%) of patients had a normal BMI. Parental support was available to 111 (85.38%) of patients. Regarding mental health outcomes, 74 (56.92%) of patients scored within the normal range on the Edinburgh Postnatal Depression Scale (EPDS). ***Conclusion:*** The study concludes that comprehensive postpartum support systems are crucial for reducing maternal depression and anxiety, highlighting the need for targeted interventions and systematic screening in postpartum care to improve mental health outcomes.

Keywords: Postpartum Care Practices, Maternal Well-Being, Mental Health Outcomes, Postpartum Depression, Social Support.

INTRODUCTION

The postpartum period, particularly during the first few weeks to the first year after childbirth, is a crucial time for women's mental health, with many facing increased vulnerability to mood and stress conditions [1]. Postpartum depression (PPD), which is defined as nonpsychotic depression occurring within a year after childbirth, is a major mental health condition affecting mothers during the first year postpartum, often beginning within the initial six weeks [2, 3]. PPD is described as a "crippling mood disorder that diminishes the joy and happiness of new mothers" [4] and, if left undiagnosed or untreated, can have detrimental effects on both the mother and child, as well as their relationship [5]. Early diagnosis and treatment of postpartum depression are essential to reduce the severity of the condition and its associated complications. Structured questionnaires, such as patient-reported outcome measures (PROMs), are crucial for screening large numbers of postpartum women to identify those at higher risk [6]. PPD has also been associated with challenges in breastfeeding initiation, duration, and exclusivity, highlighting its significant impact on both maternal and infant health [7].

Postpartum depression can predispose mothers to chronic or recurring depression, which can significantly impede the child's cognitive, behavioral, and social development. Additionally, mothers experiencing depression are more likely to encounter difficulties with breastfeeding and may be less inclined to seek appropriate healthcare [8, 9]. The duration and severity of postpartum depression (PPD) are often shaped by how quickly a new mother receives personalized treatment, whether it be pharmacological,

psychotherapeutic, or social support interventions [10, 11]. This is particularly crucial, as perceived social support during the first six weeks postpartum is vital in enhancing maternal well-being by fostering feelings of acceptance, love, and worth [12]. The COVID-19 pandemic, which disrupted normal avenues of perinatal support, has highlighted the necessity of this care; changes in perceived support during this time were strongly linked to heightened depression symptoms among postpartum women [13]. Therefore, ensuring comprehensive postpartum care, including sufficient social support, is essential for improving maternal mental health and supporting recovery during this critical period.

Despite the increasing number of studies on postpartum depression in Bangladesh, there remains a lack of comprehensive evidence that fully explores both the burden of the condition and its associated risk factors. Much of the existing research is based on regional data, with few nationwide studies, leading to considerable gaps in our overall understanding. Furthermore, while there are numerous interventional studies, their findings are often inconsistent, especially regarding the effectiveness of postpartum support on maternal mental health [14]. The UK National Institute for Health and Care Excellence advises clinicians to consider using the Edinburgh Postnatal Depression Scale (EPDS) or the Patient Health Questionnaire–9 to assess women at risk of developing mental health issues [15].

As Bangladesh sees a reduction in maternal mortality, the focus is increasingly shifting toward addressing maternal morbidity, including mental health disorders, highlighting the need for more targeted research in this area. The findings of this study demonstrate the critical role of comprehensive postpartum care in improving mental health outcomes among new mothers.

Objectives

1. The aim of the study was to evaluate the relationship between postpartum care practices and their effects on maternal mental health outcomes.

METHODOLOGY & MATERIALS

This prospective observational study was conducted at the Department of Obstetrics and Gynecology, Bangabandhu Sheikh Mujib Medical University (BSMMU) and Dhaka Medical College, Dhaka, Bangladesh, over a 12-month period from July 2020 to June 2021, aiming to evaluate the relationship between postpartum care practices and maternal mental health outcomes. The study population included 130 postpartum women aged 18 to 45 years who were recruited from the outpatient and inpatient departments of the respective hospitals, all of whom had given birth within the past six months and consented to participate.

Inclusion Criteria

2. Women aged 18-45 years who were within six months postpartum.
3. Women who provided informed consent.

Exclusion Criteria

4. Women with a history of psychiatric disorders prior to pregnancy.
5. Women who experienced major obstetric complications during delivery.
6. Women with severe medical conditions such as chronic renal or liver diseases.
7. Women who declined to participate.

