

## Background

- Postpartum weight retention is defined as the weight gained during pregnancy that is retained after childbirth.<sup>1,2</sup> Substantial postpartum weight retention (SPPWR) is associated with an increased risk of obesity later in life and may contribute to maternal and neonatal complications in subsequent pregnancies.<sup>1,2-5</sup>
- Approximately 13-20% of women experience SPPWR during their first year after childbirth.<sup>4-5</sup>
- In 2009, the Institute of Medicine (IOM) published gestational weight gain guidelines (GWG) to reduce negative outcomes for mothers and babies and identified a paucity of data on postpartum weight retention and its determinants.
- The Special Supplemental Nutrition program for Women, Infants and Children (WIC) is a federal program that provides foods, nutrition and breastfeeding education, and healthcare referrals to low-income mothers and children up to age five.<sup>6</sup> In 2020 alone, WIC gave nutrition and maternal resources to roughly 6.2 million individuals every month.<sup>6</sup>
- The WIC program's broad reach gives its data the potential to address racial and socioeconomic disparities in SPPWR and enhance surveillance of postpartum weight.
- In Los Angeles County (LAC), California, WIC families participate in the LAC WIC survey every three years to provide sociodemographic and health information about WIC women and children.<sup>7</sup>
- The LA WIC Survey data can be used to explore the influence of non-modifiable and modifiable risk factors on SPPWR among women from low-income and racial and ethnic minority backgrounds, and thus fill existing gaps in PPWR surveillance.

## Purpose

- To identify the prevalence and predictors of SPPWR among WIC mothers in Southern California during their first postpartum year.

## Methods

### 2020 Los Angeles County WIC Survey:

- Cross sectional computer-assisted telephone interview survey
- Random sampling method
- Survey formats:
  - Parents with a child younger than 5 years enrolled in WIC
  - Pregnant women enrolled in WIC
- 6,753 surveys completed, 53% response rate
- Mothers of infants up to 1-year-old who participated in the 2020 LA County WIC Survey (Unweighted N=988, Weighted N=1019).

### Measures:

- **Outcome Variable:**
  - SPPWR = difference between self-reported weight at the time of survey completion and self-reported weight right before pregnancy, with a dichotomized cutoff-point at  $\geq 5$ kg
- **Predictor Variables:**
  - child's age (proxy for postpartum duration), mother's age, race, education, employment status since having child, healthcare coverage, food insecurity, depressed mood, instrumental support, emotional support, spouse's participation in child's life, gestational weight gain (GWG), pre-pregnancy BMI, any breastfeeding, and gestational diabetes

### Analyses:

- Weighted descriptive statistics and binary logistic regression using SPSS version 28

## Results

**Table 1.** Weighted Sample Characteristics and Binary Logistic Regression Results for Significant Predictors of SPPWR (N=1,019)

Predictor variable	Mean $\pm$ SD or N (%) <sup>a</sup>	AOR <sup>b</sup>	95% CI	
<b>Child's Age (months)</b>	6.87 $\pm$ 3.52	1.09***	1.04	1.15
<b>GWG</b>				
Exceeded GWG guidelines	275 (27.4)	3.43***	2.46	4.79
Didn't exceed GWG guidelines	730 (72.6)	Reference		
<b>Pre-pregnancy BMI</b>				
Underweight	32 (3.1)	.97		
Overweight	319 (31.3)	.64*	.43	2.20
Obese	370 (36.3)	.39***	.44	.94
Normal	297 (29.2)	Reference	.26	.58

Abbreviations: BMI, Body Mass Index; GWG, Gestational Weight Gain; AOR, Adjusted Odds Ratio; CI, Confidence Interval

<sup>a</sup>Percentages among non-missing. Missing responses <2%.

