

Do social determinants of health influence prescribing practices of low dose aspirin prophylaxis?

Lauren Stewart, MD, Bijal Parikh, MD, Lena Woo, BS, Cassandra Heiselman, DO, MPH, David Garry, DO, Kimberly Herrera, MD
Stony Brook Medicine, Department of Obstetrics, Gynecology and Reproductive Medicine

Introduction

- Black race (as a proxy for racism) and low socioeconomic status are considered moderate risk factors for preeclampsia with associated risk secondary to environmental, social and historical inequities to access to health care
- A study on the prevalence of preeclampsia risk factors in the US found that low SES affected 46.9% of all pregnancies, with low SES defined as government assisted insurance as primary payer or participation in WIC program. (Wheeler et al., 2019)

Objective

- To evaluate social determinants of health and their effect on provider practices in prescribing low dose aspirin for preeclampsia prophylaxis.

Methods

- **Retrospective, single center, cohort study** identified patients who met ACOG and SMFM criteria to low dose aspirin prophylaxis that had live births at a single academic center between January 2021 – May 2021.
- **Exclusion criteria:** Maternal age <18 years old, late initiation of prenatal care in the 3rd trimester
- **Variables:** type of provider (midwife, resident, generalist OB/GYN, and MFM), patient characteristics including social determinants of health, risk factors for preeclampsia, pregnancy characteristics, criteria for low dose aspirin prophylaxis, timing of initial prenatal visit, and timing of low dose aspirin initiation were collected.
- **Statistical analysis:** Chi square, Fischer's exact, and student t-tests with significance levels of $p < 0.05$.

Results

- During the study period, 55% (N=375/622) patients met inclusion criteria for low dose aspirin for preeclampsia prophylaxis.
- Race and primary language did not affect appropriate prescribing practices of low dose aspirin (Table 1).
- When low dose aspirin prescribing rates were compared between different race categories (e.g., African American race or Non-white race), there was no difference.
- Most patients initiated prenatal care prior to 16 weeks (86.1%). 77.8% of those prescribed low dose aspirin were optimally initiated prior to 16 weeks.
- Low dose aspirin prescription rates did not differ between those that initiated care before or after 16 weeks (31.9% vs. 26.9%, $p = 0.473$).
- The relationship between prenatal care initiation time and low dose aspirin prescription did not differ across any of the collected social determinants of health categories.
- There was a 37% lower chance of being appropriately prescribed LDA for patients with government assisted insurance (OR 0.63, 95% CI 0.41-0.98).

Table 1. Low dose aspirin prescribing practices by social determinants of health

Social Determinants	Prescribed Aspirin (n = 117)	Not Prescribed Aspirin (n = 258)	p-value
African American Race	19 (17.4%)	45 (16.2%)	0.774
Non-white Race	51 (43.6%)	118 (45.7)	0.699
English Speaking	109 (93.2%)	233 (90.3%)	0.366
Government Assisted Insurance	52 (44.4%)	144 (55.8%)	0.041
AMA (≥ 35 years old)	50 (42.7%)	87 (33.7%)	0.093
Gestational Age (weeks) at first prenatal visit	10.8 (± 4.5)	10.9 (± 5.2)	0.815
Initiation of prenatal care <16 weeks GA	103 (88.0%)	220 (85.3%)	0.473

*Data represented at n(%) or mean (\pm SD)

