

Childhood Social and Economic Disadvantage and the Risk of Uterine Fibroids among Black Women

Anissa I. Vines, MS, PhD

UNC Gillings School of Global Public Health, Chapel Hill, United States

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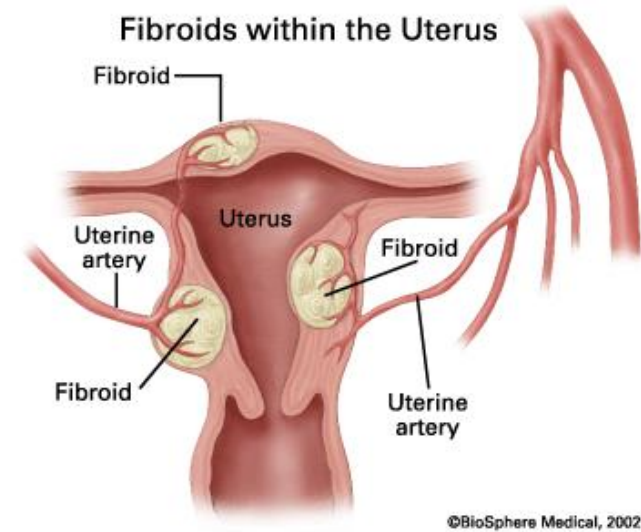
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Uterine fibroids...

- are benign tumors.
- grow in the muscle layer of the uterus.
- are hormonally dependent.
- impact women during reproductive years.
- cost the US health care system \$34.4 billion annually.



Uterine fibroids affect all women, but Black women have a higher burden.

Compared to White women, Black women ...

- have 3 times the risk of fibroids
- are more likely to experience an earlier onset of disease and greater severity of symptoms
- and have higher rates of hospitalizations, myomectomies, and hysterectomies due to fibroids.

Background and Research Goals

Research suggests that...

- From early life, US Black people are disproportionately exposed to adverse conditions.
- Early life adversities can...
 - increase fibroid development via alterations in uterine development;
 - induce reproductive hormone dysregulation; and
 - Increase unhealthy behaviors and exposure to adverse environmental exposures.
- Childhood social and emotional support might mitigate the impact.

Research Goals:

1. Examine the association between Early Life Disadvantage (ELD) and fibroid incidence.
2. Evaluate the modifying effect of Childhood Supportive Environment (CSE) on the relationship between ELD and fibroids.

Methods

Study Population: 1,230 pre-menopausal Black women, age 23 – 35 years with intact uteri and fibroid free at baseline in the Detroit, Michigan area.

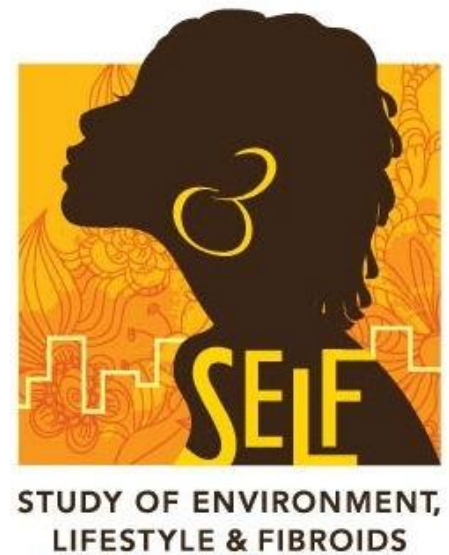
Exposure(s): High and Low Early Life Disadvantage (ELD)

- 6 baseline variables - parental composition, childhood income, mother's education, food security, neighborhood safety, and quiet bedroom for sleep
- Latent class analysis derived 2-class ELD variable

