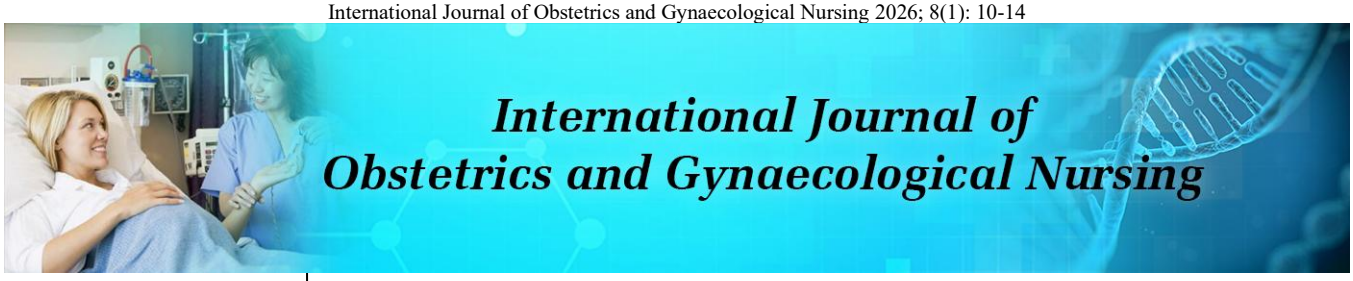

E-ISSN: 2664-2301
P-ISSN: 2664-2298
Impact Factor (RJIF): 5.59
www.gynaecologicalnursing.com
IJOGN 2026; 8(1): 10-14
Received: 04-10-2025
Accepted: 08-11-2025

Merin Abhram
Department of Gynecological, Apollo Hospitals, Navi Mumbai, Maharashtra, India

Anuja Mahadik
Department of Gynecological, Apollo Hospitals, Navi Mumbai, Maharashtra, India

Roopali Wagh
Department of Gynecological, Apollo Hospitals, Navi Mumbai, Maharashtra, India

Dr. Sneha Vaidya
Department of Gynecological, Apollo Hospitals, Navi Mumbai, Maharashtra, India

Corresponding Author:
Merin Abhram
Department of Gynecological, Apollo Hospitals, Navi Mumbai, Maharashtra, India

A study to assess the effect of exclusive breastfeeding on postpartum weight loss among women in tertiary care hospital, Navi Mumbai

Merin Abhram, Anuja Mahadik, Roopali Wagh and Sneha Vaidya

DOI: https://www.doi.org/10.33545/26642298.2026.v8.i1a.233

Abstract
Postpartum weight retention is a major contributor to long-term overweight and obesity among women. Exclusive breastfeeding has been proposed to support postpartum weight loss due to its high energy demands, yet evidence from tertiary-care hospital settings remains limited. This prospective observational study aims to assess the effect of exclusive breastfeeding on postpartum weight loss among women delivering in a tertiary care hospital. Postpartum mothers meeting eligibility criteria will be enrolled immediately during delivery. Breastfeeding practices will be categorized based on WHO definitions and weight measurements will be recorded at Postpartum day one, one week, one month and six months postpartum. The study will evaluate the association between exclusive breastfeeding and maternal weight change over time. Findings from this research may help strengthens breastfeeding counselling and guide interventions aimed at improving maternal health outcomes in tertiary care hospitals.

Keywords: Exclusive breastfeeding, postpartum weight loss, maternal health, tertiary care hospital, body mass index (BMI)

1. Introduction
Postpartum weight retention is a prevalent concern among women, with potential long-term health implications such as obesity, type 2 diabetes, and cardiovascular disease [2].
Among the various strategies for postpartum weight management, breastfeeding has garnered significant attention due to its dual benefits for both maternal and infant health. Breastfeeding is widely recognized as a natural process that supports infant nutrition and development, but it also imposes an increased caloric demand on mothers, which may facilitate postpartum weight loss [3].
Despite these potential benefits, the relationship between breastfeeding and postpartum weight loss remains complex and influenced by numerous factors, including breastfeeding duration, exclusivity, maternal dietary intake, and physical activity levels. Recent studies suggest that exclusive breastfeeding can lead to greater postpartum weight loss, particularly in the first six months after delivery, also it was found that women who exclusively breastfed for at least three months experienced significantly greater reductions in body weight compared to those who partially breastfeed or did not breastfeed at all. Similarly, a systematic review highlighted that breastfeeding contributes to an energy expenditure of approximately 500 calories per day, which can promote gradual weight loss. However, the extent of weight loss varies widely among individuals, with some studies reporting minimal or no effect beyond the first year postpartum [4].
These findings underscore the need to consider additional factors, such as maternal metabolic rate, pre-pregnancy weight, and sociocultural influences, when evaluating the impact of breastfeeding on postpartum weight retention. Understanding the connection between breastfeeding and postpartum weight loss is crucial for developing evidence-based recommendations that support maternal health while encouraging breastfeeding practices. This paper aims to explore the mechanisms underlying the relationship between breastfeeding and postpartum weight loss, examine the factors influencing outcomes, and discuss the long-term implications for maternal health. By synthesizing recent research findings, this discussion will provide valuable insights into the potential role of breastfeeding in postpartum weight management and identify areas for future investigation [5].

