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# Postpartum Weight Retention and Weight Loss Intentions among Women Attending an Urban Primary Health Centre in Chennai: A Cross-Sectional Study

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***Abstract:*** **Background: Postpartum weight retention is a major contributor to the long term obesity and related health problems in women, Despite being a critical period for health promotion, postpartum phase is often neglected in routine maternal care. Addressing lifestyle practices, mental health, sociocultural factors through comprehensive postpartum interventions can improve maternal health outcomes and long term well being.**

**Objectives: This study aims to estimate the prevalence of postpartum weight retention and assess its association with lifestyle, psychosocial, dietary, sociodemographic factors as well as weight management interventions among postpartum women in Chennai.**

**Methods: A cross-sectional study was conducted among 100 women, 6 months to 1 year postpartum, attending primary health centres in Chennai between June and August 2025. Data were collected using a pretested semi-structured questionnaire covering sociodemographic details, obstetric history, sleep, diet, physical activity, psychosocial perceptions, and weight loss intentions. Anthropometric measurements were obtained, and associations were analysed using Chi-square and Fisher's exact tests.**

**Results: The prevalence of PPWR was high (79%). Significant associations were observed with shorter sleep duration, household and childcare responsibilities, mismatched family eating habits, limited dietary awareness, bodyweight perception, and occupation. Weight loss intentions were strongly influenced by confidence, media exposure, social comparison, physical activity, dietary efforts, and motivation to initiate lifestyle changes.**

**Conclusion: Postpartum weight retention is common and influenced by modifiable behavioural and psychosocial factors. The postpartum period is a key opportunity for preventing long term obesity and cardiometabolic risk by integrating structured lifestyle and psychosocial counselling into routine maternal care.**

***Keywords:*** **Postpartum weight retention (PPWR); Maternal health; Psychosocial determinants; Dietary behaviours; Physical activity; Body image perception; Urban primary health centres; Public health intervention; Obesity prevention; Cardiometabolic risk.**

## 1. INTRODUCTION

Pregnancy and childbirth is an important phase of women where it is influenced by various physiological, metabolic and psychosocial determinants. While, gestational weight gain is essential and optimal for the fetal growth, failure to return to the pre pregnancy weight after delivery is emerging a s a new public health problem. Postpartum weight retention (PPWR), defined as the persistence of excess body weight following childbirth, is a well-recognised determinant of long-term overweight, obesity, and non-communicable diseases among women. [1,2,3]. PPWR in the first year is a significant risk factor for future metabolic disorders including type 2 diabetes mellitus , hypertension, dyslipidaemia and cardiovascular diseases. This risk is particularly relevant in low and middle income countries such INDIA, where rapid urbanisation and epidemiological transition have led to dual burden of malnutrition and rising prevalence non communicable diseases among women of reproductive age.

Globally, approximately one-fifth of women retain more than 5 kg during the first year after delivery. [4,5]. The postpartum period represents a critical public health opportunity for intervention as women have frequent contact with health services during infant immunization and child care services where health education and importance of behaviour modification can be insisted upon.

Postpartum weight outcomes are influenced by multiple interacting factors, including pre-pregnancy body mass index, gestational weight gain, sleep deprivation, physical inactivity, and dietary practices. [6] In the Indian sociocultural context, postpartum behaviours are further shaped by traditional dietary beliefs, breastfeeding-related myths, family-driven food practices, and social expectations that prioritise rest and high-calorie intake. Urbanisation has further modified postpartum lifestyles particularly in metropolitan settings where there is increased availability of processed food, sedentary behaviour ,work related stress, limiting time for self care and increases the risk for PPWR among urban women. According to the National Family Health Survey-5. [7] the prevalence of overweight and obesity among women has increased steadily.

In addition to behavioural and environmental factors, psychosocial influences such as body-weight perception, media exposure, and social comparison may affect women's motivation and readiness to initiate weight management behaviours. Understanding these multidimensional determinants is essential for developing feasible, culturally appropriate public health interventions.

In this context, our study is aimed to estimate the prevalence of postpartum weight retention and examine its association with psychosocial, lifestyle, dietary, obstetric, and sociodemographic factors among postpartum women attending an urban primary health centre in Chennai.