The study protocol was reviewed and approved by the Institutional Review Board (IRB) of BSMMU and Dhaka Medical College, with written informed consent obtained from all participants prior to enrollment, ensuring confidentiality and voluntary participation. Data were collected through face-to-face interviews using a structured questionnaire to gather sociodemographic information, postpartum care practices, and mental health outcomes. Standardized scales, including the Edinburgh Postnatal Depression Scale (EPDS) and the Generalized Anxiety Disorder 7-item (GAD-7) scale, were administered to assess maternal mental health, while clinical data and birth outcomes were recorded from medical records. The outcome was the mental health status of postpartum women, evaluated through EPDS and GAD-7 scores. All data were analyzed using SPSS software version 22.0, employing descriptive statistics to summarize the sociodemographic characteristics, postpartum care practices, and mental health outcomes. Descriptive statistics, including the number of patients and percentages, were used to summarize the relationship between postpartum care practices and mental health outcomes.

RESULT

Table 1: Sociodemographic Characteristics of the Study Patients (n=130)

Variables		Number of Patients (n)	Percentage (%)
Mother's Age (years)	18-24.9	15	11.54
	25-29.9	32	24.61
	≥30	83	63.85
Education	Primary school	92	70.77
	High school	30	23.08
	University degree	8	6.15

Variables		Number of Patients (n)	Percentage (%)
Religion	Muslim	104	80.00
	Hindu	19	14.61
	Christian	5	3.85
	Buddhist	2	1.54
Employment Status	Full time	44	33.85
	Part-time	7	5.38
	Not working	79	60.77
Maternity Leave (n=51)	More than 3 months	3	5.88
	<3 months	4	7.84
	No maternity leave/not returning to work	44	86.28
Family Monthly Income (BDT)	<5000	51	39.23
	5000-10,000	25	19.23
	10,000-15,000	20	15.38
	>15,000	6	4.62
	Don't know/refused to answer	28	21.54

The majority of patients of the ≥30 age group 83 (63.85%), have completed primary school 92 (70.77%), and are Muslim 104 (80.00%). A significant proportion are not working 79% (60.77%) and most did not take maternity leave or did not return to work 44 (86.28%). Regarding family income, 51 (39.23%) of patients fall into the lowest income bracket of <5000 BDT.

Table 2: Maternal Characteristics of the Study Patients (n=130)

Variables		Number of Patients (n)	Percentage (%)
Parity	Primiparous	30	23.08
	Multiparous	100	76.92
Pre-pregnancy BMI	Underweight	7	5.38
	Normal	58	44.62
	Overweight	40	30.77
	Obese	25	19.23
Gestational Weight Gain	Insufficient	36	27.69
	Adequate	47	36.16
	Excessive	47	36.15
Gestational Diabetes	Yes	28	21.54
	No	102	78.46
Type of Delivery	Vaginal	98	75.38
	Caesarean	32	24.62

This table provides shows the maternal characteristics of the 130 study patients. Regarding parity, 30 (23.08%) patients are primiparous and 100 (76.92%) patients are multiparous. For pre-pregnancy BMI, 7 (5.38%) patients are underweight, 58 (44.62%) patients have a normal BMI, 40 (30.77%) patients are overweight, and 25 (19.23%) patients are obese. Gestational weight gain is classified as insufficient for 36 (27.69%) patients, adequate for 47 (36.16%) patients, and excessive for 47 (36.15%) patients. Gestational diabetes was present in 28 (21.54%) patients and absent in 102 (78.46%) patients. The majority of deliveries were vaginal 98 (75.38%) patients, with 32 (24.62%) patients undergoing caesarean sections.