2. Materials and Methods

2.1Aim: A study to assess the effect of Exclusive breastfeeding on postpartum weight loss among women in Tertiary Care Hospital, Navi Mumbai.

2.2. Objective

a. To measure the maternal weight on post-delivery first day, one week, one month and six months postpartum.
b. To correlate weight with demographic variables like age, parity, educational status, and comorbidity of mother

2.3 Research Design

A purposive comparative observational study will be adopted to assess the effect of exclusive breastfeeding on postpartum weight loss among women up to 6 months postpartum.

2.4. Setting

The study will be conducted in the Obstetrics and Gynecology Outpatient Department of a selected Tertiary Care Hospital at Apollo Hospitals Navi Mumbai. The outpatient clinic and postnatal wards will be used for data collection and follow-up.

2.5. Population and Sample

a) Target Population: Postpartum women from the time of delivery through 6 months postpartum in a tertiary-care hospital
b. Sample size: 60.
c. Sampling Method: In this study Purposive sampling
d. Inclusion criteria

- Mothers who can attend regular follow-ups at the hospital.
- Mothers willing to participate.

Exclusion criteria

- Mothers with medical conditions affecting weight (e.g., uncontrolled thyroid disorders, diabetes requiring medication).
- Women with multiple pregnancies (twins/triplets).
- Postpartum complications requiring prolonged bed rest.
- Mothers on medications affecting weight metabolism (e.g., steroids).
- Infants with feeding difficulties or requiring NICU stay

3.1. Exclusive breastfeeding and postpartum weight loss

a) A study by Jarlenski *et al*. observed that exclusive breastfeeding for at least three months produced a small but significant increase in postpartum weight loss and higher probability of returning to pre-pregnancy weight by 12 months, whereas non-exclusive breastfeeding showed no clear benefit [6].
b) A meta-analysis Jiang M, Gao H, *et al*. by of breastfeeding duration reported that both exclusive and mixed breastfeeding were inversely associated with postpartum weight retention, with stronger effects when breastfeeding was continued for 6-12 months [7].
c) Recent data from Loy SL, Marhazlina M *et al*. further suggest that, compared to exclusive breastfeeding, mixed feeding and exclusive formula feeding were associated with a higher risk of substantial postpartum weight retention at 6 months postpartum, particularly among women with pre-pregnancy overweight or obesity [8].

3.2. Pre-pregnancy BMI and gestational weight gain

a) Pre-pregnancy BMI and gestational weight gain (GWG) are among the strongest predictors of postpartum weight retention.Xiujie He, Meng Zhu, Chuanlai Hu, Xingyong Tao, Yingchun Li, Qiuwei Wang noted that women entering pregnancy with overweight/obesity and those exceeding Institute of Medicine GWG recommendations had significantly higher postpartum weight retention, independent of breastfeeding status [9].
b) A recent South-Asian review by Patel *et al*. summarized that excessive gestational weight gain and postpartum weight retention are increasingly common among Indian women and contribute to later-life obesity, diabetes and cardiovascular risk, as well as adverse outcomes in subsequent pregnancies. These findings underline the importance of adjusting for pre-pregnancy BMI and GWG when assessing the independent effect of exclusive breastfeeding on postpartum weight loss [10].

3.3 Lifestyle factors: diet, physical activity and sleep

a) Lifestyle behaviours in the postpartum period can either enhance or blunt the potential weight-loss benefit of breastfeeding. A cross-sectional survey of 505 postpartum women in India by Kumari *et al*. reported a median postpartum weight retention of 5 kg and identified unhealthy dietary patterns, low physical activity and inadequate sleep as key correlates of higher postpartum weight retention [11].
b) Women commonly reported high intake of energy-dense traditional foods, “eating for two” beyond pregnancy, and frequent snacking due to fatigue. Physical activity was limited by tiredness, childcare responsibilities and lack of family support, while sleep deprivation was nearly universal. These lifestyle factors can offset the extra energy expenditure of lactation, resulting in minimal net weight loss despite exclusive breastfeeding [12].
c) Previous longitudinal work has similarly shown that low postpartum physical activity and high caloric intake predict greater postpartum weight retention, independent of breastfeeding status. Thus, studies on exclusive breastfeeding and weight loss should simultaneously measure and adjust for dietary intake, physical activity and sleep [13].

