

# The Impact of Early Menstruation on the Health of Young Females

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## STORY AT-A-GLANCE

- › More girls are having their first period at younger ages and taking longer to reach menstrual cycle regularity, as highlighted in a May 2024 study published in JAMA Network Open. Early and irregular periods have long been linked to poor health effects
- › Early periods may be influenced by socioeconomic backgrounds, high body mass index during childhood, low activity levels and electronic screen time
- › Having prolonged irregular cycles results in extended exposure to an imbalance between estrogen and progesterone, which could increase the risk of endometrial cancers and fertility problems
- › Another possible factor behind early puberty in girls is exposure to estrogenic compounds. Tips are included to help lower your child's estrogen load

Puberty is an important period of development that signifies the transition between childhood and adulthood, marked by significant physical, emotional, psychological and social changes.<sup>1</sup> For girls, one of the most notable milestones of puberty is the onset of menstruation (menarche), which ultimately leads to reproductive maturity.

Traditionally, the average age for menarche is between the ages of 12 and 15.<sup>2</sup> However, a concerning trend has emerged over the past few decades in the U.S. and globally – more girls are having their first period at significantly younger ages. This shift toward early menarche is not just a minor deviation from the norm. It could also signal health

issues later in life, as highlighted in a May 2024 study<sup>3</sup> published in JAMA Network Open.

## **Younger Generations Are Getting Their Periods Earlier Than Ever**

The May 2024 JAMA Network Open study<sup>4</sup> is among many that underscore the rising incidence and implications of early menarche, defined as menstruation before age 11. The researchers looked at data from 71,341 female participants in the U.S., born between 1950 and 2005, who completed surveys for the Apple Women's Health Study, a long-term research initiative aimed to examine menstrual cycles using data collected from the Apple Health mobile app.

Aside from analyzing the age at which participants experienced menarche, the researchers also considered how long it took for their menstrual cycles to become regular, tracking these trends across different demographic groups. Their findings revealed that the average age at menarche decreased from 12.5 years (for those born between 1950 and 1969) to 11.9 years (for those born between 2000 and 2005).

Alarming, the percentage of girls experiencing early menarche increased from 8.6% to 15.5%, and very early menarche (before age 9) from 0.6% to 1.4%. The percentage of girls reaching menstrual cycle regularity within two years also dropped from 76.3% to 56.0%, while those with irregular cycles increased from 3.4% to 18.9%.

*"Despite a relatively small magnitude of change in mean age, our study is among the first to show that the percentages of early and very early menarche have also increased by almost twofold across birth years from 1950 to 2005, raising concerns that more individuals may be vulnerable to adverse health outcomes related to early menarche," the researchers noted.<sup>5</sup>*

They also emphasized that these trends are more pronounced among females from racial and ethnic minorities, including non-Hispanic Black, Asian and multiracial individuals, as well as those from lower socioeconomic backgrounds. Moreover, body

mass index (BMI) accounts for about 46% of the trend towards earlier menarche, indicating that the **rising rates of childhood obesity** play a role, but is not the sole factor.

"This is important because early menarche and irregular periods can signal physical and psychosocial problems later in life, and these trends may contribute to the increase in adverse health outcomes and disparities in the U.S." Dr. Zifan Wang, the lead study author and a postdoctoral research fellow at Harvard University's T.H. Chan School of Public Health, told CNN.<sup>6</sup>

## **Other Lifestyle Factors Influencing Menstrual Onset**

In a case-control study<sup>7</sup> published in Scientific Reports, researchers investigated the collective impact of electronic screen time, moderate-to-vigorous physical activity and overweight/obesity on early pubertal development in girls. They examined data from 177 girls newly diagnosed with early puberty and 354 girls with normal development in China.

Their analysis revealed a significant association between having any two risk factors and the likelihood of early puberty. High screen time coupled with low activity correlated with a 13-fold increase in risk. High screen time combined with being overweight or obese led to a 6.5-fold higher risk. Meanwhile, low activity combined with overweight or obesity resulted in a sixfold increase in risk.

Girls who exhibit all three risk factors have a whopping 26-fold higher risk of early puberty. Drawing from these findings, the authors highlighted the importance of maintaining a healthy lifestyle for adolescents:<sup>8</sup>

*"We recommend girls do not spend their leisure time watching TV or on other electronic screens, avoid a sedentary lifestyle, which is characterized by both low MVPA [moderate to vigorous physical activity] and high EST [electronic screen time], but instead spend more time exercising for reasons related to obesity and also potential early puberty, even in girls of normal weight."*

## **‘Menstruation Is Like a Vital Sign’**

Dr. Eve Feinberg, associate professor of obstetrics and gynecology at Northwestern University’s Feinberg School of Medicine in Chicago, likened menstruation to a vital sign. "You want to make sure that the body is regulated. And when cycles are not regular, it’s generally a sign that something else may be going on," she told CNN. Early and irregular periods have long been linked to poor health effects. According to the featured JAMA Network Open study:<sup>9</sup>

*"Early menarche is associated with increased risk of adverse health outcomes, such as cardiovascular diseases, cancers, spontaneous abortion and premature death ... The maturation of the reproductive axis, measured as the time from menarche to established cycle regularity, is another important but understudied hallmark of early-life menstrual health ...*

*Full maturation of the reproductive axis leads to more regular menstrual function. Longer time to regularity has been associated with lower fecundability, longer menstrual cycles and increased risk of metabolic conditions and all-cause mortality."*

Research has also associated early menarche with obesity, diabetes and psychosocial problems like delinquency and risky social behavior.<sup>10</sup> Moreover, Feinberg noted that having prolonged irregular cycles results in extended exposure to an imbalance between estrogen and progesterone, which could increase the risk of endometrial cancers and fertility problems.<sup>11</sup>

"Estrogen signals growth, whereas progesterone signals for that growth to stop. To prevent conditions such as uterine cancer, you need to have the signals to both start and stop growth," she explained.<sup>12</sup> I agree with this perspective and have long warned about the dangers of excessive estrogen. In my mind, estrogen is one of the two primary reasons for most cancers – the other one being excessive consumption of [linoleic acid](#).

