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POSTPARTUM WEIGHT RETENTION (PPWR) TRENDS AMONG MOTHERS

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ABSTRACT

Postpartum weight retention is regarded as a major public health problem because of its contribution to the incidence of obesity.[2] A descriptive study done was to assess the trends of postpartum weight retention among fifty mothers after six weeks of delivery. After obtaining permission from Institutional Ethical Committee, an informed consent was obtained from each mother before data collection. Mothers were allotted by Non Probability convenient sampling technique based on inclusion criteria. Data collected with semi structured tool and maintained the weight chart. The results revealed that, more than half of the mothers (52%) retained the body weight of 5-10 KG followed by 34% of them, below 5 KG. The maximum weight retention has reported by 4% of the mothers (10-15 KG) and 2% with above 15Kg. In conclusion, the postnatal mothers need to be aware about the facts and consequences of postpartum weight retention in the overall health.

KEYWORDS: Postpartum Weight Retention (PPWR), Maternal Weight gain, Gestational Weight Gain (GWG).

INTRODUCTION

One of the natural and biological causes of weight recycling in the human population is pregnancy.[1] Many women gain considerable weight during pregnancy and for some of them pregnancy substantially alters their future weight gain trajectory.[1]

The national data says that 10.3% of the population aged ≥ 15 years are obese, while 23.8% of women are obese.[2] Around 15-20% of pregnant women will experience weight retention in port partum period, the reason is due to the process of weight loss after giving birth that does not return to pre-pregnancy weight.[2]

Average post partum weight retention ranges from 0.5-3kg; however, postpartum weight retention appears to be highly variable among women, with some women retaining as much as 17.7kg. Excessive postpartum weight seems to be especially prevalent among minority women. Factors such as pre-pregnancy weight and excessive gestational weight gain have the strongest support as risk factors for postpartum weight retention. In 3 to 6 months of postpartum, not all women will be losing weight, that efforts are required to reduce postpartum weight retention.[2]

Background and Significance of the problem

Pregnancy is a recognised high risk period for excessive weight gain, contributing to postpartum weight retention and obesity development long-term.[3] Current international trends confirm women are gaining more weight than men, with younger women of reproductive age at highest risk, with rapid weight gain and high levels of obesity.[3] Weight related health complications in women are broad, however risk of morbidity and mortality increases even with minor gains in weight (0.5kg) above a healthy body mass index (BMI).[3,18]

Excessive weight gain during pregnancy is a risk factor for postpartum weight retention and future weight gain and obesity. Weight gain increases the risk of developing diabetes and heart disease. The amount of weight retained after pregnancy can shift women from the healthy weight category into the overweight or obese BMI categories. Starting the next pregnancy at a higher weight increases the risk for poor pregnancy outcomes, such as gestational diabetes, macrosomia and lower rates of breastfeeding initiation and duration. In the current study the investigators aimed to assess the weight gain trends among mothers after six weeks of delivery.

Statement of the problem

Postpartum weight retention (PPWR) trends among mothers in tertiary care hospital, Kochi.

Main purpose of the study is to assess the postpartum weight retention among mothers and compare the variables such as age, parity, BMI, and illnesses in developing the risk of

postpartum weight retention. The objective of the study was to assess the postpartum weight retention among mothers.

MATERIALS AND METHODS

Postpartum Weight Retention (PPWR) is the difference between the reported pre- pregnancy weight from the observed weight at each interview. In this study mothers refers to, the women after delivery and up to first six week of postnatal period. A Descriptive study with Quantitative approach has been conducted in Gynec OPD, Amrita Institute of Medical Science, AIMS, Kochi among fifty Postnatal mothers came for routine postnatal care between 42nd to 48th day (sixth week) were included in the study and. Sampling technique used was Non Probability Convenience sampling.[8] A Semi Structured tool was given to all mothers to collect the demographic and clinical data. Women who are eligible and willing to participate were provided with written informed consent and underwent a baseline assessment at the research centre by using semi structured questionnaire. The pre-pregnant weight, the third trimester (term) weight, weight immediately after deliver, and was noted from their antenatal records. Descriptive Analysis was done to find the trends of postpartum weight retention.