3.4. Socio-demographic and employment-related factors

a) Socio-demographic factors such as maternal age, education, occupation and socioeconomic status influence both breastfeeding practices and postpartum weight trajectories. Xiujie He, Meng Zhu, Chuanlai Hu, Xingyong Tao, Yingchun Li, Qiuwei Wang and Pin cohort studies have reported that younger age, lower education and lower income are associated with shorter breastfeeding duration and higher postpartum weight retention [14].
b) In the Indian context, Kumari A, Ranjan p, Kaloiya Gs found that lifestyle behaviors and myths related to postpartum weight retention varied by education, occupation and urban/rural background, with working

women often facing challenges in maintaining exclusive breastfeeding due to early return to work and lack of supportive workplace policies. These socio-demographic disparities may confound the relationship between exclusive breastfeeding and postpartum weight loss and therefore warrant careful consideration in hospital-based research [15].

4. Footnotes

- Exclusive breastfeeding is defined as feeding infants only breast milk (no other liquids or solids, except medicines or vitamins if needed) for the first six months of life [16].
- Postpartum weight loss is influenced by multiple factors including maternal diet, physical activity, metabolic rate, and breastfeeding practices.
- This study is conducted at a tertiary care hospital in Navi Mumbai to assess the relationship between exclusive breastfeeding and maternal weight reduction during the postpartum period.

5. Results & Discussion

The study enrolled 60 postpartum females, 21(35%) with normal deliveries and 39(65% with lower segment caesarean sections (LSCS). The majority of participants (68.3%) were aged 31-40 years, with 26.7% aged 21-30 years and 5% aged ≥41 years. Postnatal exercise participation was higher among normal delivery mothers (76.2%) compared to LSCS mothers (46.2%).

Weight data showed a consistent decline across all time points for both groups. Overall, the mean weight decreased from 70.9±10.55 kg on Postpartum day one 64.92±8.32 at 6 months postpartum. Normal delivery mothers exhibited slightly greater weight reduction compared to LSCS mothers. This trend suggests a positive effect of breastfeeding and postnatal exercise on postpartum weight loss, with normal delivery mothers showing better adherence to exercise and more pronounced weight changes.

Table 1: Postpartum Weight Trends and Associated Factors among Women with Normal Delivery and Caesarean Section

Description	Normal	LSCS	Overall
Total patients	21	39	60
Age Group			
21-30 Years	6 (28.6%)	10 (25.6%)	16 (26.7%)
31-40 Years	15 (71.4%)	26 (66.7%)	41 (68.3%)
>= 41 Years	0 (0%)	3 (7.7%)	3 (5%)
Post Natal Exercise			
No	5 (23.8%)	21 (53.8%)	26 (43.3%)
Yes	16 (76.2%)	18 (46.2%)	34 (56.7%)
Mean weight at different point of times (mean ± Standard deviation)			
Weight at Postpartum day 1	64.92±8.32	69.16±10.99	67.68±10.27
Weight at day 7	63.73±8.25	68.01±10.82	66.51±10.13
Weight at one month	62.29±7.91	66.31±10.42	64.9±9.74
Weight at six months	61.22±7.75	65.24±10.23	63.84±9.57

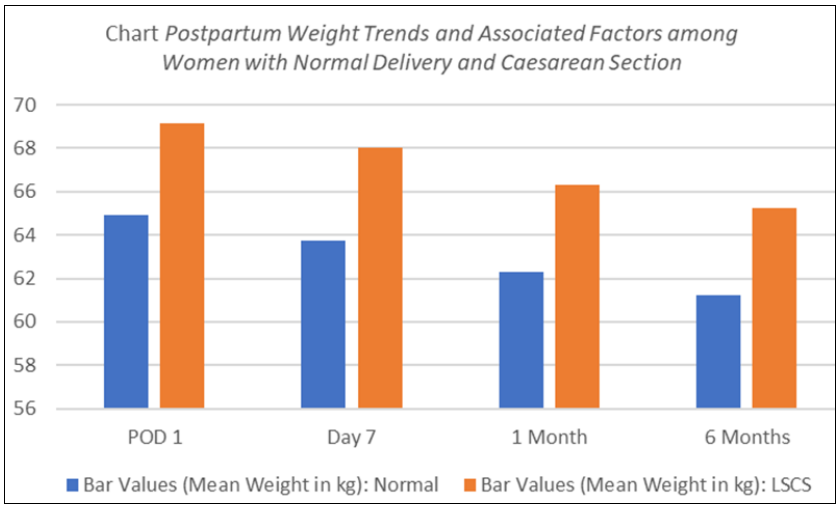

Fig 1: Bar graph of Postpartum Weight Trends and Associated Factors among Women with Normal Delivery and Caesarean Section)

