Maternal overweight and obesity: where to from here?

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It is time to examine how the health of young women can be improved prior to pregnancy

The report by Cheney and colleagues in this issue of the *MJA* clearly shows the increasing contribution by the effects of overweight and obesity during pregnancy to adverse perinatal outcomes.[1] The authors analysed pregnancy outcomes at a large teaching hospital in central Sydney, and found that the population attributable fractions (PAFs) of pre-eclampsia, gestational diabetes, and fetal macrosomia associated with overweight and obesity (defined by maternal body mass index [BMI] categories) have risen significantly during the past 25 years. As troubling as these findings are, it is worth noting that nearly 80% of the study population had BMIs in the low or normal ranges. However, in the parts of Australia where overweight and obesity are more prevalent, intertwined with socio-economic disadvantage, the PAF associated with overweight and obesity will be higher. Cheney and her co-authors also report interesting trends in their nulliparous population with respect to other risk factors for adverse pregnancy outcomes, such as increasing age and falling smoking rates, and changes in the ethnic profile and dramatic improvements in socio-economic status of the hospital catchment area. The authors modelled the impact of reducing the overall BMI category distribution of first-time mothers, and the prospective improvements in outcomes are remarkable, suggesting that pre-pregnancy weight loss interventions need to be a priority for improving perinatal health.

The burdens on maternity services caused by maternal overweight and obesity cannot be overemphasised. Apart from increased rates of almost all adverse maternal and perinatal outcomes, caring for a woman with a high BMI is challenging. Ultrasound assessment of fetal development and growth is difficult, reducing the accuracy of invasive and non-invasive prenatal diagnosis, and repeated ultrasound imaging in later pregnancy increases the occupational health and safety concerns of sonographers. These factors also increase the cost of providing antenatal care.[2] From the woman's perspective, there are undesirable consequences for models of maternity care and the place of birth. For rural women, a high BMI or early pregnancy weight gain may preclude delivery at her local hospital because of the need for specialist anaesthetic cover. Around the time of birth, there are further difficulties associated with intravenous access, monitoring, transport, equipment, and facilities. The rates of all neonatal adverse events are increased, including the tragedy of stillbirths related to overweight and obesity.[3]

What lessons for clinical practice can we draw from this study? While maternity services have developed approaches for caring for women with super-obesity, achieving remarkably good results,[4] more common and less extreme forms of overweight and obesity urgently need more attention. It is worrying that one in five women in the Sydney study by Cheney and colleagues did not have a BMI recorded; as it is such an important risk factor for adverse outcomes in pregnancy, accurate BMI data are vital. As the authors point out, the results of attempts to alter the course of pregnancy through lifestyle interventions have been disappointing, leaving two options for maternity services. The first is the default route: allocating resources to meet the increasing requirements of care for women at higher risk because of their weight. This inevitably leads to an increase in early term or late pre-terms births, contributing to the high proportion of caesarean deliveries in Australia. Further, this approach ameliorates neither the long term consequences of maternal obesity for mother and child — the latter compounded by the mode and timing of birth[5] — nor the transgenerational effects of maternal obesity.

It is tempting to instead suggest that the problem could be solved by encouraging women to lose weight prior to becoming pregnant. However, there are no data that support this idea,[6] and, apart from bariatric surgery, the effectiveness of weight loss interventions is generally disappointing. Improving this situation needs to be a

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research priority. There is also a desperate need to improve pre-conception care, as advice about alcohol, smoking, medications, illicit drugs, folic acid, nutrition, medical conditions, and vaccination can prevent a life of disability for a newborn baby, and is also extremely cost-effective.[7] This needs to be a national health priority.

Broader questions about how to prevent obesity in young women should also be priority areas for research. Aspects of lifestyle, such as food quality, physical activity, urban design, environmental health, sedentary behaviour (including occupational sitting and screen time), sleep, environmental toxicology, mental health, weight gain related to commonly prescribed medications, and community connectivity, contribute to this complex public health problem. A complex systems approach is therefore required.[8]

We need to re-focus our efforts to reduce risk in pregnancy by providing more resources to improving the health of young women before they enter their child-bearing years. More broadly, public awareness of the value of pre-conception care needs to be raised so that modifiable risk factors can be modified. As shown by Cheney and her co-authors, the consequences of our current lifestyle are significant and costly, and it is time to examine how the health of young women can be improved prior to pregnancy.

Competing interests: No relevant disclosures.

Provenance: Commissioned; externally peer reviewed. ■

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