**Background and Objective**

Pre-pregnancy obesity and Gestational Weight Gain (GWG) are important determinants of postpartum weight retention (PPWR) (1,2) and contribute to the development of maternal obesity on the long run. Interpregnancy weight gain - often as a result of postpartum weight retention (PPWR) - results in higher odds for adverse pregnancy outcomes (i.e. pre-eclampsia, caesarean delivery, stillbirth, large-for-gestational-age babies) compared to women whose BMI remained rather stable between two consecutive pregnancies; with linear increases in risk following interpregnancy weight gain (3). In order to provide clues for the design of interventions aimed at preventing interpregnancy weight gain in this high risk obstetric population, we aimed to describe weight status of obese mothers six months after delivery, and examine its potential relationship to important socio-demographical, behavioural and psychological variables.

**Method**

- Prospective, longitudinal cohort study. Postpartum data were available for 150 women (76%) from a previous interventional trial.
- PPWR = Maternal weight six months after delivery minus pre-pregnancy weight (self-reported).
- PPWR defined as retention (>0 kg) versus loss (≤0 kg) and as high (≥5 kg) versus low (<5 kg) PPWR, for descriptive. PPWR defined as continuous variable for multivariate regression analysis.

**Prediction Variables:**
- Demographic (maternal age, education and parity), socio-economic (ethnicity, household income), behavioural (smoking behaviour, duration of maternal sleep and breastfeeding) and psychological data (levels of anxiety and depressed mood) were used to control and correct for in the multivariate regression model.

**Results**

The excluded women (n=47) differed from those with completed PPW (n=150) in percentage of preterm birth, duration of breastfeeding and levels of anxiety and depressed mood at the time of study entry (table 1). PPWR at six months after delivery ranges between −17 and +19 kg with a mean of −1.28 kg (SD 6.05; median -1kg) (figure 1). 39% showed PPWR (>0kg) and 13% of obese mothers reported a high PPWR (≥5kg). Mean GWG and psychological discomfort (i.e. levels of anxiety and depressed mood) were significantly higher in obese mothers with PPWR compared to those with no or low PPWR. Mean duration of breastfeeding was 9.5 weeks (SD 8.7); no significant difference was demonstrated for any duration of breastfeeding between those with PPWR compared to those with no or low PPWR. The multivariate analysis showed that GWG and maternal trait anxiety in the first trimester of pregnancy were significant positive predictors for PPWR at six months after delivery. Pre-pregnancy BMI was a significant negative predictor for PPWR (Table 2). For each kg gained during pregnancy, there was risk of 0.299 kg increase of PPWR at six months after delivery. If trait anxiety in obese pregnant women increased by one unit at the start of pregnancy, there was a 0.190 kg increase of PPWR six months after delivery.

**Discussion**

Adequate prenatal weight management and targeted perinatal psychological support should be an important aspect of the care to be provided to obese pregnant women, to prevent maternal obesity in the long run, as this is an original and interesting finding that has received little attention in the literature so far. Intensive breastfeeding support in obese mothers can make a difference in maternal weight change as obese women report lower breastfeeding duration compared to normal weight mothers. Developing local programmes for specific multidisciplinary perinatal psycho-education and care in obese pregnant women are an urgent challenge in this obstetric high risk group.

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