Are Black Girls Exhibiting Puberty Earlier? Examining Implications of Race-Based Guidelines

Adeiyewunmi (Ade) Osinubi, MD,[a] C. Paula Lewis-de los Angeles, MD, PhD,[a,b] Patricia Poitevien, MD, MSc,[a,b] Lisa Swartz Topor, MD, MMSc[a,b,c]

From 1977 to 2013, the average age of thelarche, the first sign of puberty in girls, decreased by nearly 3 months per decade.[1] This trend, along with rising rates of precocious puberty in girls, has significant implications for girls' physical and psychosocial development, especially because early puberty has been linked to future health risks.[2,3]

In 1997, the Pediatric Research in Office Setting study introduced race into the discourse surrounding pubertal timing trends.[4] In a study of approximately 17 000 girls, Black girls at every age had more advanced breast development compared with White girls. Breast development had begun at age 6 years for 6.4% of Black and 2.8% of White girls and, by 8 years, 37.8% of Black and 10.5% of White girls.[4] Because of these findings, the Pediatric Endocrine Society Drugs and Therapeutic Committee recommended new race-based criteria for defining precocious puberty.[5] Proposed recommendations stated that breast development should be considered precocious in Black girls younger than 6 years and White girls younger than 7 years.[5] Although these guidelines were never formally recognized, race has become widely accepted as a factor in the pubertal timing of girls and has been included in recent American Academy of Pediatrics (AAP) clinical reports[6] and Pediatric Endocrine Society guidelines.[7] As a result, many patients, caregivers, medical students, and physicians have been taught that Black girls experience puberty at earlier ages. In addition, in scientific and educational resources[8,9] and the lay media,[10,11] race continues to be associated with precocious puberty without considering the potential causes of this association, including the impact of racism.[12] Although the AAP has made it clear that race-based medicine is faulty and detrimental, its eradication from everyday practice remains a challenge.[13] This article will examine the inclusion of Black race in discussions surrounding puberty, the implications of these race-based approaches to pubertal norms, and recommendations for reframing these notions.

POTENTIAL INFLUENCES ON PUBERTAL TIMING

The most recent AAP clinical report on precocious puberty[6] includes that race/ethnicity, among other factors, should be taken into account when evaluating early puberty in girls.

[a]*Warren Alpert Medical School of Brown University, Providence, Rhode Island; and* [b]*Department of Pediatrics and* [c]*Division of Pediatric Endocrinology, Hasbro Children's Hospital, Providence, Rhode Island*

Drs Osinubi, Topor, Poitevien, and Lewis-de los Angeles conceptualized the paper, drafted the initial manuscript, and reviewed and revised the manuscript; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

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Address correspondence to L isa Swartz Topor, MD, MMSc, Division of Pediatric Endocrinology, 593 Eddy St, Providence, RI 02903. E-mail: lisa_swartz_topor@brown.edu

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Race is a social construct, without any biological or genetic basis,[14] and it may inadvertently be used as a proxy for variables including obesity, environmental exposures, psychological stress, and, importantly, racism itself.

Food insecurity and lower socioeconomic status are factors that affect rates and trajectories of obesity in youth,[15] which may be related to the higher rates of obesity observed in Black girls.[16] Obesity can influence differences in pubertal timing because increased adipose tissue is associated with more estrogen.[5,17] However, the association between obesity and early puberty remains under investigation.[18] One recent study reported that total body fat has a variable influence on puberty because girls with more total body fat had slower progression of breast development, yet achieved menarche earlier than girls with lower total body fat levels.[19] In addition, a recent review suggests that obesity alone does not explain early puberty, and girls with obesity should continue to have a full workup for precocious puberty despite elevated body mass index.[20]

Environmental racism, a phenomenon that describes the disproportionate exposure to and impact of environmental hazards on minority populations, must also be considered.[21] Endocrine disrupting chemicals (EDCs) interfere with hormone signaling[22] and have been linked to increased obesity rates and early puberty.[23] One EDC is bisphenol A,[24] a chemical found in plastic bottles. Studies have demonstrated that Black communities have higher exposures to bisphenol A and other EDCs.[25] Hair products marketed to Black communities are another environmental exposure that may influence earlier pubertal onset[26–28] because they have been shown to contain estrogens, human/bovine placenta, and EDCs.[29–31] One study reported that 49.4% of Black people used products containing EDCs compared with 7% of White people.[30]

