



## Review on the Postpartum Weight Retention and Ayurvedic Care

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### Abstract

Ayurveda is the oldest system of medicine. It gives importance to the women health care particularly when it comes to the Prenatal and Postnatal care. After delivery women have to follow certain dietetic rules and lifestyle modification changes, mentioned in the *Sutika Paricharya* which helps her to restore to the Pre-pregnant status. Postpartum weight retention in the retention of women after 6 weeks of delivery is influenced by many factors that include the Gestational weight gain, stress and postpartum depression, sleep intervals, hormonal changes, and adiposity changes. This condition may lead to obesity and other metabolic disorders in future with the changes in the lifestyle.

### Keywords

*Postpartum weight retention, Gestational weight gain, Postpartum depression, Postnatal care, Adiposity, Sutika Paricharya*



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## INTRODUCTION

### *Aims and Objectives:*

- To know about the factors responsible for the postpartum weight retention in women.
- Prevention of the postpartum weight retention with proper care during pregnancy and after the delivery.
- Ayurvedic postpartum care for the women to prevent the lifestyle disorders like obesity, diabetes etc., which could affect her in the later stages of life.

Reproductive age is the important period in woman's life. In this life stage women have to undergo much ebb and flow of which decides her health in the next life stage after 40's. Delivery is the re-birth for women.

Ayurveda elucidates the importance of the care of the women especially the Prenatal and Postnatal care. The Postnatal care can be correlated to the *Sutika Paricharya*. During pregnancy and after delivery many changes occur in the body physiologically and psychologically which are as a result of several neuroendocrinal, environmental and behavioural factors. So women has to follow the regimen advised for the newly mothers to the reassume the pre-pregnant state.

Pregnancy is a complicated period for women in which for the first time weight gain is expected and accepted. Pregnancy-related weight gain has emerged as a potential cause of increased adiposity. Postpartum weight retention is one of the factors which can contribute the development of obesity in later stages of life. Weight retention associated with pregnancy can vary greatly, with as many as 20% of women retaining  $\geq 5\text{kg}$ <sup>1</sup>.

In women particularly child bearing years is important life stage that may result in substantial weight gain leading to the development of future obesity<sup>2</sup>. The weight gain changes in the women prior to the pregnancy, during and after the pregnancy not only affects the current pregnancy but may also be a factor contributing to the obesity in the future<sup>3-5</sup>.

## POSTPARTUM WEIGHT RETENTION<sup>2</sup> (6 WEEKS AFTER DELIVERY)

Weight acquired during pregnancy is retained after delivery. This leads to further weight increase in women during lactation if proper postpartum care is not taken. The average weight change from preconception to the 1st year postpartum is referred to as



“Postpartum weight retention.” The weight gain during gestation that is from preconception through gestation, early postpartum weight loss after the delivery up to 6 weeks postpartum, and the postpartum weight changes after the 6 weeks postpartum includes the Postpartum weight retention. The maternal characteristics responsible are pre-pregnancy nutritional status, weight gain during pregnancy, parity, age and socio-economic status.

These are some of the important factors that are responsible for the weight retention after the pregnancy:

### **GESTATIONAL WEIGHT GAIN**

Weight gain during the pregnancy is the gestational weight gain. This weight gain is necessary for the maintenance of the growth and nourishment of the foetus.

Gestational weight gain above the recommended levels was associated with threefold higher risk of becoming overweight after pregnancy ( $BMI \geq 26$ ) in the women who are underweight or average weight before pregnancy<sup>6</sup>.

Well-nourished and balanced diet is recommended for the pregnant women. Increase eating volumes in early pregnancy likely results in excessive weight gain.

Many factors influence the gestational weight gain which includes parity, maternal illness during pregnancy and physical activity.

### **BULKY WOMEN BEFORE PREGNANCY**

Weight before the pregnancy also contributes for the retention of weight after delivery. Over-weight or obese women gain or retain more weight after the first pregnancy than average weight women<sup>7-9</sup> despite larger newborns<sup>10</sup> and wider variability in gestational weight gain. Accumulation of excessive fat occurs in response to pregnancy in the bulky women and it endures into the postpartum period. This excessive pattern of postpartum fat deposition differs from those who are not overweight. Women with excess weight before pregnancy may experience substantial weight retention at 10 to 18 months postpartum than women with underweight and average weight observed by the survey of NMIHS, National Maternal Health and Infant Health Survey<sup>11</sup>.

