**Comment for Lancet Diabetes & Endocrinology series on Preconception and Maternal Obesity**

**Title: Obesity and health of our future generations**

*Mark Hanson, Peter Gluckman and Flavia Bustreo*

The prevalence of obesity in women of reproductive age around the world is increasing in both low-middle and high income populations, and is a concern for the health of at least two generations. Not only does it impact on the woman’s own health, putting her at greater risk of gestational diabetes and, longer-term, to type two diabetes, but it also places her offspring at risk, particularly of developing childhood obesity and its later consequences; so the cycle repeats. The alarming rise in the prevalence of childhood obesity led the Director General of the WHO to establish a Commission on Ending Childhood Obesity, which reported to the WHO assembly in May of this year. The report (1) stressed the need for concerted and sustained action, not only in childhood but earlier in the life course, in the mother (and father) both before and during pregnancy. The series on preconception and maternal obesity in The Lancet Diabetes and Endocrinology suggests new directions which such an initiative could take.

The papers in the series emphasise the scale of the problem (2) and the consequences for children (3). Although the focus of the series is on prevention rather than treatment, the paper of Ma et al (4) stresses the need for early intervention to curb the rising incidence of conditions such as gestational diabetes, a dramatically increasing aspect of the transgenerational passage of obesity. Although interventions to reduce weight, or the gain in weight, in pregnancy have not so far met with much success in reducing risk of high birthweight or other adverse pregnancy outcomes, the longer-term consequences for the child are now being followed up.

The shifting focus to the preconception period accords with other global initiatives. The United Nations General Assembly proclaimed in April a Decade of Action on Nutrition, calling upon governments to address overweight as well as underweight in children under the age of five, as an important step to reversing the rising burden of diet-related non-communicable diseases in all age groups. It draws upon targets identified in the Sustainable Development Goals (viz. target 2.2) calling for action to ‘by 2030 end all forms of malnutrition and address the nutritional needs of adolescent girls, pregnant and lactating women’ (5). Broader issues to be addressed at this period in the life course are also highlighted in the Global Strategy on Women’s, Children’s and Adolescents’ Health (6).

However, taking these initiatives forward is not without problems. The final paper in the series (7) notes that public health programmes focusing on this part of the life course, for parents and their future children, are not generally viewed as requiring special consideration. Not only is it assumed that adolescents and young adults are usually generally healthy (8) but this group seldom access the services of healthcare professionals. Whilst they may indeed show no overt signs of disease, many young people at this time are nonetheless on a rising trajectory of risk. Nonetheless, this is a period when lifelong health behaviours and habits can both be established and modified.

These problems are even more pressing in hard-to-access members of the young population, such as those of low socio-economic status, educational attainment, migrants and displaced groups. Motivating them to prepare for pregnancy and parenthood requires an entirely new approach, from the information sharing which may engage their interest and encourage them to join in a new initiative, to the political will to provide capacity, and the development of opportunities for change. The approach is both top-down and bottom-up but, even more importantly, requires something in between which young people help to create themselves. If at present many of them do not seem to care about their health, or view it as a low priority, perhaps it is because we have not given them clear information on what they can do to optimize it for themselves and their children.

We owe our adolescents the chance to make their future healthier. In addition, the political leaders who have committed to the new Global Strategy for Women’s, Children’s and Adolescents’ Health must give adolescent health priority in the national health strategy, plans and budget. Only this will enable the transformation required.

1. WHO Ending Childhood Obesity Commission full report Jan 2106.
2. Poston L, Cnattingius S, Corvalen C, Uauy R, Herring S, Gillman MW. Preconception and Maternal Obesity; implications for pregnancy outcomes.
3. Godfrey KM, Reynolds RM, Prescott S, Nyirenda M, Jaddoe VW, Eriksson JG, Broekman BF. The influence of maternal obesity on the offspring.
4. Ma RCW, Schmidt MI, Tam WH, McIntyre HD, Catalano PM. Clinical Management of Pregnancy in the Obese Mother: Pre-conceptional, during and after Pregnancy.
5. Sustainable Development Goals
6. Global Strategy on Women’s, Children’s and Adolescents’ Health (2015)
7. Hanson MA, Barker M, Dodd JM, Kumanyika S, Norris S, Steegers E, Stephenson J, Thangaratinam S, Yang H. Interventions to prevent maternal obesity prior to conception, during pregnancy and postpartum.
8. General Comment 4 (2003) on the Convention on the Rights of the Child (1990) has in its introduction the statement that adolescents ‘in general are a healthy population group’.