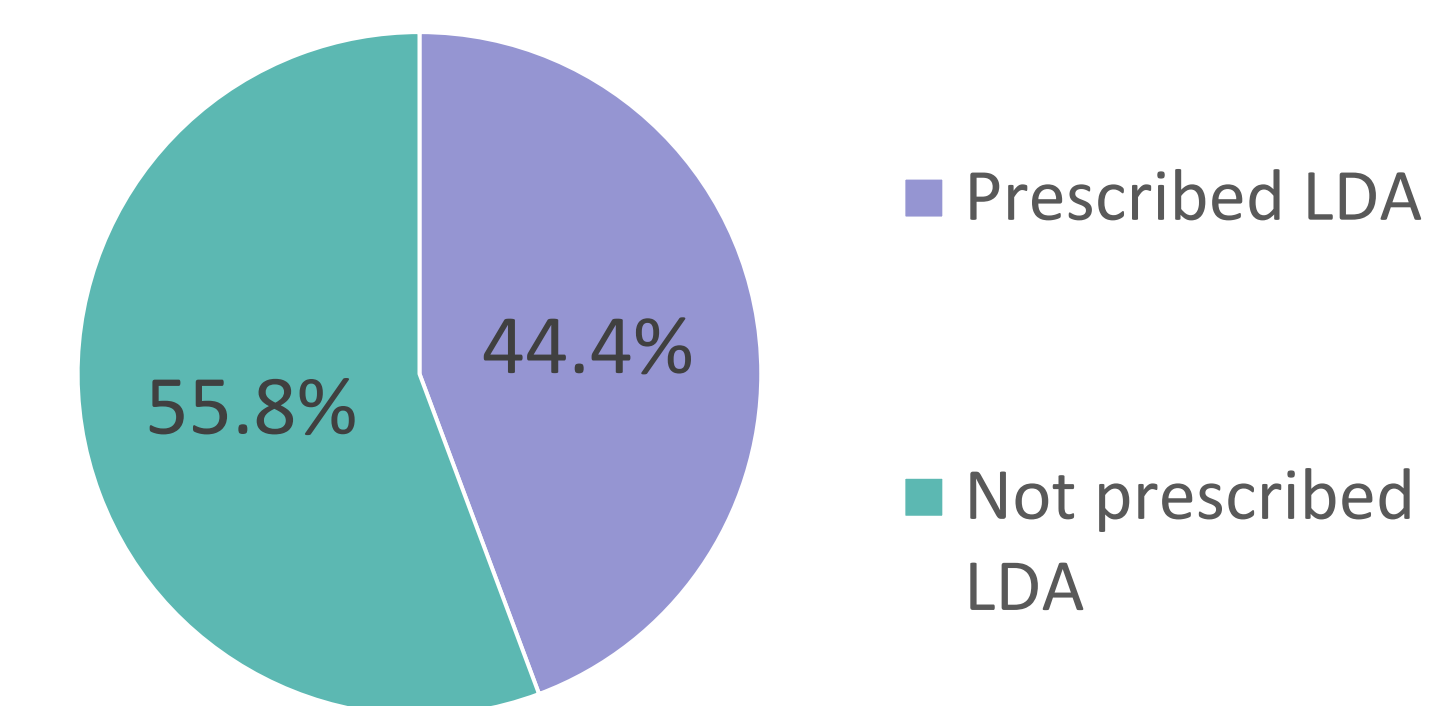


Figure 1. Government assisted insurances and rates of LDA prescription



Figure 2. Social Determinants of Health
Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion.

Discussion

- Only one social determinant of health, government assisted insurance, was associated with lower prescription rate of low dose aspirin in patients at high risk of developing preeclampsia.

References

1. Allison S. Bryant, MD, MPH; Alison G. Cahill, MD, MSCI; Jeffrey A. Kuller, MD; Judette M. Louis, MD, MPH; and Mark A. Turrentine, MD. American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine. Practice Advisory: Low-Dose Aspirin Use for the Prevention of Preeclampsia and Related Morbidity and Mortality. December 2021.
2. Davidson K.W., Barry M.J., et al. US Preventive Services Task Force. Aspirin use to prevent preeclampsia and related morbidity and mortality: US Preventive Services Task Force recommendation statement. *JAMA*. 2021; 326: 1186-1191
3. Wheeler, S., Myers, S., Swamy, G., Myers, E. Estimated Prevalence of Risk Factors for Preeclampsia Among Individuals Giving Birth in the US in 2019. *JAMA Network Open*, 2022; 5(1):e2142343.

Government assisted insurance was associated with lower rates of low dose aspirin recommendation in patients at high risk of developing preeclampsia.

