A mother's depression may cause her daughter to hit puberty earlier, suggest the results of a small study.

The study expands on previous research that found a connection between stressful family relationships and early puberty. Mood disorders like depression can be one cause of stress within families, resulting in disharmony between wives and husbands and dysfunctional relationships with children, according to the study.

Study co-authors Bruce J. Ellis, PhD, of the University of Canterbury in Christchurch, New Zealand and Judy Garber, PhD, of Vanderbilt University in Nashville, TN, also posit exposure of adolescent girls to unrelated adult men, such as stepfathers, as an additional cause of early puberty.

"We propose that stepfather presence and stressful family relationships constitute separate paths to early pubertal maturation in girls," said Ellis.

The age at which girls reach puberty is also thought to be significantly influenced by genes, as well as environmental influences like nutrition, exercise, and weight. However, for the purposes of their study Ellis and Garber focused solely on the psychosocial environmental influence of family stress, caused by maternal depression, on the timing of puberty in adolescent girls.

A total of 87 adolescent girls participated in the study. The mothers of 67 of the girls had a history of mood disorders such as depression, while the remaining 20 mothers had no such history. A history of mood disorders in the mother predicted earlier puberty in the daughter, Ellis and Garber found.

In addition, the researchers noted a significant correlation between the girls' age when an unrelated father figure entered their lives and the timing of their puberty; that is, the younger the girl was when the stepfather arrived, the earlier she hit puberty. The researchers publish the results of their study in the March/April issue of Child Development.

The tendency to respond to early childhood stress by accelerating pubertal development may have taken root during human evolution, as a reproductive strategy, the researchers suggest. "Over the course of our natural selective history, ancestral females growing up in adverse family environments with uncertain futures may have reliably increased their reproductive success by accelerating physical maturation and beginning sexual activity and reproduction at a relatively early age," said Ellis.
Animal research -- suggesting that chemicals known as pheromones produced by unrelated adult males accelerate female pubertal development -- may help explain their second finding, according to the researchers.

"It seems plausible to suggest that exposure to pheromones of unrelated adult males could also influence the timing of pubertal maturation in human females," said Ellis. "However, more research is needed to determine exactly how environmental factors influence hormonal changes in girls."

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