Table 3: Maternal Support Among the Study Patients (n=130)

Variables		Number of Patients (n)	Percentage (%)
Availability of Nanny for Help in Caring for the Baby	Yes	21	16.15
	No	109	83.85
Availability of Housemaid for Help in Housework	Yes	68	52.31
	No	62	47.69
Parents' Support	Yes	111	85.38
	No	19	14.62
Husband's Support	Yes	127	97.69
	No	3	2.31
In-laws' Support	Yes	114	87.69
	No	16	12.31
Family Support	Yes	122	93.85
	No	8	6.15
Friend Support	Yes	113	86.92
	No	17	13.08

This table shows the support available to the 130 study patients. Of these patients, 21 (16.15%) had a nanny for help, while 109 (83.85%) did not. Regarding housework, 68 (52.31%) patients had a housemaid, and 62 (47.69%) patients did not. Parental support was available to 111 (85.38%) patients and not available to 19 (14.62%) patients. The majority received support from their husbands 127 (97.69%) patients, in-laws 114 (87.69%) patients, and family 122 (93.85%) patients. Friend support was available to 113 (86.92%) patients, while 17 (13.08%) patients did not have this support.

Table 4: Prevalence of Postpartum Depression and Anxiety Among the Study Patients (n=130)

Variables		Number of Patients (n)	Percentage (%)
EPDS Score	Normal (<10)	74	56.92
	Any Depressive Symptomatology (10-12)	24	18.46
	High Depressive Symptomatology (>12)	32	24.62
STAI-State Score	No or Low Anxiety (20-37)	31	23.85
	Moderate Anxiety (38-44)	60	46.15
	High Anxiety (45-80)	39	30.00
STAI-Trait Score	No or Low Anxiety (20-37)	31	23.85
	Moderate Anxiety (38-44)	29	22.31
	High Anxiety (45-80)	70	53.84

For the Edinburgh Postnatal Depression Scale (EPDS), 74 (56.92%) patients scored as normal (<10), 24 (18.46%) patients exhibited any depressive symptomatology (10-12), and 32 (24.62%) patients had high depressive symptomatology (>12). Regarding anxiety, 31 (23.85%) patients had no or low anxiety according to the STAI-State score, 60 (46.15%) patients experienced moderate anxiety, and 39 (30.00%) patients had high anxiety. For the STAI-Trait score, 31 (23.85%) patients had no or low anxiety, 29 (22.31%) patients experienced moderate anxiety, and 70 (53.84%) patients had high anxiety.

DISCUSSION

This prospective observational study was conducted at the Department of Obstetrics and Gynecology at BSMMU and Dhaka Medical College from July 2020 to June 2021. The study aimed to explore the impact of postpartum care practices on maternal mental health outcomes, involving 130 postpartum women who were recruited from both outpatient and inpatient departments. By evaluating different types of postpartum support and their effects on mental well-being, the research aimed to offer valuable insights into enhancing postpartum care and addressing mental health issues among new mothers.

In this study, the majority of patients were aged ≥30 (63.85%), completed primary school (70.77%), and identified as Muslim (80.00%). A significant proportion were not working (60.77%), and most did not take maternity leave or did not return to work (86.28%). Family income was notably low, with 39.23% of patients earning less than 5000 BDT. These findings align with Radwan *et al.*, [16], who reported that most patients (63.7%) were aged ≥30 and had similar employment patterns (60.8%). Additionally, Chekol *et al.*, [17] highlighted that woman with maternity leave had higher rates of exclusive breastfeeding compared to those without. The lack of maternity leave and low income in our study's population may contribute to increased stress and reduced access to essential postpartum support, potentially exacerbating mental health challenges such as postpartum depression and anxiety. The high rate of patients not returning to work or taking maternity leave could indicate a lack of support systems that may be vital for mitigating mental health issues.

In this study, maternal characteristics revealed that 23.08% of patients were primiparous, while 76.92% were multiparous. The pre-pregnancy BMI distribution showed that 5.38% were underweight, 44.62% had a normal BMI, 30.77% were overweight, and 19.23% were obese. Gestational weight gain was classified as insufficient for 27.69% of patients, adequate for 36.16%, and excessive for 36.15%. Gestational diabetes was present in 21.54% of patients, with the majority having vaginal deliveries (75.38%) compared to caesarean sections (24.62%). These findings are consistent with similar studies that highlight variations in maternal weight status and delivery methods, [16] suggesting that these factors play a critical role in postpartum health. The variations in BMI and gestational weight gain may impact maternal mental health outcomes by influencing physical well-being and increasing the risk of complications such as gestational diabetes. Additionally, the high rate of vaginal deliveries could be linked to better postpartum recovery and mental health outcomes compared to caesarean sections, underscoring the importance of monitoring these factors in postpartum care.