### **ACCUMULATION OF FAT DURING PREGNANCY**

Regional fat distribution may differ for women already overweight or obese

before pregnancy. Adaptations in maternal lipid metabolism during pregnancy are directed towards the needs of the foetus for lipid substrates and maternal requirements for lipid stores serving as an energy reserve for lactation. Sohlstrom et al. measured the adipose tissue volume changes through magnetic resonance imaging in pregnancy and lactating women up to 10 months. In pregnancy the majority of fat deposition was localized subcutaneously. During pregnancy fat is preferentially deposited in the femoral and abdominal regions<sup>12</sup>.

### **POSTPARTUM CHANGES IN ADIPOSITY AND THE HORMONAL INFLUENCE**

- Postnatal period is turbulent period both psychologically and physiologically. The homeostasis of the pregnant maternal body has to change into the stage of lactation or to revert to pregravid state.
- Adipose tissue changes occur during pregnancy in response to the hormonal changes. These changes promote fat deposition, which serves as depots for the extra energy levels needed for the pregnancy and during lactation.

- Deposition and mobilization of fat vary topographically throughout reproductive cycle and lactation period.
- Many hormonal changes occur after delivery mainly sudden fall of the levels of oestrogen and progesterone along with the elevated increase in the levels of prolactin which stimulates the milk production.
- Regional differences in lipoprotein lipase activity (LPL) and lipolytic responsiveness to norepinephrine during reproduction has been observed<sup>13</sup>.
- Lipolysis was increased in response to norepinephrine stimulation in adipocytes taken from the femoral region of lactating women.
- The high levels of prolactin make the mobilization of fat from the peripheral to the central parts of the body. Also enzymes in the fat deposition changes contribute for this mobilization. Fat is the major source of calories in human milk. Rebuffe-Scrieve and colleagues found that tissue lipolysis and lipoprotein lipase activity from biopsies of femoral and abdominal sites show different during lactation, with a greater lipolysis in the femoral region<sup>14</sup>.
- The gynoid type of fat distribution (gluteofemoral) may be due to the high



estrogen levels during pregnancy. Increase in body fat distribution is chiefly at the central rather than at the peripheral sites. During lactation the pattern is reversed, fat is mobilized from the trunk and thighs<sup>15</sup>. Low levels of oestrogen may favour partitioning of body fat to the upper body during lactation.

### **IMPACT OF BREAST FEEDING ON POSTPARTUM WEIGHT RETENTION**

Breast feeding helps in women to lose her weight that gained during pregnancy. Breast feeding patterns appear to play an important role in controlling the weight retained at 6 months postpartum. There is an independent effect of predominant breastfeeding (Exclusive breast feeding, EBF) on the risk of retaining more than 4 kg association between risk of becoming overweight at 6 months postpartum and the association between the risk of becoming overweight at 6 months postpartum and total GWG was modified by breastfeeding practices<sup>16</sup>.

### **POSTPARTUM CHANGES IN BODY COMPOSITION**

- ***Blood volume expansion and hydration of fatfree mass*** - Blood volume

expansion noted in pregnancy may be sustained or even slightly increased in early lactation. Increase in extracellular cellular fluid which is the cause of excess tissue hydration during pregnancy may be continued in the lactation. Hopkinson et al. found a higher hydration of fatfree mass (FFM) in lactating women compared with nonlactating women at 15 days postpartum<sup>17</sup>.

- ***Body fat changes*** –

In a study of Sadurskis et al. (1988) monitored body fat changes in Swedish women<sup>18</sup> for 6 months postpartum; fat mass decreased from 30.4 to 29.6% and 32.9% to 31.9% .

Butte and Hopkinson measured the body composition changes in lactating and nonlactating women for 1 year postpartum. During the postpartum period, 0.5 and 3 months lactating women lost more sodium and potassium than nonlactating women which may give rise to greater loss of FFM<sup>101</sup>. Fat mass declined linearly over the 12 months postpartum in both groups; the change in fat mass between 3 and 6 months was greater in lactating women.



## IMPACT OF SLEEP, STRESS AND POSTPARTUM DEPRESSION

Short sleep duration and postpartum retention reported a positive relation. Sleep is much disturbed in women who attend their works within 2 months after delivery. Attending baby feeding, going through household work, hormonal changes in the body, body figure dissatisfaction feel her more tensed and stress which leads to sleep deprivation.

Gunderson and colleagues observed the association of fewer hours of sleep at 6 months Postpartum with substantial weight retention at 1 year postpartum and found that women facing sleep deprivation i.e., short sleep duration (<5 hours per 24-hour period) at 6 months postpartum results in postpartum weight retention<sup>19</sup>.