## 2. METHODS

### Study Design and Setting

A facility-based cross-sectional study was conducted at an Urban Primary Health Centre in Chennai between June and August 2025.

### Study Population and Participants

Women aged 18–40 years who were between 6 months and 1 year postpartum and attending the paediatric outpatient department for child immunisation services were eligible to participate. Women with known chronic medical conditions such as diabetes mellitus, hypertension, or thyroid disorders, and those with incomplete data, were excluded.

Women who were eligible and visited the health facility during the study period were approached one by one and invited to take part in study .Those who agreed and gave consent were included until the desired sample size was reached.

### Sample Size

A sample size of 100 postpartum women was selected based on feasibility within the study period.

### Sample Size Calculation

The following simple formula would be used for calculating the adequate sample size in prevalence study

$n = z^2\, p\, (1 - p) \div d^2$

Where n is the sample size, Z is the statistic corresponding to level of confidence, P is expected prevalence and d is precision

We take, Z = 1.96(level of confidence taken to be 95%) P

= 0.1(assuming 10% prevalence) D = 0.6. And on applying the above formula , we get n = 97.We took sample size as 100 after rounding off

### Sampling method

Convenient sampling done.

### Data Collection and Variables

Data were collected using a pretested semi-structured questionnaire administered by trained investigators. The questionnaire assessed sociodemographic characteristics, obstetric history, sleep patterns, physical activity, dietary practices, breastfeeding-related beliefs, psychosocial perceptions, and weight loss intentions.

Postpartum weight retention and weight loss intention were considered outcome variables. Sociodemographic, obstetric, lifestyle, dietary, and psychosocial factors were treated as exposure variables.

**Anthropometric Measurements**

Weight was measured using a calibrated digital weighing scale, and height was measured using a stadiometer, following standard procedures. Body mass index (BMI) was calculated as weight in kilograms divided by height in metres squared.

Postpartum weight retention was defined as the difference between current body weight and self-reported pre-pregnancy weight.

**Bias**

To minimise information bias, a pretested questionnaire was used and data were collected by trained investigators. Recall bias related to self-reported pre-pregnancy weight could not be completely eliminated.

**Statistical Analysis**

Data were entered and analysed using SPSS software. Descriptive statistics were used to summarise participant characteristics. Associations between independent variables and postpartum weight retention or weight loss intention were assessed using Chi-square or Fisher's exact tests. A p-value of less than 0.05 was considered statistically significant.

## 3. RESULTS

**Table 1. Socio demo**

| Characteristic | Category | n (%) | p |
|---|---|---|---|
| **Age (years)** | 15–25 | 35 (35.0) | 0.171 |
| | 26–35 | 60 (60.0) | |
| | 36–45 | 5 (5.0) | |
| **Education** | Graduate or above | 51 (51.0) | 0.934 |
| **Occupation** | Homemaker | 58 (58.0) | 0.229 |
| **Family type** | Nuclear | 72 (72.0) | 0.024 |
| **Mode of delivery** | Vaginal | 52 (52.0) | |
| | Caesarean | 44 (44.0) | 0.54 |

**Table 2. Lifestyle and Psychosocial Characteristics**

| Variable | Category | n (%) | P value |
|---|---|---|---|
| **Night sleep duration** | <7 hours | 77 (77.0) | 0.921 |
| **Physical activity** | Not routine | 68 (68.0) | 0.501 |
| **Weight perception** | Overweight | 54 (54.0) | **0.005** |
| **Weight loss intention** | No intention | 49 (49.0) | 0.261 |
| **Media influence** | Always/Ofte n | 34 (34.0) | **0.045** |
| **Social comparison** | Always/Ofte n | 34 (34.0) | 0.335 |

**Table 3. Dietary Practices and Barriers**

| Barrier | Agree/Strongly agree n (%) | P value |
|---|---|---|
| **Increased intake due to breastfeeding** | 74 (74.0) | (0.711) |
| **Lack of dietary knowledge** | 51 (51.0) | (0.723) |
| **Lack of time due to responsibilities** | 76 (76.0) | (0.445) |
| **Mismatched family eating habits** | 62 (62.0) | (0.680) |

