Using a large US nationwide database of 200,000 twin pregnancies, Lin and colleagues dared to confront a difficult problem: twin pregnancies. Analyses of twin pregnancies are a challenge for perinatal epidemiologists, such as me, owing to, for example, an individual with 2 infants, chorionicity, different sexes in a pair, and discordant birth weights as well as numerous potential traps. In addition, the "physiological normal term" for twins is approximately 36 weeks, with few reaching 39 weeks (in our experience, 2% for monozygotic twins and 3% for dizygotic twins). Given these conditions, what are good recommendations for optimal "term" gestational weight gain (GWG) in twin pregnancies?

Lin and colleagues have bypassed many of these potential difficulties first by considering a standardized GWG at 36 weeks' gestation (after calculating GWG per week) to offer plausible and strong results. In addition, the low-risk group they selected (n = 61,794) is of great interest and had good exclusion criteria, namely, including only twins with appropriate growth for their gestational age (similar birth weights for both twins) and excluding pregnancies with lower than 36 weeks' gestation.

During the data analyses that considered several risk factors (small for gestational age [SGA] status, large for gestational age [LGA] status, hypertensive disorders of pregnancy, preterm birth <36 weeks' gestation) and a composite outcome, the authors discovered an unexpected phenomenon (the cornerstone of their work is shown in their Figure 4). The 10% crossing points of the SGA and LGA curves at 10% for the incidence of the composite outcome and individual morbidities by GWG groups and body mass index (BMI, calculated as weight in kilograms divided by height in meters squared) categories (underweight, normal, overweight, class 1 obesity, class 2 obesity, and class 3 obesity) were different based on the maternal prepregnancy BMI at the corresponding maternal GWG. The authors' second surprise was noticing that these differences were so regular that they could be described by a linear curve (with the equation y = mx + b).

I had a similar surprise in 2017 when studying GWG per maternal prepregnancy BMI category in singleton pregnancies on Reunion Island. Considering the 10% crossing points of the SGA and LGA curves combined with the corresponding maternal prepregnancy BMIs, we proposed then to call these crossing points associated with specific maternal BMI the Maternal Fetal Corpulence Symbiosis. The equation for optimal GWG (in kg) in singleton pregnancies identified in our previous study was \((-1.2 \times \text{prepregnancy BMI}) + 42\) ± 2 kg; and the equation for optimal GWG (in kg) in twin pregnancies identified by Lin et al was \((-0.932 \times \text{prepregnancy BMI}) + 41.5\) ± 2 kg. These equations describe 2 nearly parallel curves, with a GWG difference of approximately 7 kg between singletons and twins for each prepregnancy BMI. Applying these equations indicates that for a prepregnancy BMI of 20, optimal GWG for singletons is 18 kg and for twins is 24.7 kg; for a prepregnancy BMI of 25, optimal GWG for singletons is 12 kg and for twins is 18.2 kg; for a prepregnancy BMI of 30, optimal GWG for singletons is 6 kg and for twins is 13.5 kg; and for a prepregnancy BMI of 35, optimal GWG for singletons is 0 kg and for twins is 8 kg.

Regarding gestational hypertensive disorders, including preeclampsia, Figure 2 of the article by Lin et al shows that the lowest incidence of these disorders was similar to the corresponding Maternal Fetal Corpulence Symbiosis in each category of BMI. We recently showed that applying the formula for singleton pregnancies to our population has the potential to lower by 40% the incidence...
of late-onset preeclampsia, as increasing prepregnancy BMIs have a linear association with the incidence of late-onset preeclampsia and other important morbidities (e.g., cesarean delivery, LGA, and newborns with macrosomia >4 kg) for individuals with overweight or obesity.

If the international community decided to adopt as a prerequisite rationale for optimal GWG to achieve a normal-shaped neonatal population curve (size appropriate for gestational age) at all gestational ages, the solution would be scientifically (and mathematically) achievable immediately. Because this optimal GWG is based on the outcomes of neonatal birth weights (SGA and LGA definitions differ across ethnic populations), every geographical area in the world could define its specific linear curve adapted to their population. Calculators could be created for the specific curves so that they are accessible to everyone with a smartphone, as has been the case for singleton pregnancies on Reunion Island for 3 years to date. Thus, at the first prenatal visit, every pregnant individual would know the personal GWG goal to achieve in the next 7 to 8 months of pregnancy.

The availability of the final GWG objective since the first prenatal visit (a kind of deal between the mother and the health worker), would make it easy to check every month from the 22nd week of gestation onward that the fetus is not SGA (and in this case, the initial GWG recommendation could be increased). Such a monthly follow-up on a population scale has the theoretical potential to lower the incidence of SGA status, excluding pathological conditions such as preeclampsia, from 10% to between 5% and 7% in all populations (taking into account differences in the SGA and LGA definitions among ethnic groups). This important leap forward would have immediate practical issues given that there are approximately 140 million births per year worldwide, of which approximately 1.7 million are twin pregnancies.

**REFERENCES**


