

## **Ethnic-cultural background, maternal body size and pregnancy outcomes in a diverse Swiss cohort**

*Objective:* To investigate the influence of ethnic-cultural background and maternal body size on pregnancy outcomes in infants born at term.

*Study design:* A retrospective cohort of 1432 pregnant women who delivered a live newborn at term between 1999 and 2003 provided the data for the following study. We performed multivariable regression analyses for birth weight and rate of caesarean section controlling for body mass index (BMI), net weight gain, maternal age, parity, smoking, marital status and sex of infant.

*Results:* Thirty percent of the women studied had a BMI  $\geq 25$ ; the proportion of mothers with a BMI  $\geq 25$  varied substantially by ethnic-cultural background (range: Far East 2.8% vs. Africa 50.0%). After adjustment for confounding variables, mothers from Sri Lanka and the Middle East had significantly lighter infants (Sri Lanka -145.5g, 95% CI -59.3g to -231.7g,  $P=0.001$ ; Middle East -214.3g, 95% CI -33.7g – 395.0g,  $P=0.02$ ) than mothers from Switzerland. Each unit increase in maternal pre-pregnancy BMI was associated with a 20.3g increase in birth weight (95% CI 14.3g to 26.4g,  $P<0.001$ ). Muslim mothers from the former Yugoslavia had significantly lower odds of caesarean section than Swiss mothers (OR 0.63, 95% CI 0.41 to 0.96,  $P=0.03$ ).

*Conclusions:* In this cohort, certain ethnic-cultural groups had increased odds for low birth weight and others had reduced odds of operative delivery compared to the Swiss comparison group. The finding that ethnic-cultural background is strongly associated with overweight suggests that culturally appropriate nutritional education and counselling during prenatal care, supervised by regular contact with physicians, is likely to be beneficial.