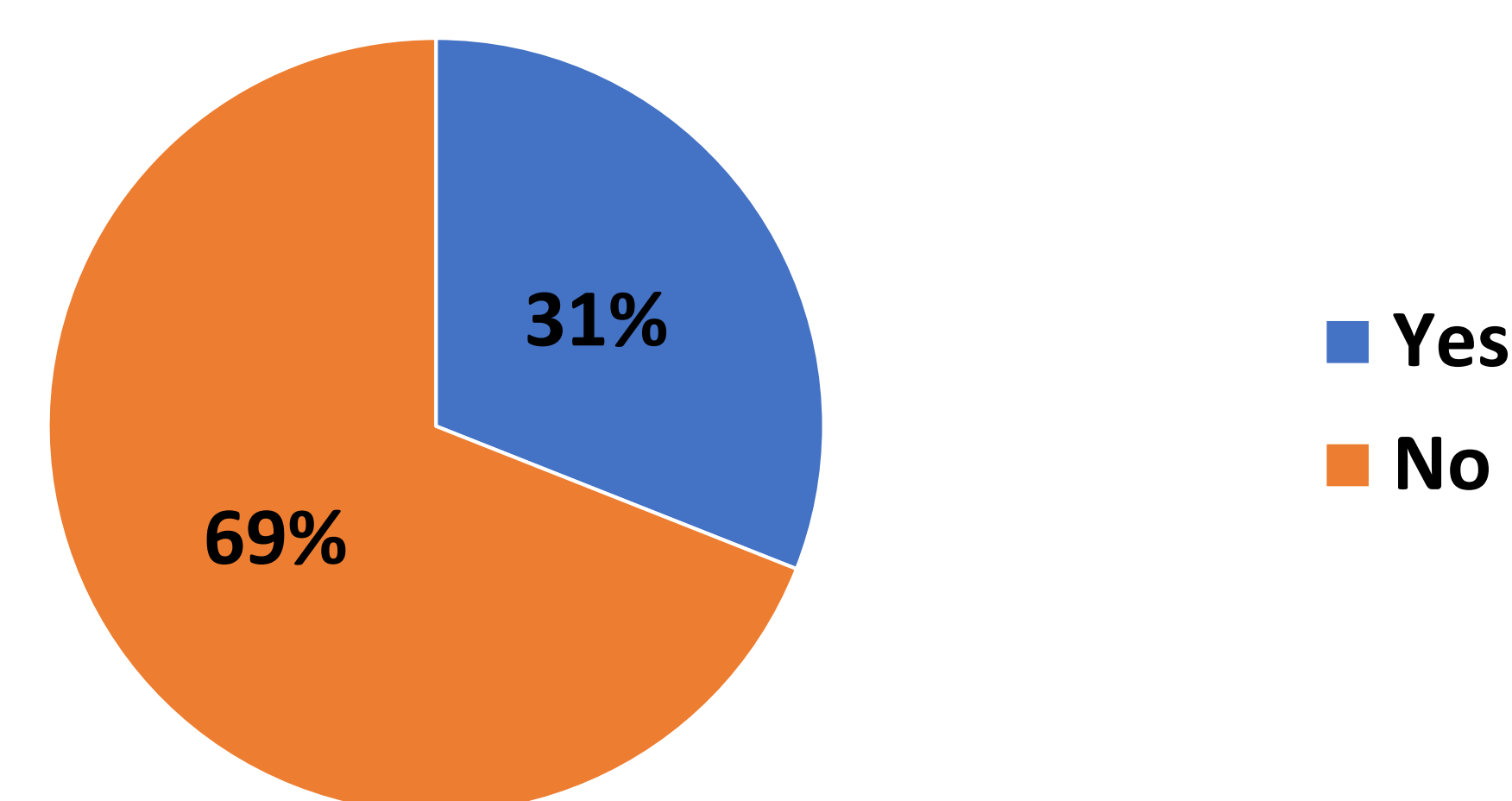
<sup>b</sup>\*P <.05; \*\*\*P <.001

## Conclusion

- SPPWR prevalence during the first postpartum year was higher among respondents (31%) compared to other US-based studies (13%-20%).<sup>4-5</sup>
- Postpartum duration, gestational weight gain, and pre-pregnancy BMI were associated with SPPWR during the first postpartum year.
- Interventions to prevent SPPWR among respondents may benefit from targeting at-risk women through preconception checkups and helping them manage their weight throughout pregnancy and the postpartum period.
- Extending WIC eligibility for postpartum mothers to 2 years through the Wise Investment in Children Act may give WIC providers the opportunity to work closely with Southern California WIC mothers to achieve a healthy weight after pregnancy.<sup>8</sup>

## Results

### SPPWR Prevalence



**Figure 1.** Prevalence of PPWR for the sample study (N=1,019)

## Acknowledgements

This study is supported by the:

- Minority Health and Health Disparities Research Training Program, NIMHD, Award #NIMHD2T37MD001368
- First 5 LA, a leading public grant-making and child advocacy organization, Award #07030

## References

1. Archuleta J, Chao SM. Maternal Characteristics that Impact Postpartum Weight Retention: Results from the 2016 Los Angeles Mommy and Baby (LAMB) Follow-Up Study. *Matern Child Health J.* 2021;25(1):151-161. doi:10.1007/s10995-020-03082-3
2. Rasmussen KM, Yaktine AL, Institute of Medicine (US) and National Research Council (US) Committee to Reexamine IOM Pregnancy Weight Guidelines, eds. *Weight Gain During Pregnancy: Reexamining the Guidelines.* Washington (DC): National Academies Press (US); 2009.
3. Rooney BL, Schaubberger CW, Mathiason MA. Impact of perinatal weight change on long-term obesity and obesity-related illnesses. *Obstet Gynecol.* 2005;106(6):1349-1356. doi:10.1097/01.AOG.0000185480.09068.4a
4. Gunderson EP. Childbearing and obesity in women: weight before, during, and after pregnancy. *Obstet Gynecol Clin North Am.* 2009;36(2):317-ix. doi:10.1016/j.ogc.2009.04.001
5. Gunderson EP, Abrams B. Epidemiology of gestational weight gain and body weight changes after pregnancy. *Epidemiol Rev.* 2000;22(2):261-274. doi:10.1093/oxfordjournals.epirev.a018038
6. Oliveira V, Frazão E. *The WIC Program: Background, Trends, and Economic Issues, 2015 Edition.* USDA ERS. Accessed December 30, 2021. <https://www.ers.usda.gov/publications/pub-details/?pubid=43927>
7. L.A. County WIC Data Sources. L.A. County WIC Data. Accessed December 28, 2021.
8. S.853 - 117th Congress (2021-2022): WIC Act of 2021. Congress.gov. Accessed December 27, 2021. <https://www.congress.gov/bills/117/congress/senate-bill/853/text>