**Table 4. Physical Activity Barriers**

| | | |
|---|---|---|
| **Time and energy constraints** | 91 (91.0) | (0.680) |
| **Physical discomfort** | 86 (86.0) | (1.000) |
| **Lack of knowledge** | 87(87.0) | (0.731) |

**Table 5. BMI Status Before and After Pregnancy**

| **BMI category** | **Pre-pregnancy n (%)** | **Postpartum n (%)** |
|---|---|---|
| **Normal** | 47 | 25 |
| **Overweight** | 13 | 14 |
| **Obese** | 40 | 61 |
| **P value** | 0.295 | 0.065 |

**Table 6. Common misco**nceptions

| **Misconceptions** | **Agree/Strongly agree n (%)** | **P value** | **P value** |
|---|---|---|---|
| **Belief that consumption of galactagogues increases breast milk production.** | 89(89.0) | | (0.450) |
| **Excessive ghee consumption during the last trimester of pregnancy.** | 32(32.0) | | (0.60) |
| **Belief that physical activity alters breast milk composition.** | 27(27.0) | | (0.789) |
| **Belief that restricted physical activity after delivery is necessary for healing.** | 71(71.0) | | (0.787) |

**Sociodemographic and Obstetric Characteristics**

A total of 100 postpartum women were included in the analysis. Most participants were aged 26–35 years (60%), followed by 15–25 years (35%). Over half had completed graduation or higher education (51%). The majority were homemakers (58%) and belonged to nuclear families (72%). More than half had one child (57%), and 41% had two children. Normal vaginal delivery was reported by 52% of women, while 44% had undergone caesarean section.

**Prevalence of Postpartum Weight Retention**

Postpartum weight retention was observed in 79% of participants. Prior to pregnancy, 43% of women were in the normal BMI category. In the postpartum period, only 37% remained in the normal BMI range, while 37% were overweight and 23% were obese, indicating an upward shift in BMI status following childbirth.

**Lifestyle, Dietary, and Psychosocial Characteristics**

Short sleep duration was common, with 64% of women reporting 5–6 hours of night-time sleep and 13% reporting less than 5 hours. Routine physical activity was low, with 68% not engaging in regular exercise.

Dietary barriers included increased intake related to breastfeeding, limited dietary awareness, time constraints, and mismatched family eating habits. More than half of the participants perceived themselves as overweight. Nearly half reported no intention to initiate weight loss, while 14% had already initiated lifestyle changes.

**Factors Associated with Postpartum Weight Retention and Weight Loss Intention**

Postpartum weight retention was significantly associated with shorter sleep duration, lack of time and energy due to household and childcare responsibilities, mismatched family eating habits, limited dietary awareness, occupation, and negative body-weight perception ($p < 0.05$).

Weight loss intention was significantly associated with psychosocial factors such as perceiving weight loss as necessary for confidence, media influence, and social comparison, as well as lifestyle factors including physical activity engagement, inability to make conscious dietary efforts, and motivation to initiate lifestyle change ($p < 0.05$).

**Misconceptions regarding breastfeeding and postpartum practices**

Table 6 shows the prevalence of common misconceptions among participants. A large proportion of participants reported belief in the use of galactagogues (fenugreek, cumin, garlic, and other traditional foods) for increasing breast milk production (n=89). Excessive ghee consumption during the last trimester of pregnancy was reported by 32 participants. Belief that physical activity alters breast milk composition was reported by 27 participants, while 71 participants believed that restriction of physical activity after delivery is necessary for healing.

No statistically significant association was observed between these misconceptions and the outcome variable ($p>0.05$ for all comparisons).

Association between variables and outcome

Chi-square analysis was performed to assess the association between knowledge, discomfort, physical management practices, and PPWR status. No statistically significant associations were observed between knowledge ($p=0.594$), discomfort ($p=0.966$), or physical management practices ($p=0.445$)

For some comparisons, expected cell counts were less than five; therefore, Fisher's exact test was considered, which also showed no statistically significant associations.

## 4. DISCUSSION

This study shows that many women experience weight retention after childbirth, making PPWR a common problem among women attending the urban primary health care .This highlights that postpartum weight gain is not just an individual issue but a public health concern. The findings suggest that weight retention after delivery is mainly influenced by the lifestyle habits social environment, rather than biological reasons alone.