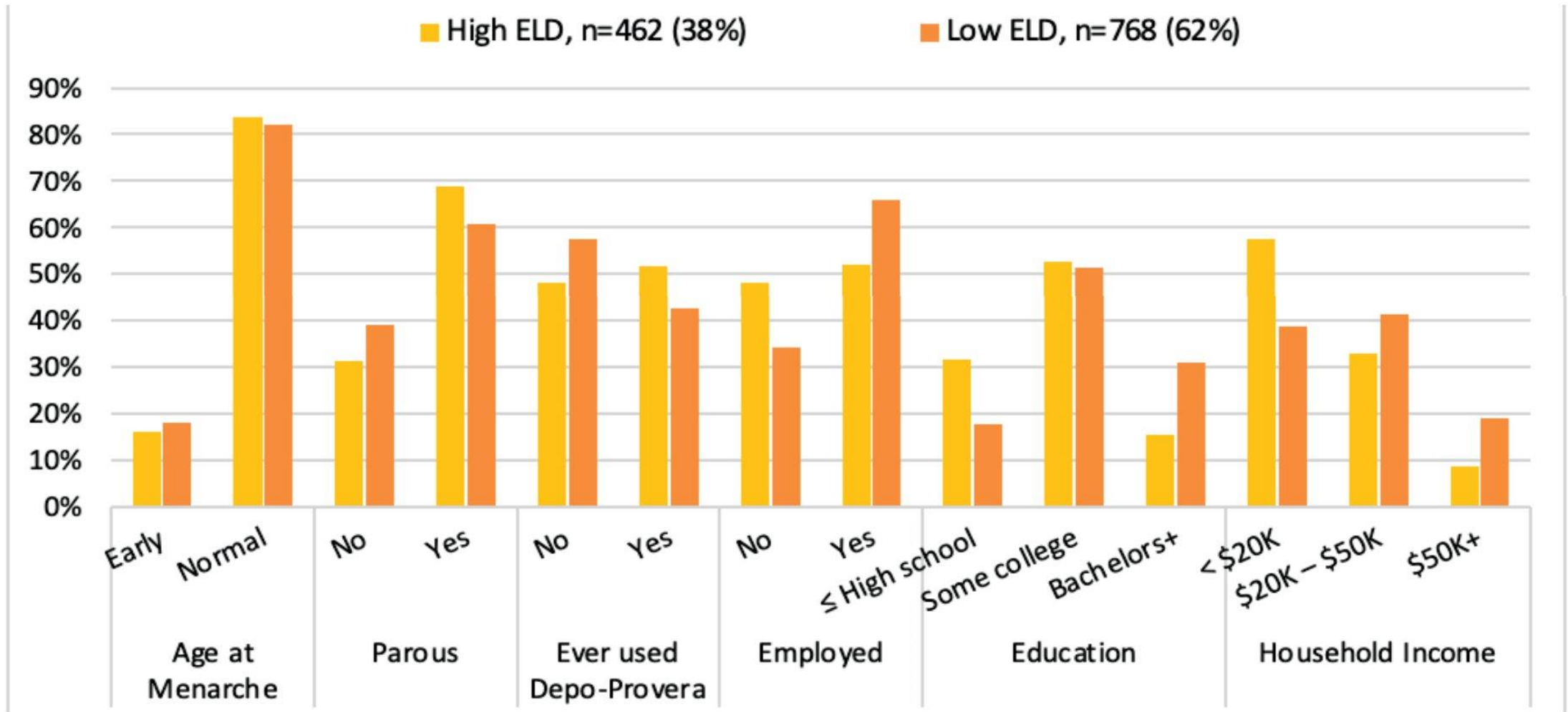
Outcome: Fibroid incidence - standardized ultrasound exams prospectively completed over a 60-month period

Effect Modifier: High and Low childhood supportive environment (CSE)

- As a child, how often their family
 - ...believed in them?
 - ...made them feel special?



Characteristics of Study Participants



Statistical Analysis

- Hazard ratios (HR) and 95% confidence intervals (CI) were estimated using cox regression with age as the time scale.
- An interaction term between ELD and CSE included to test for effect modification.
- All models adjusted for a priori fibroid risk factors (i.e. age, age at menarche, time since last birth, Depo-Provera contraceptive use).