Early childhood stress may also affect pubertal timing. The Weathering Hypothesis posits that the cumulative effects of social, economic, and political adversity fuel the early health deterioration of Black women.[32] Early life stress may disproportionately affect Black girls[33]; studies have shown associations between household stress[34] and both earlier puberty[35] and menarche.[35,36]

IMPLICATIONS

Race Pathologization

The idea that racial health disparities exist because of biological differences between racial groups perpetuates a tradition of race pathologization.[37] Race pathologization is the practice of attributing poor health outcomes to an individual race rather than to the sociopolitical factors that influence such outcomes and perpetuating false ideas that health disparities are due to biological differences. In working toward health equity, it is essential to recognize that the burden of disease affects certain racial groups more than others and to acknowledge the roles of institutional and structural racism in fueling health inequities when identifying such disparities.

Adultification of Black Girls

The notion that Black girls achieve puberty at earlier ages may perpetuate adultification bias, a form of racial prejudice in which Black children are treated and judged as more mature than others of the same age.[38] This bias has important implications for Black children across social structures. Black girls may be subject to unwanted sexual advances, harsher punishment by educators in schools, and experience greater use of force and/or harsher penalties in the criminal justice system.[38–40]

Suboptimal Patient Care

Race-based medicine can lead to the inappropriate withholding of diagnostic and therapeutic interventions from patients. If physicians and other providers are taught that Black girls "naturally" achieve puberty at earlier times, they may fail to ask important questions, provide appropriate counseling, and unmask diagnoses. Precocious puberty can be caused by central nervous system tumors and genetic conditions such as McCune-Albright syndrome.[41] Commonly held biases and expectations about pubertal timing in Black girls may prevent physicians from implementing a thorough workup on their patients, leading to missed or delayed diagnoses.

RECOMMENDATIONS

Applying Principles of Race-Conscious Medicine

In evaluating pubertal timing disparities, it is important to move away from race-based medicine and adopt principles of race-conscious medicine.[42] Race-conscious medicine decenters race and identifies racism as a primary driver of disparities.[42]

Specific Approaches for Girls With Early Puberty at the Bedside

Pediatricians can prioritize the judicious evaluation of all girls who present with early puberty, despite commonly taught principles of what is "natural" for Black girls. Pediatricians must also attend to Black girls' psychosocial development and needs. An expectation of early maturity among Black girls can have long-lasting

implications on physical and emotional health.[38] Earlier pubertal maturation has been associated with higher rates of unwanted sexual advances and sexual harassment.[39,43] It is essential that clinicians are aware of these risks and support their patients by asking questions, providing age-appropriate guidance, and reiterating the importance of consent.

Future Opportunities to Improve Individual and Population-Based Health Care

In the short term, pediatricians are uniquely positioned to counsel patients and their parents about environmental factors affecting early puberty. One example is helping families identify and avoid personal care products that contain EDCs, estrogens, and placental materials. Pediatricians must continue to advocate for legislation to combat childhood obesity, including neighborhood and city-wide initiatives that increase green space and eliminate food deserts.

Further research is essential in understanding recent trends in pubertal development. Relying on race as an explanation for differences in pubertal timing halts the intellectual curiosity and questioning needed to further scientific inquiry. Although many studies have identified differences in pubertal timing by race, few have focused on why these differences may exist. The effects of stress and weathering on Black girls' pubertal presentation must be further elucidated. Additionally, investigating how to best support the psychosocial needs of girls undergoing early puberty will provide a more holistic approach to patient care.

CONCLUSIONS

Transforming our approach to disparities in pubertal timing can lead to improved patient care for Black girls. From a population health perspective, studying factors that influence pubertal timing can help researchers gain a better understanding of pubertal trends and ways to halt the drift toward earlier puberty. Individualizing care rather than categorizing care based on race allows for optimal diagnostic evaluation, age-appropriate counseling, and works toward dismantling harmful structures such as adultification bias, leading to a more equitable and accessible health care system for all.

ABBREVIATIONS

AAP: American Academy of Pediatrics
EDC: endocrine disrupting chemical

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