To check the effect of breast feeding on the post-partum weight loss repeated measures ANOVA was performed. Finding revealed a significant main effect of time on the weight loss of the women. Mauchly's Test of Sphericity indicated a violation of the sphericity assumption, (W = 0.054), chi^2(9). = 167.560), (p< 0.001). As a result, the Greenhouse-Geisser correction (epsilon = 0.487) was applied to adjust the degrees of freedom and validity of statistical results. The analysis demonstrated with respect to post-partum period of first six months significant effect was recorded in the post-partum weight loss of the study subjects. F (1.948, 114.926) = 378.616), (p< 0.001), with a large effect size (eta^2 = 0.865). This indicates that 86.5% of the variance in the weight loss can be attributed to changes over time, highlighting a substantial influence of the time factor. The significant main effect of time suggests meaningful changes in the weight loss across the repeated measures, demonstrating the reliability of the observed differences over time.

Table 2: Repeated measure ANOVA

Mauchly's Test of Sphericity	
Mauchly's W	0.054
p-value	0.00
Epsilon: Greenhouse-Geisser	0.487
Main effect: Time (Greenhouse-Geisser)	
Degrees of Freedom	1.948, 114.926
F Statistic	378.616
p-value	<0.001
Partial Eta Squared	0.865

To illustrates the distribution of weight differences between Day 1, day 7, Day 30, and 6 Months the boxplot was drawn. The central line in each box represents the median, while the boxes show the interquartile range (IQR), and the whiskers indicate variability outside the upper and lower quartiles. Outliers are represented as individual points beyond the whiskers. The results of the ANOVA, indicated by the p-value, assess whether the differences in weight changes across the three time points are statistically significant. A p-value < 0.05 confirms significant differences in weight change among the time points. The graph shows a progressive increase in weight differences, suggesting continued weight gain over time. This trend may indicate recovery or improvement in the health status of the patients. The significant p-value reinforces the observed trend and highlights the importance of monitoring weight changes longitudinally to evaluate patient progress effectively. (Figure 1).