Results

Association between Fibroid Incidence and ELD Class and Each ELD Indicator, Overall and Stratified by CSE

Exposure	HR (95% CI)	Low CSE HR (95% CI)	High CSE HR (95% CI)
ELD Class			
Low disadvantage	1.00	1.00	1.00
High disadvantage	0.83 (0.65, 1.06)	0.97 (0.58, 1.61)	0.76 (0.57, 1.01)

Study Goal 1:

No significant association between ELD and fibroids

High CSE mitigated the impact of High ELD on fibroid incidence, but not significantly

Results (continued)

ELD Indicators

Number of parents in household

Two parent household	1.00	1.00	1.00
No or single parent household	0.86 (0.68, 1.09)	0.98 (0.59, 1.63)	0.83 (0.64, 1.08)

Childhood household income

High	1.00	1.00	1.00
Low	0.82 (0.64, 1.04)	0.72 (0.43, 1.18)	0.83 (0.63, 1.09)

Mother's education level

Some college or more	1.00	1.00	1.00
High school/GED	0.86 (0.66, 1.12)	0.86 (0.45, 1.62)	0.86 (0.65, 1.16)
Less than high school	1.17 (0.84, 1.62)	1.95 (1.09, 3.48)	0.88 (0.58, 1.34)

Food security

Secure	1.00	1.00	1.00
Insecure	0.79 (0.54, 1.14)	0.80 (0.45, 1.43)	0.71 (0.43, 1.19)

Neighborhood Safety

Very safe	1.00	1.00	1.00
Somewhat safe	0.96 (0.74, 1.24)	0.82 (0.44, 1.53)	0.98 (0.74, 1.30)
Unsafe	0.79 (0.57, 1.10)	0.75 (0.38, 1.46)	0.76 (0.52, 1.13)

Slept in quiet bedroom

Most of the time	1.00	1.00	1.00
Often	1.31 (0.99, 1.71)	1.59 (0.86, 2.91)	1.23 (0.90, 1.68)
Infrequently	1.17 (0.86, 1.60)	1.34 (0.71, 2.51)	1.08 (0.76, 1.62)

*Bolded text indicates significance.

Study Goal 2:

No significant overall association between individual indicators and fibroids

Having a mother without a high school degree and having limited access to a quiet bedroom increased hazard of fibroids

Among participants who had a mother with less than a high school education, having low CSE doubled the hazard of fibroids

Conclusions

- There was **no evidence** to support high early life disadvantage as a risk factor for fibroids, but the data does suggest that a supportive environment during childhood **may offer a health benefit**.
- Black women who have mothers without a high school education and have limited support during childhood may be at an **increased risk** of fibroids.
- First study to date to examine early life disadvantage based purely on economics and ultrasound determined fibroids among Black women, so **further research is necessary** to elucidate the influence of early life economic factors on gynecologic conditions such as fibroids.

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Research Team Members

Sefanit Admasu

Department of Biostatistics, UNC Gillings School of Global Public Health

Chantel L. Martin

Department of Epidemiology, UNC Gillings School of Global Public Health

Alexandra Sitarik and Ganesa Wegienka

Department of Public Health Sciences, Henry Ford Health System

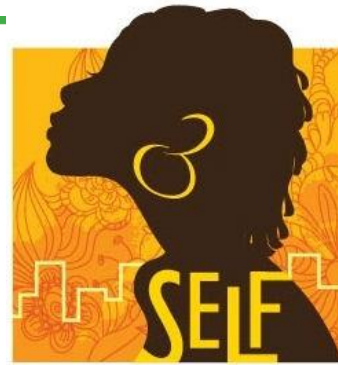
Lauren A. Wise

Department of Epidemiology, Boston University

Donna D. Baird and Quaker Harmon

Epidemiology Branch, National Institute of Environmental Health Sciences

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Thank You! Questions?



Contact Me



Anissa I. Vines, MS, PhD (she/her)
Associate Professor
UNC Department of Epidemiology
Email: avines@email.unc.edu
Phone: +1-1919-843-1210