RESULTS

Table 1: Distribution of demographic data among mothers n= 60.

Sl. No.	Variables	Category	Frequency	%
1	Age	<20	1	2%
		20-25	12	24%
		26-30	21	42%
		31-35	13	26%
		36-40	2	4%
		>40	1	2%
2	Job	Working	14	28%
		Not working	36	72%

The demographic data were summarized in the Table 1. Majority (42%) of subjects in the age group of 26-30 years of age and 72% of the mothers are not working.

Table 2: Distribution of clinical data among mothers n=60.

Sl. no.	Variables	Category	Frequency	%
1	Type of breast feeding	Exclusive	42	84%
		Partial breast feeding	8	16%
2	Type of delivery	Normal	25	50%
		Cesarean	25	50%

3	Obstetric score	Primi Gravida	28	56%
		Second Gravida	17	34%
		Third Gravida	3	6%
		Fourth Gravida	2	4%
		Primi Para	32	64%
		Multi Para (2)	15	30%
		Multi Para (3)	3	6%
		One Live birth	32	64%
		Two Live births	15	30%
		Three Live births	3	6%
		No Abortion	43	86%
		One Abortion	5	10%
		Two Abortions	2	4%

Table 2 revealed that, majority (84%) of the subjects follow exclusive breastfeeding and both normal and cesarean type of delivery shares 50% each. More than half (56%) of the subjects were primigravida mothers, 64% of mothers were primipara, 64% of mothers with one live birth history, 86% of mothers without any history of abortion. None of them had still birth history.

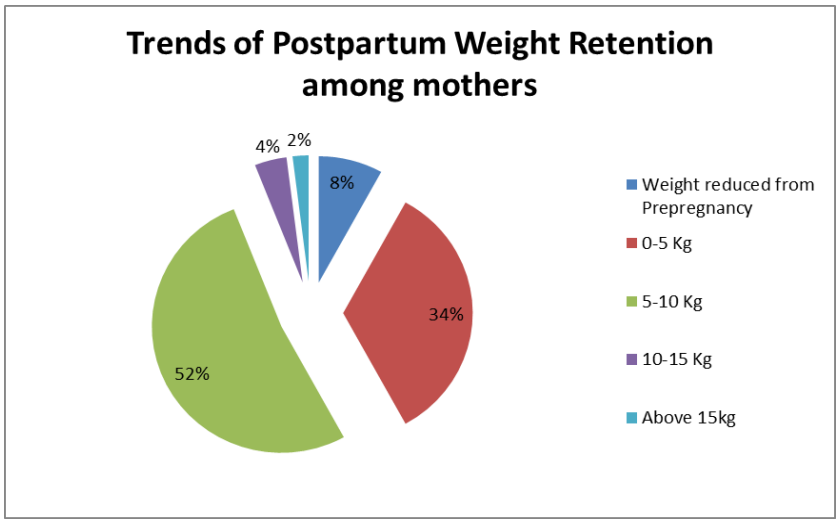

Figure 1: Postpartum weight retention trends among mothers in kilograms.

Figure 1 revealed that, more than half of the mothers (52%) retained their body weight about 5-10 Kg followed by 34% of them, below 5 Kg. The maximum weight retention of 10-15 Kg was reported by 4% of the mothers and 2% with above 15Kg. The maximum remarkable post partum weight retention in kilograms reported was 21.2 kg followed by 12.2 Kg. However weight loss from pre-pregnancy period was also reported by 8% of the mothers ie; (-5 Kg and -1 Kg).

Table 3: Body weight during Pre-Pregnancy and 6 Weeks after birth.

Variable	Body weight (Kg)		BMI(Kg/m^2)	
	Mean	Standard deviation	Mean	Standard deviation
Pre-pregnancy	57.4	10.49	23.31	3.86
At term	69.23	10.64	28.10	3.64
Immediate postpartum	65.09	10.4	26.41	3.54
6 weeks after birth	63.104	10.41	25.61	3.61
Body weight retention 6 weeks after birth	5.7	4.02	2.31	1.54

Table 4: Association of clinical variables with BMI after 6 weeks.

