

Introduction

- According to the World Health Organization (2021), **54%** of women globally were **overweight or obese**.
- Women in sub-Saharan Africa and South Asia **gain <60%** of the minimum **gestational weight** recommended by Institute of Medicine (IOM) guidelines for normal-weight women.
- Postpartum weight retention** has been reported to range from **35% to 91%** across Indian studies, with significant proportions shifting to higher BMI categories and increased cardiometabolic risk.

Objectives

- To estimate the prevalence of pre-pregnancy overweight/obesity, excessive gestational weight gain (GWG) at delivery, and postpartum weight retention at one year.
- To identify factors associated with pre-pregnancy overweight/obesity, excessive GWG, and postpartum weight retention.

Study methods

- Design**- Prospective cohort study
- Study Setting**- Three Urban and three rural Primary Health Centres
- Study duration**- May 2022- April 2024
- Sample size & Sampling**- 465 enrolled consecutively

Study population- Pregnant women in first trimester (<14 weeks)

Exclusion criteria- Overt diabetic and hypertensive women, twin pregnancy

Procedure-

Data collected on socio-demographic characteristics, maternal anthropometry, and pregnancy outcomes

Followed up at delivery (**N=408, 87.7%**), 12th month postpartum (**N=386, 83%**)

Total weight gain= Weight recorded at admission for labor- baseline weight

Postpartum weight retention= Weight at one year postpartum - baseline weight

IOM Guidelines- Recommended weight gain

- **Normal weight: 11–16 kg,**
- **Underweight: 13–18 kg**
- **Overweight : 7–11 kg**
- **Obese: 5-9 kg**

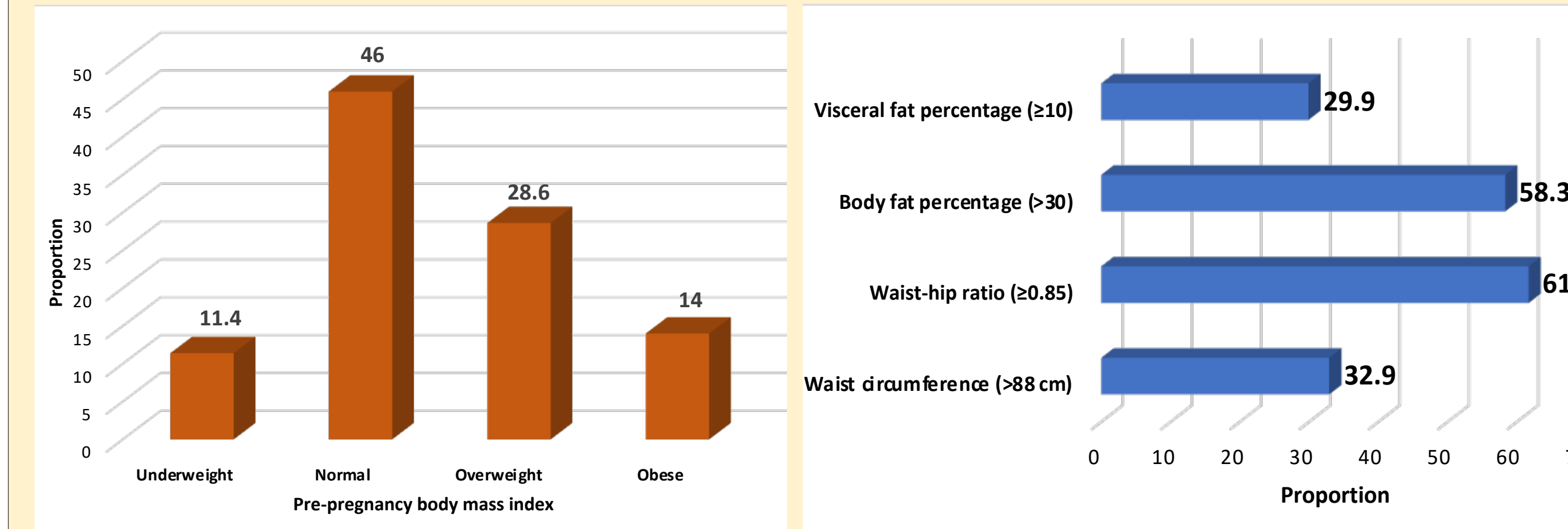
Data analysis- EpiData 3.1 and STATA 17

Multivariable linear regression and log-binomial regression

Results

- Mean Age - 26.4 ± 3.8 years
- Urban – 71% (N=330)
- Primigravida - 52.3% (N=243)
- Nulliparous – 58.1% (270)

Pre-pregnancy overweight/obesity



❖ **Advanced maternal age** was a significant predictor of higher BMI (aPR = 1.5, 95% CI: 1.1–2.0, p = 0.004), after adjusting for other variables.