## **Why Birth Control Pills Are Not a Good Idea**

In the CNN article, Feinberg suggested using birth control pills to control menstrual cycles. "Sometimes even using birth control pills at an earlier age to help give earlier exposure to progesterone ... may give a little bit more cycle control and may possibly be protective," she said.

I respectfully disagree with this recommendation because even though birth control pills are meant to mimic the effects of progesterone in the body, they can also further increase estrogen levels, which could potentially do more harm than good.

Typically, birth control pills contain synthetic versions of estrogen and progesterone (progestin), or progestin alone. However, progestin does not have the same physiological effects as endogenous progesterone, especially its anti-estrogenic effects. In fact, progestins tend to lower and can completely shut down endogenous progesterone production, leaving estrogen unopposed.

Many progestins found in birth control pills, such as norethynodrel and norethindrone, can bind to and activate the estrogen receptor, and are converted into estrogens. Endogenous progesterone does not do this. This fundamental difference underscores why birth control pills may not be the ideal solution for regulating menstrual cycles.

To learn more about why I don't recommend using birth control pills, read my article "[The Disturbing Truth About Oral Contraceptives](#)."

## **Is Your Child Being Exposed to Estrogenic Compounds?**

Synthetic compounds with estrogenic properties, known as endocrine disruptors or xenoestrogens, are prevalent in various consumer products. A January 2024 paper<sup>13</sup> in Environmental Health Perspectives identified 279 estrogenic compounds commonly found in consumer products that induce mammary tumors in animals. They also identified 642 chemicals that could potentially increase the risk of breast cancer by stimulating estrogen or progesterone signaling.

One of the most pervasive sources of estrogenic compounds is plasticizers released by microplastics in the environment. According to a study published in Nature Food, infants

may encounter anywhere from 14,600 to 4.5 million microplastic particles daily.<sup>14</sup> Another study suggests that people could be ingesting as much as 5 grams of plastic a week, which is the equivalent weight of one credit card.<sup>15</sup>

An article<sup>16</sup> in the journal *Toxics* delves into the ramifications of early exposure to estrogenic compounds from microplastics in children:

*"[T]he sex hormone level in the prepubertal phase is relatively lower than that in the pubertal phase, because the neuroendocrine development of the hypothalamus-pituitary-gonadal axis is still immature. Thus, body systems are highly susceptible to the effects of endocrine-disrupting chemicals (EDCs) from various plastic-based products during this sensitive development period.*

*In addition, children have many more years to live than adults; therefore, they will have a longer life span to acquire chronic illnesses caused by early exposure."*

Supporting these findings, one study<sup>17</sup> suggested that exposure to bisphenol A (BPA) could lead to early signs of puberty, such as premature development of the breast tissues (thelarche) in children as young as 2 months to 4 years old. Other types of EDCs are also linked to early puberty. For instance, a study<sup>18</sup> found that polybrominated biphenyls (PBBs) caused early menarche in girls who are exposed to this chemical in utero.

PBBs are a group of synthetic chemicals used as flame retardants and known for their estrogenic properties. This emphasizes the need for further research on the role of estrogen-like substances in pubertal development and the importance of protecting children from all sources of estrogenic compounds.

## **Protective Strategies Against Excessive Estrogen Load**

To help manage estrogenic exposure and potentially mitigate any impact of early menstruation for your child, I recommend following these commonsense strategies:

**Choose natural products** – Opt for natural and organic personal care products, including makeup, skincare and hair care items, to reduce exposure to synthetic chemicals like parabens and phthalates, which have estrogenic properties.

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**Limit pesticide exposure** – Choose organic produce whenever possible to reduce exposure to pesticides, many of which have estrogenic effects. Washing fruits and vegetables thoroughly can also help remove pesticide residues.

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**Rethink your household products** – Many household cleaning products, laundry detergents and air fresheners contain chemicals with estrogenic properties. Swap them out for natural, nontoxic alternatives or make your own cleaning solutions using vinegar, baking soda and essential oils instead.

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**Avoid plastic containers** – Minimize the use of plastic containers and food packaging, which can leach estrogenic compounds into food and beverages. Instead, opt for glass or stainless steel containers for food storage and water bottles.

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**Maintain a healthy weight** – Adopt a balanced diet and regularly exercise. This reduces your risk for overweight or obesity, which is a known risk factor for early puberty, as indicated in the Scientific Reports study.<sup>19</sup> Excess body fat, particularly around the thighs, hips and buttocks, can also contribute to higher estrogen levels.

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**Support liver health** – Support liver function, as the liver plays a crucial role in metabolizing and eliminating excess estrogen from the body. Eat a nutrient-rich diet, limit alcohol consumption and consider incorporating liver-supporting herbs and supplements, such as milk thistle or dandelion root.

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**Promote hormonal balance naturally** – Explore natural approaches to promote hormonal balance, such as consuming well-cooked cruciferous vegetables like broccoli, cauliflower and kale, which contain compounds that help support estrogen metabolism and detoxification.

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**Reduce stress** – Manage stress through relaxation techniques like meditation, deep breathing exercises, yoga or spending time in nature. Chronic stress can disrupt your hormone balance, including estrogen levels, so prioritizing stress reduction is essential.

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## Sources and References

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