

## Low-dose aspirin initiation rates in appropriate candidates at an academic residency program in the midwest

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### Abstract

**OBJECTIVE:** Hypertensive disorders of pregnancy are one of the leading causes of maternal mortality globally and affect 2-8% of pregnancies. The relationship between low-dose aspirin and reduction in preeclampsia rates is well established. Both the USPSTF and ACOG have set forth guidelines of qualification for aspirin initiation. The primary goal of this study is ascertaining whether or not at least 75% of expectant mothers in a Midwestern academic county hospital population who have either 2 (or more) moderate risk factors or 1 high risk factor for preeclampsia are appropriately initiated on low-dose aspirin.

**METHODS:** This is a single-institution, retrospective cohort study of patients who established prenatal care after 28 weeks gestation and delivered within the year of 2019. Electronic medical record (EMR) review was performed to assess risk factors and subsequent prescription of aspirin prophylaxis. Information regarding patients' medical history, pregnancy history and current complications, basic demographic information and presence of aspirin prescription were abstracted from the electronic medical record.

**RESULTS:** 2,715 deliveries occurred during this study period. A total of 2,040 (75.1%) patients met criteria to be initiated on low dose aspirin by either two moderate risk factors or one single high risk factor. Of the patients who qualified for aspirin initiation, only 256 (12.5%) received a prescription. In a multivariate logistic regression model, initiation rate for patients with high risk factors or 2 or more moderate risk factors was 12.5% (95% CI 11.11-14.00%). This was significantly lower than the anticipated rate of 75% ( $p < 0.001$ ). Identification by providers of two qualifying moderate risk factors was significantly more likely than a single high risk factor, with an odds ratio of 19.85 (95% CI 14.57-27.06). Factors that were associated with not receiving an aspirin prescription were younger age, public insurance, nulliparity and a history of poor pregnancy outcome. Globally, rates of initiation were low for all qualifying risk factors.

**CONCLUSION:** Our data rejected the null hypothesis that at least 75% of the Eskenazi population in 2019 was appropriately initiated on low-dose aspirin. Patients with both moderate and high risk factors were identified at low rates, only 12.5% receiving a prescription for ldASA. This low initiation rate suggests that utilization of ICD-10 codes and provider risk stratification is not sufficient for identification of moderate to high-risk patients. This data supports further investigation into quality improvement methods to increase uptake of aspirin counseling for moderate to high risk patients.