Lack of sleep, poor physical activity, family influenced food habits were found to play a major role in PPWR. primiparous women often get disturbed sleep due to infant care , which can affect appetite , energy levels and also motivation to stay active. Physical inactivity is common because of tiredness, lack of time, pile of household works especially in the lower and middle class population, put altogether makes it difficult for women to lose wight gained during pregnancy.

Dietary habits during postpartum period are shaped by the family beliefs and cultural practices. Women are often insisted to take upon calorie dense food for faster recovery, healing and breastfeeding while restricting the physical activity. Although adequate nutrition is important for this phase, intake of excess unbalanced food can contribute to weight gain. All these findings instills the importance of including the family members in nutrition counselling which helps in supporting healthier eating habits during the postpartum period.

Psychosocial factors also play very important role in weight loss intentions among women [8,9]. From the study, many women felt that losing weight was important for confidence and self-image. Media influence and comparison with others affected how women perceived their body weight and motivated them to consider weight loss. However, women had intention to lose weight often they face difficulties such a lack of motivation and time. This suggest that awareness alone is not enough, women need practical and emotional support to turn intentions into action.

The present study also assessed knowledge, practices, and misconceptions related to breastfeeding and postpartum practices and examined their association with the outcome variable. The findings demonstrate a high prevalence of traditional beliefs and misconceptions among participants, particularly regarding galactagogue consumption and restriction of physical activity after delivery.

A substantial proportion of participants believed that consumption of traditional foods enhances breast milk production. Such beliefs may be influenced by cultural practices and intergenerational transmission of knowledge. While some traditional practices may have nutritional benefits, their perceived effect on lactation is not always supported by scientific evidence.

Similarly, a considerable number of participants reported the belief that physical activity alters breast milk composition and that restricted physical activity is necessary during the postpartum period. These beliefs may contribute to reduced maternal mobility and may affect overall maternal health and recovery.

Despite the high prevalence of these misconceptions, no statistically significant association was observed between these beliefs and the study outcome. This suggests that although misconceptions are common, they may not directly influence the measured outcome in this population, or the sample size may not have been sufficient to detect small effects.

The study findings highlight the need for targeted health education interventions focusing on evidence-based breastfeeding practices and postpartum care.

Strengthening antenatal and postnatal counselling may help address misconceptions and promote informed decision-making among mothers.

From a public health perspective, the postpartum period offers a valuable opportunity for early intervention.

Women frequently visit health care services for immunization and child health services. These visits can be utilised to identify women at risk and provide simple health education regarding eating habits , physical activity, sleep and mental well-being. counselling sessions focussing on weight loss, mental health, body image, lifestyle changes should be implemented not only for the mothers but also to the family.[17] Training health workers to provide brief and supportive counselling during these visits can help women adopt healthy lifestyle and modify their habits without feeling pressured or judged.

**Strengths and Limitations**

This study provides context-specific evidence on postpartum weight retention and its determinants in an urban Indian setting. One of the strengths of this study is looking at multiple factors affecting PPWR in a real life healthcare setting. However, the cross-sectional design limits cause and effective relationships. the use of convenient sampling and self-reported pre-pregnancy weight may affect generalisability. The findings may also not apply to women living in rural areas.

## 5. CONCLUSION

Postpartum weight retention is highly prevalent among urban postpartum women and is strongly influenced by modifiable psychosocial, lifestyle, and environmental factors. study identified a high prevalence of misconceptions regarding breastfeeding and postpartum practices among participants, particularly related to galactagogue consumption and restriction of physical activity after delivery. However, no significant association was found between these misconceptions and the outcome variable. The findings emphasize the importance of strengthening health education and counselling during antenatal and postnatal care to address cultural misconceptions and promote evidence-based maternal practices.

Addressing this issue through simple, supportive and family centred interventions such as structured counselling on diet, physical activity, sleep hygiene, and body-weight perception into existing postpartum and child-health services may help reduce long-term maternal obesity and associated non-communicable disease risk.

**Ethical Considerations**

Ethical approval was obtained from the Institutional Ethics Committee. Written informed consent was obtained from all participants.

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