In this study, support available to the 130 patients revealed that 16.15% had a nanny, while the majority (83.85%) did not. Regarding housework, 52.31% had a housemaid, and 47.69% did not. Parental support was available to 85.38% of patients, with significant support from husbands (97.69%), in-laws (87.69%), and family (93.85%). Friend support was available to 86.92% of patients, with 13.08% lacking this

support. Our findings align with previous studies indicating that strong social support from a variety of sources, is negatively correlated with postpartum depression (PPD) [16]. Strong social support is often found in studies to help reduce depression by providing excellent stress and anxiety coping methods [19]. This is consistent with meta-analyses that show that poor social support is a substantial predictor of PPD and emphasizes the protective effect of social supports in improving mother mental health [20]. Interventions focusing on strengthening these support systems could be effective in preventing PPD and improving overall maternal well-being.

In this study, the Edinburgh Postnatal Depression Scale (EPDS) revealed that 56.92% of patients scored as normal (<10), 18.46% exhibited mild depressive symptomatology (10-12), and 24.62% had high depressive symptomatology (>12). These results align with findings from various studies showing significant prevalence rates of high depressive and anxiety symptoms postpartum [21]. Similar to global patterns, our study shows a notable percentage of patients experiencing high depressive and anxiety symptoms, reflecting trends seen in other regions like Brazil, Malaysia, and Morocco, where postpartum depression rates are also considerable [22]. Differences in prevalence rates across countries may be influenced by cultural practices, demographic characteristics, and variations in screening practices. Anxiety levels varied, with 23.85% of patients showing no or low anxiety on the STAI-State score, 46.15% experiencing moderate anxiety, and 30.00% having high anxiety. Maternal postpartum anxiety can significantly impact maternal functioning and may disrupt the establishment of the mother-infant bond [23]. These findings underscore the importance of addressing both depression and anxiety in postpartum care to improve overall maternal mental health and strengthen the mother-infant relationship.

Our study highlights the essential role of effective postpartum care practices and strong support networks in improving maternal mental health. Emphasizing these factors can lead to better mental health outcomes.

Limitations of the Study

This study had several limitations:

- The study's sample was limited to women from two specific hospitals, which may not represent the broader postpartum population.
- Excluding women with pre-existing psychiatric disorders or severe medical conditions may limit the generalizability of the findings.
- The reliance on self-reported data may introduce reporting bias or inaccuracies in assessing postpartum care practices and mental health outcomes.

CONCLUSION

This study investigated the relationship between postpartum care practices and their effects on maternal mental health outcomes. The results underscore the critical role that various forms of support play in shaping maternal mental health. Our findings demonstrate that patients with access to comprehensive support from family and friends reported significantly lower levels of postpartum depression and anxiety. Conversely, those with limited support exhibited higher levels of depressive and anxious symptoms. These insights highlight the importance of integrating robust postpartum support systems into maternal care practices to enhance mental health outcomes. The study emphasizes the need for targeted interventions that address both the practical and emotional support needs of new mothers. Implementing systematic screening and support measures in postpartum care settings could significantly improve maternal mental health and overall well-being. Policymakers and healthcare providers should consider these findings to develop strategies that ensure comprehensive support for new mothers, ultimately benefiting maternal and family health.

REFERENCES

1. Williams, D. (2003). Pregnancy: a stress test for life. *Current Opinion in Obstetrics and Gynecology*, *15*(6), 465-471.
2. Baisch, M. J., Carey, L. K., Conway, A. E., & Mounts, K. O. (2010). Perinatal depression: a health marketing campaign to improve screening. *Nursing for women's health*, *14*(1), 20-33.
3. Driscoll, J. W. (2006). Postpartum depression: the state of the science. *The Journal of Perinatal & Neonatal Nursing*, *20*(1), 40-42.
4. Beck, C. T. (2002). Theoretical perspectives of postpartum depression and their treatment implications. *MCN: The American Journal of Maternal/Child Nursing*, *27*(5), 282-287.
5. Sultan, P., Ando, K., Elkhateb, R., George, R. B., Lim, G., Carvalho, B., ... & O'Carroll, J. (2022). Assessment of patient-reported outcome measures for maternal postpartum depression using the consensus-based standards for the selection of health measurement instruments guideline: a systematic review. *JAMA Network Open*, *5*(6), e2214885-e2214885.
6. Vliegen, N., Casalin, S., & Luyten, P. (2014). The course of postpartum depression: a review of longitudinal studies. *Harvard review of psychiatry*, *22*(1), 1-22.
7. Stewart, D. E., Robertson, E., Dennis, C. L., Grace, S. L., & Wallington, T. (2003). Postpartum depression: Literature review of risk factors and interventions. *Toronto: University Health Network Women's Health Program for Toronto Public Health*, 1-289.
8. Field, T. (2010). Postpartum depression effects on early interactions, parenting, and safety practices: a