### *Postpartum depression*

Some women experience mood disturbances, stress, anxiety, loneliness, feeling tired or weepy and sadness with their baby's birth. First-time mothers and mothers with one or more children, lack of family support, who doesn't know how to take care of the baby leads to stress and postpartum

depression. This depression is common and it lasts for few days to months after delivery. In a study at Harvard Pilgrim Health Care's Department of Ambulatory Care and Prevention (DACP), Researchers analyzed 850 women about their prenatal and postnatal health and found that mothers with new, onset postpartum depression were over two times more likely than depressed mothers to have kept on at least 11 pounds(5 Kg) of weight one year after giving birth<sup>20</sup>.

## HEALING OF THE ABDOMINAL WALL

In the delivered women abdominal wall remains flabby with reduced muscle tonicity for many weeks. The return to a pre-pregnant state depends greatly on physical activity and the breast feeding. It takes time for the body to fully recover from pregnancy. It takes about six to eight weeks for the uterus to return to its normal size. The extra cellular fluid from the swollen cells in the pregnant state is released after delivery. It is eliminated from the body through urine, vaginal secretions and sweat.

## GENETIC MECHANISM

In some women even though they are obese, does not exhibit any changes metabolically. Genes certainly play a role in how a



person's body status and metabolism respond to weight<sup>21</sup>. Some women are genetically predisposed to store fat in the thighs or in the hips, which is less metabolically hazardous than storing fat around the abdomen. The women who are metabolically obese are more prone to risks like type 2 diabetes, cardiovascular disorders and metabolic syndrome.

### HEALTHY POSTPARTUM CARE

- It took about nine months for the abdomen to stretch to accommodate a full-term baby, so it would take at least that long to tighten back up.
- Giving birth to the baby leads to trauma and stress in the women. This makes immune system to combat inflammation changes occurring in the body. To fight this inflammation by consuming foods that are considered to be anti-inflammatories are turmeric and garlic.
- During pregnancy *vata* aggravation and the movement of energy is inhibited which is the characteristic feature of *vata*.

#### ***Belly binding to strengthen the abdominal wall:***

- After delivery, the abdominal muscles remain in their over lengthened state even though the uterus shrinks back to

the pre-pregnant state. In 66% of women, the vertical abdominal muscles have separated and take at least six weeks to heal<sup>22</sup>.

- Post-natal support belts and belly binding have been used for many centuries as methods of supporting a woman's abdomen. It improves the strength of abdomen, thereby increases the intra-abdominal pressure that contributes to mechanical spine stability. Abdominal binder achieved immediate waist reduction as the soft fleshy tissue compressed, squeezed and redistributed above and below the waistline. It holds the abdominal muscles in at the right tension and prevents them from becoming flaccid and expanding<sup>23-24</sup>.

### AYURVEDIC HEALTH CARE OF POSTPARTUM WOMEN

Ayurveda emphasizes much importance to the care of the women regarding the prenatal as well as postnatal care. There is a special regimen in the context of the *Sutika paricharya* that includes special diet along with certain medicinal herbs. These medicines help in the alleviation of the impure blood and fluids. *Pippali*, *Pippalimula*, *Chavya*, *Chitraka*, *Nagara*,



*Jiraka* which are appetizers, reduce inflammation, excretion of excess fluids and improve the immune function, decreases the excess fat in the body, helps the uterus to regain the normal state and mainly subsides the alleviated *Vata*. These are to be taken with Jaggery or *ghrta*<sup>25,26</sup>.

- Medicinal *Kwatha* prepared from the drugs like *bala*, tamarind leaves, *Nirgundi* leaves is to be used for bathing.
- Liquid diet prepared from the *Vidarigandhadi*, *Yava*, *Kola* and *Kulatha* quenches thirst and is a diuretic<sup>27</sup>.
- Indian woman follows the postpartum care since long time, however nowadays due to delivery in the hospitals and most of them are caesarian sections. The immediate postpartum care after delivery is missing.
- Working women found very difficulties to accommodate the changes in the lifestyle. There must be family support along with the management of the new lifestyle changes. It is the need of hour to look into the present situation of postpartum weight retention that women are facing due to the irregular postpartum care. Women have to be educated before pregnancy about

weight during conception, pregnancy and after delivery.

- Healthy pregnancy weight gain along with good physical activity and nutritious diet is recommended. After delivery, the care of the new born and mother with balanced diet and regular sleep intervals and reducing the stress levels with the proper organization of the lifestyle changes. Understanding the body changes after delivery women have to follow these rules of the traditional postpartum care under the guidance of the elderly women.



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