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Body Fat and Birth Control

Sarah Blaffer Hrdy

For most of human history, girls in their early teens simply did not get pregnant.

Since the Neolithic period, and especially over the last several centuries, the age of menarche (the onset of menstrual cycling) in the human female has been falling. Girls are capable of becoming pregnant younger than ever before--closer to twelve than to twenty. In eighteenth- and nineteenth-century Europe, girls reached menarche at about the age of seventeen, and conception would not have been possible for some time after that. Yet in the United States today, almost 190,000 girls aged seventeen and younger have children.

People refer to this as the "problem" of teenage pregnancy, but from a long-term biological perspective, the real problem is that nutritional prosperity has undermined biological safeguards that evolved against inopportune conception. Ovulation--and hence female fertility--requires a certain minimum of body fat. In foraging societies with lifestyles similar to those of prehistoric humans, any girl in her early teens who has acquired enough body fat to trigger ovulation must be living in an unusually productive habitat, surrounded by kin willing to support and provide for her. In Africa and South America, the average woman in a traditional foraging society is in her mid-twenties before she starts to gather her own full share of food, much less the surplus needed for any children in her social group. Even when they engage in hard work, such as digging tubers, these young women harvest less food per hour than senior women--forty years or older--generally do.

When food is carried back to camp, the hardy young women usually end up carrying the lighter loads. Typically, adolescent girls in these societies gravitate toward easier tasks such as berry picking. Although caring for other people's children is also a relatively light task, an adolescent's heart may not be in her work. Child care is a job that her younger sisters might be more eager to undertake. In reality, girls near menarche are hard at work of another sort: reprogramming their hypothalamus and ovaries and storing up resources as a down payment on the reproductive career they will later undertake. Without knowing why, they may be hesitating to risk their own precious reproductive energies on anything other than their own future offspring.

In traditional societies, women are usually most fertile in early adulthood. This is when their pregnancies are most likely to have a good outcome and when infants are most likely to survive. Female fertility peaks between the early and mid-twenties, although for some West African and Nepali groups in which nourishment is poor, the peak is much later--from twenty-six to twenty-nine years old.

The importance of delayed fertility may be more critical for humans than for other primate mothers (great apes, too, take a long time to mature to breeding age). In our species, conscious planning plays an important role in our ability to cope with parenthood. In today's human adolescent, the faculties critical for emotional control and for following through with plans are only beginning to develop while the ovaries are speeding to maturity.

For most of human history, late menarche and the relative infertility of adolescents protected young females from a dangerous reproductive enterprise unlikely to yield offspring that survived. Ironically, adolescents in today's industrialized societies can be terribly disadvantaged, lacking essential social and economic support, yet still be so well fed that they reach menarche at twelve and can conceive by fifteen. The amount of fat a girl has on board has become a dangerously misleading physiological signal, telling this young mammal that it is a good time to go ahead and reproduce, when in fact it is anything but.

This is why some psychiatrists refer to reproductive maturity being reached before mental maturation as a case of "starting a car engine without a skilled driver behind the wheel" Perhaps we should not be surprised that in the United States today, early childbearing and large numbers of closely spaced births are the greatest risk factors for both child abuse and infanticide.

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