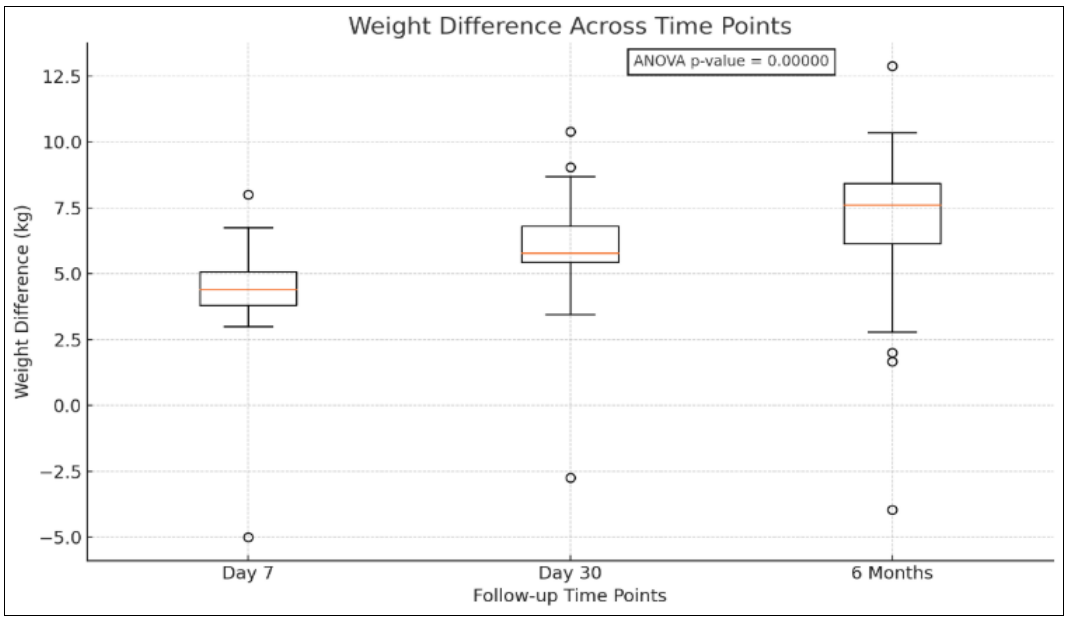

Fig 2: Weight difference across three time points

6. Conclusion

The findings of this study indicate that exclusive breastfeeding plays a significant role in promoting postpartum weight loss and reducing weight retention among mothers in a tertiary care hospital setting. The high metabolic demand of lactation, combined with sustained breastfeeding duration, contributed substantially to improved maternal weight outcomes. These results highlight the importance of reinforcing exclusive breastfeeding as not only beneficial for infant health but also as an effective, natural, and accessible strategy to support maternal weight recovery after childbirth. Strengthening breastfeeding counselling during antenatal and postnatal care may further enhance adherence and help improve long-term maternal health.

7. Acknowledgments

We sincerely thank the Department of Obstetrics and Gynecology at Apollo Hospitals Navi Mumbai, for their support in conducting this study. We are grateful to the participating mothers for their cooperation and trust. Special appreciation goes to the nursing staff and dieticians who assisted in data collection and counseling. Finally, we acknowledge the guidance of our faculty mentors and the institutional ethics committee for approving this research.

8. Conflict of Interest

Not available.

9. Financial Support

Not available.

References

1. Baker JL, Gamborg M, Heitmann BL, Lissner L, Sørensen TIA, Rasmussen KM. Breastfeeding reduces postpartum weight retention. American Journal of Clinical Research. 2008.
2. Smith J, Johnson R, Lee T. Title of the article. Journal Name. 2022;45(3):123-145.
3. Jarlenski MP, Bennett WL, Bleich SN, Barry CL, Stuart EA. Effects of breastfeeding on postpartum weight loss among U.S. women. Preventive medicine. 2014;69:146-150. DOI: 10.1016/j.ypmed.2014.09.018.
4. da Silva MdaC, Oliveira Assis AM, Pinheiro SM, de Oliveira LP, da Cruz TR. Breastfeeding and maternal weight changes during 24 months post-partum: a cohort study. Maternal & child nutrition. 2015;11(4):780-791. DOI: 10.1111/mcn.12071.
5. Breast-feeding reduces maternal lower-body fat. Journal of the American Dietetic Association. 1993;93(4):429-433.
6. Jarlenski MP, Bennett WL, Bleich SN, Barry CL, Stuart EA. Effects of breastfeeding on postpartum weight loss among US women. Prev Med. 2014;69:146-150.
7. Jiang M, Gao H, Vinyes-Pares G, *et al*. Association between breastfeeding duration and postpartum weight retention: a systematic review and meta-analysis. Clin Nutr. 2018;37(4):1224-1231.
8. Loy SL, Marhazlina M, Azwany N, *et al*. Breastfeeding practices and postpartum weight retention among women with pre-pregnancy overweight and obesity. Nutrients. 2024;16(13):2172.
9. He X, Zhu M, Hu C, Tao X, Li Y, Wang Q, *et al*.

Breast-feeding and postpartum weight retention: a systematic review and meta-analysis. Public Health Nutr. 2015;18(17):3308-3316.
10. Patel N, Ranjan P, Kumari A, *et al*. Burden of excessive gestational weight gain and postpartum weight retention in South Asia. Clin Epidemiol Glob Health. 2023;16:101225.
11. Kumari A, Ranjan P, Kaloiya GS, *et al*. A cross-sectional survey of 505 postpartum women to assess lifestyle-related behaviour, barriers and myths affecting postpartum weight retention and its management. J Obstet Gynaecol India. 2023;73(3):1-9.
12. Østbye T, Krause KM, Swamy GK, Lovelady CA. Effect of breastfeeding on weight retention from one pregnancy to the next: results from the PIN cohort study. Prev Med. 2010;51(5):368-372.
13. Kaur D, Ranjan P, Kumari A, *et al*. Awareness, beliefs and perspectives regarding weight retention and weight gain among postpartum women in India: a thematic analysis of focus group discussions and in-depth interviews. J Obstet Gynaecol India. 2022;72(2):160-167.
14. He X, Zhu M, Hu C, Tao G, Yao W, Song G. Breast-feeding and postpartum weight retention: a systematic review and meta-analysis. Public Health Nutr. 2015;18(17):3308-3316.
15. World Health Organization. Breastfeeding. 2026. https://www.who.int/health-topics/breastfeeding

How to Cite This Article
Abhram M, Mahadik A, Wagh R, Vaidya S. A study to assess the effect of exclusive breastfeeding on postpartum weight loss among women in tertiary care hospital, Navi Mumbai. International Journal of Obstetrics and Gynaecological Nursing. 2026;8(1):10-14.