review. *Infant Behavior and Development*, *33*(1), 1-6.
9. Sohr-Preston, S. L., & Scaramella, L. V. (2006). Implications of timing of maternal depressive symptoms for early cognitive and language development. *Clinical child and family psychology review*, *9*, 65-83.
10. Logsdon, M. C., Wisner, K., Billings, D. M., & Shanahan, B. (2006). Raising the awareness of primary care providers about postpartum depression. *Issues in mental health nursing*, *27*(1), 59-73.
11. Beck, C. T. (2002). Postpartum depression: A metasynthesis. *Qualitative health research*, *12*(4), 453-472.
12. Kohler, S., Sidney Annerstedt, K., Diwan, V., Lindholm, L., Randive, B., Vora, K., & De Costa, A. (2018). Postpartum quality of life in Indian women after vaginal birth and cesarean section: a pilot study using the EQ-5D-5L descriptive system. *BMC pregnancy and childbirth*, *18*, 1-13.
13. Zhou, J., Havens, K. L., Starnes, C. P., Pickering, T. A., Brito, N. H., Hendrix, C. L., ... & Smith, B. A. (2021). Changes in social support of pregnant and postnatal mothers during the COVID-19 pandemic. *Midwifery*, *103*, 103162.
14. Stewart, D. E., Robertson, E., Dennis, C. L., Grace, S. L., & Wallington, T. (2003). Postpartum depression: Literature review of risk factors and interventions. *Toronto: University Health Network Women's Health Program for Toronto Public Health*, 1-289.
15. National Institute for Health and Care Excellence. Antenatal and postnatal mental health: clinical management and service guidance. Clinical guideline 192.
16. Radwan, H., Fakhry, R., Hanach, N., Obaid, R. S., Moez Al Islam, E. F., Al Marzooqi, S., ... & Dennis, C. L. (2020). Maternal mental health and infant feeding practices cohort protocol: Methodology and baseline characteristics. *Hamdan Medical Journal*, *13*(3), 141-149.
17. Chekol, D. A., Biks, G. A., Gelaw, Y. A., & Melsew, Y. A. (2017). Exclusive breastfeeding and mothers' employment status in Gondar town, Northwest Ethiopia: a comparative cross-sectional study. *International breastfeeding journal*, *12*, 1-9.
18. Chaput, K. H., Nettel-Aguirre, A., Musto, R., Adair, C. E., & Tough, S. C. (2016). Breastfeeding difficulties and supports and risk of postpartum depression in a cohort of womenwho have given birth in Calgary: a prospective cohort study. *Canadian Medical Association Open Access Journal*, *4*(1), E103-E109.
19. McFadden, A., Gavine, A., Renfrew, M. J., Wade, A., Buchanan, P., Taylor, J. L., ... & MacGillivray, S. (2017). Support for healthy breastfeeding mothers with healthy term babies. *Cochrane database of systematic reviews*, (2).
20. Beck, C. T. (1996). A meta-analysis of predictors of postpartum depression. *Nursing research*, *45*(5), 297-303.
21. Green, K., Broome, H., & Mirabella, J. (2006). Postnatal depression among mothers in the United Arab Emirates: socio-cultural and physical factors. *Psychology, health & medicine*, *11*(4), 425-431.
22. Hahn-Holbrook, J., Cornwell-Hinrichs, T., & Anaya, I. (2018). Economic and health predictors of national postpartum depression prevalence: a systematic review, meta-analysis, and meta-regression of 291 studies from 56 countries. *Frontiers in psychiatry*, *8*, 248.
23. Ross, L. E., McLean, L. M., & Psych, C. (2006). Anxiety disorders during pregnancy and the postpartum period: a systematic review. *depression*, *6*(9), 1-14.