Variables	Category	N	Mean & Standard deviation	p value
Illnesses	Diabetes mellitus			
	Yes	8	28 ± 5.3	0.037
	No	42	25.14 ± 3.01	
	Hypertension			
	Yes	3	31.0 ± 2.64	0.006
	No	47	25.25 ± 3.36	
	Hyper/Hypothyroidism			
	Yes	8	25.37 ± 5.18	0.84
	No	42	26.64 ± 3.27	
	Other illness			
	Yes	2	23.5 ± 4.94	0.40
	No	8	25.68 ± 3.55	
Age	<20	1	23.82	0.03
	20-25	12	25.47 ± 3.53	
	26-30	21	25.99 ± 2.79	
	31-35	13	26.20 ± 4.03	
	36-40	2	24.30 ± 0.27	
	>40	1	37.09	

Significant at 0.05 level

DISCUSSION

Average weight retained per pregnancy differs by population, however, globally 2-3 kg of weight based on self reported data with similar or higher findings reported to the weight gain observed in younger women.[3]

The results of this study revealed that the average body mass index (BMI) was 23.31 (SD = 3.86) at pre-pregnancy, and 25.61 (SD = 3.61) at 6 weeks after childbirth. Mean Post Partum Weight Retention after 6 weeks of delivery was 5.7 ± 4.02 kg and Mean BMI of mothers in pre-pregnancy period was increased from 23.31 ± 3.86 to 25.61 ± 3.61. In addition to that,

Age, illnesses like Hypertension and Diabetes Mellitus (0.03, 0.006 and 0.03 respectively at 0.05 level) had significant association with BMI in six weeks after delivery.

The current study findings are congruent with another study done to identify factors potentially associated with weight retention measured 6 months after childbirth in northern Taiwan. The results are, average Body Mass Index (BMI) was 21.5 (SD = 3.32) at pre-pregnancy, and 22.48 (SD = 3.39) at 6 months after childbirth. Average weight retention was 2.42 kg. Overweight and obese conditions increased among subjects from 18.27% pre-pregnancy to 27.57% at 6 months after childbirth. Significant predictors of weight retention identified in this study included gestational weight gain (GWG), perceived body image satisfaction, and pre-pregnancy weight, which, together, explained 34.5% of postpartum weight retention variance.

At completion of the present study, the largest weight retention was observed in women over 30 years of age (21.2kg). The largest reductions were observed among young mothers. Considering BMI at 6 weeks of childbirth, 60% have maintained normal with no remarkable change in BMI, whereas 0.06% shown increase of BMI (5+), followed by 12% of mothers by 4+ and 22% by 3+ respectively. The mean weight retention was 5.7±4.2. Another study done on trends in postpartum weight retention among women in Brazil, at 0.5, 2, 6, and 9 months postpartum, showed that the Mean weight retention was 4.1, at 2 months . This finding is more or less similar to that above mentioned study. Fifty to eighty percent of women retain 1.4–5 kg up to 12 months postpartum, with 20%–50% retaining 5 kg or more.[10,11,12,13,14,15]

Despite PPWR being ordinary and a relevant concern for ladies, there are currently no protocols or guidelines routinely offered to accommodate women to achieve a healthy weight after childbirth.[5,17] The present study yields the evidence to support the incidence of weight retention after delivery. Hence this should create an alarming awareness to the society in order to improve the overall health of postnatal mothers.

CONCLUSION

Weight retention and weight gain increases risk of major chronic diseases, including cardiac disease, diabetes, psychological issues, communicable diseases and various neoplasm, as well as premature death.[16] The study results suggest that, PPWR in mothers lead to the issues discussed above according to the rate of weight retention. Decrease in weight retention after childbirth is influenced by other factors including parity, age of the first birth, food intake,

and daily activities, body fat. Intervening to reduce postpartum weight retention is an important public health initiative, however key gaps remain.

Ethical consideration

Researcher obtained permission from Research committee of Amrita College of Nursing, Ethical clearance from Institutional Ethical Committee and permission from Head Of Obstetrics & Gynaecology Department of Amrita Institute of Medical Science, AIMS. Before data collection, an informed consent was obtained from each mother.

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