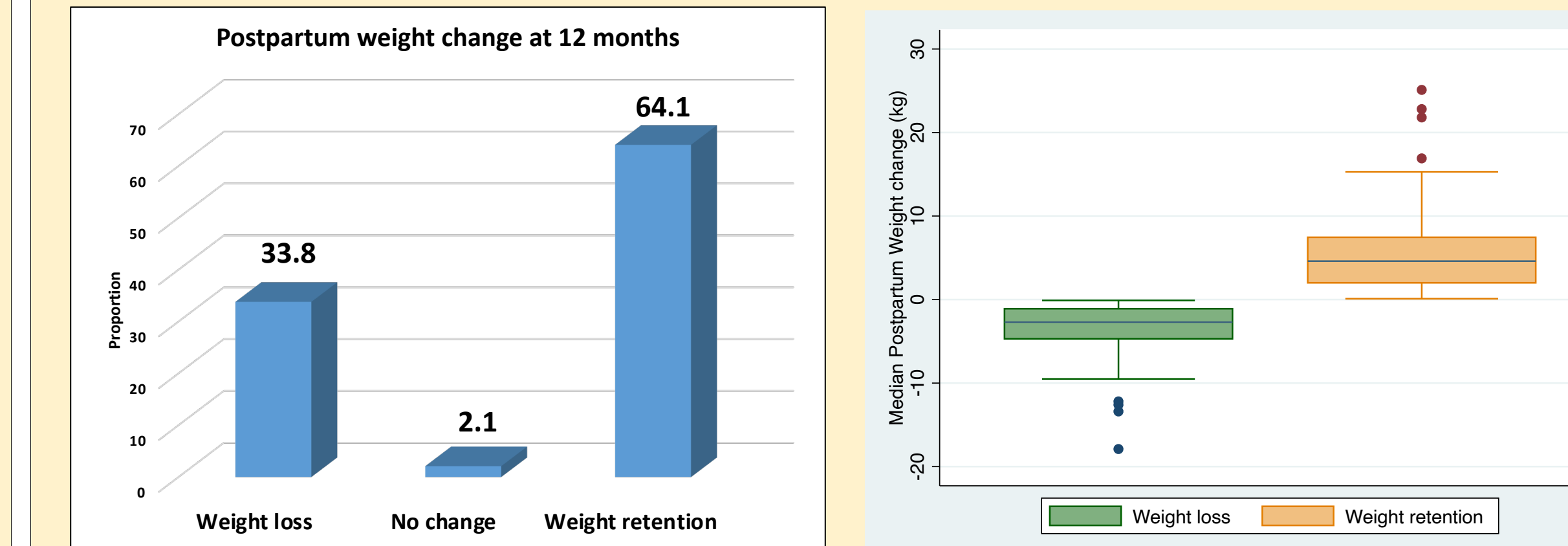
Gestational Weight Gain

- Mean GWG- 10.1 ± 4.5 kg
- Inadequate GWG- 48.5%
- Adequate GWG- 32.4%
- Excessive GWG – 19.1%

Table 1. Linear regression to identify the factors associated with GWG among study cohort (N=408)

Variable	Adjusted Beta Coefficient (95% CI)	P value
Family type- Joint	1.08 (0.09-2.07)	0.03
Socioeconomic status		
I & II (≥4240)	1.22 (0.06-2.39)	0.03
III (2544-4239)	1.57 (0.40-2.75)	<0.001
Parity- Nulliparous	1.89 (0.97-2.80)	<0.001
Pre-pregnancy body mass index (kg/m ²)		
Normal (18.5-24.9)	-1.70 (-3.12- -0.27)	0.01
Overweight & obese (≥25)	-2.40 (-3.87- -0.94)	<0.001

Postpartum Weight Retention



❖ **Higher socioeconomic status** (aPR = 1.26, 95% CI: 1.06–1.50), **pre-pregnancy BMI** (aPR = 1.03, 95% CI: 1.02–1.05), and **GWG** (aPR = 1.04, 95% CI: 1.03–1.06) were significant predictors of PPWR.

Discussion

- REVAMP Cohort- Mean GWG of 11.6 kg
- Garbh-Ini Cohort- Median GWG of 7.86 kg
- SRMA, India- Excessive GWG of 16.5%
- RAHMA cohort - 35% retained over 7 kg

Conclusion

- Half of the women were overweight or obese, two-thirds had GWG outside the recommended guidelines, and two-thirds had PPWR.
- Pre-conception weight management, promotion of healthy habits during pregnancy, and routine post-delivery follow-ups to create awareness on lifestyle changes

References

1. Thiruvengadam R et al. Gestational weight gain trajectories in GARBH–Ini pregnancy cohort in North India and a comparative analysis with global references. *Eur J Clin Nutr.* 2021;76(6):855–6.