753 Utilization of aspirin for prevention of preeclampsia in a high risk urban cohort

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OBJECTIVE: Evaluate utilization of aspirin for preeclampsia prevention before and after implementation of a screening tool during nuchal translucency (NT) ultrasound.

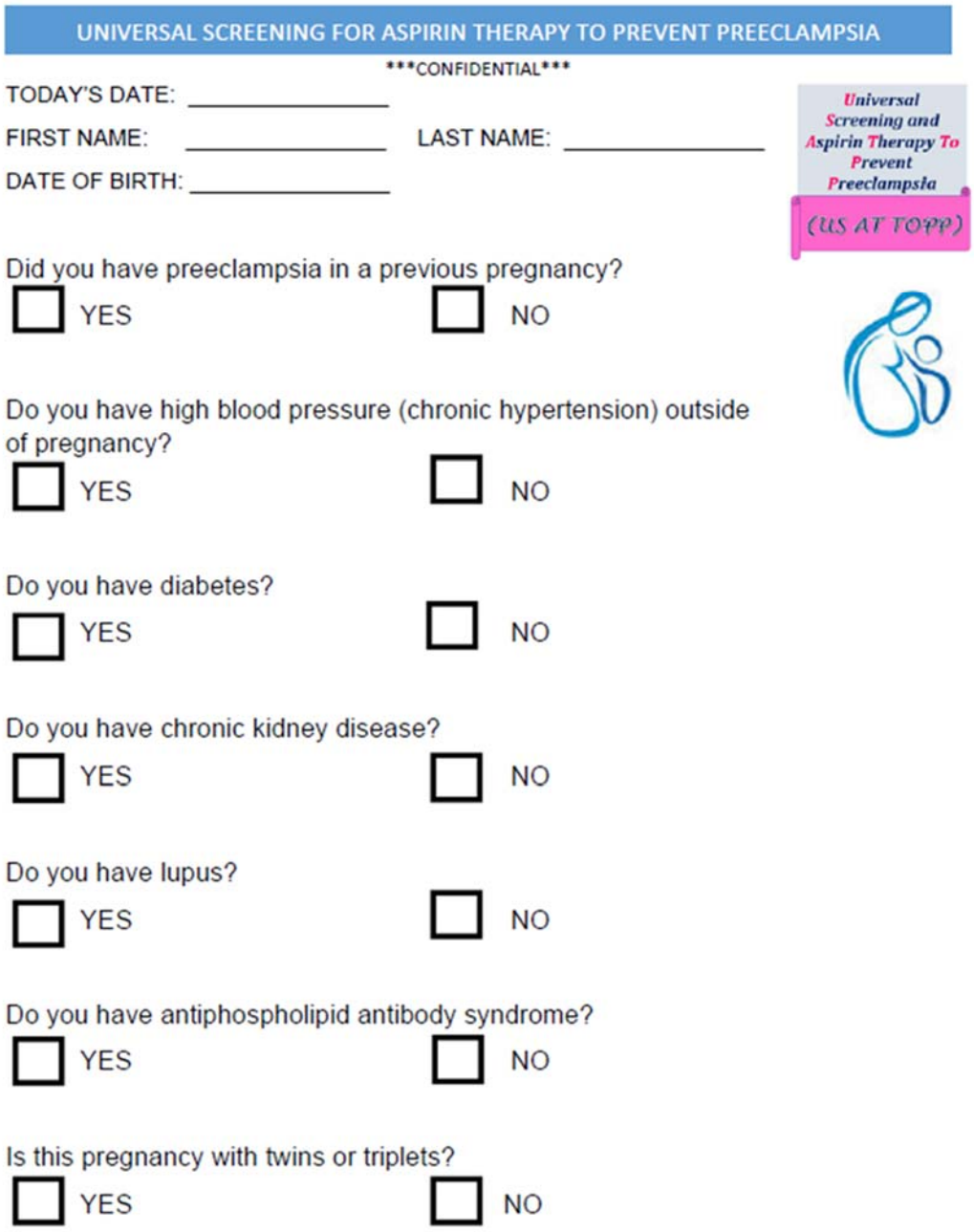
STUDY DESIGN: One year prospective cohort study of patients at high risk for preeclampsia after the implementation of a screening tool (post-screen) administered to all patients at check in for NT (11-13 week) ultrasound. Prospective cohort was compared to one year retrospective cohort (pre-screen) the year prior (2017). All patients who presented for NT ultrasound in both cohorts were evaluated for ≥1 high risk factor for preeclampsia (Table) by screening tool collected prospectively and chart review retrospectively. Provider recommendation for aspirin determined by documentation in prenatal record. Primary outcome was rate of provider recommendation for aspirin pre versus post screening tool, compared by chi-square analysis and adjusted for potential confounders with multiple regression analysis.

RESULTS: Pre- (N=156) and post-screen (N=136) cohorts were similar except race and multifetal gestation (Table). Pre-screen, rate of provider recommendation for aspirin was 74%. Of those with prior preeclampsia, 96% were recommended aspirin, compared to 64% of patients with another risk factor ($p < .001$). Post-screen, provider recommendation of aspirin improved to 95% ($p < 0.001$), and aspirin recommendation for those with another risk factor but without prior preeclampsia also improved to 92% (Figure). Post-screening tool cohort had an increased adjusted odds of aspirin recommendation (OR 10.0 (3.7-26.8), $p < .001$).

CONCLUSION: Implementation research is critical for evaluating and optimizing the real world use of national guidelines. Prior to implementation of a simple screening questionnaire, approximately 25% of high risk patients did not receive the recommendation of aspirin for preeclampsia prevention; those who lack a history preeclampsia were significantly less likely to be advised of aspirin prophylaxis. Use of a simple universal screening tool at time of NT ultrasound significantly improved utilization of aspirin for preeclampsia prevention.

	Pre-Screening Tool (N=156)	Post-Screening Tool (N=136)	p-value
BASELINE DEMOGRAPHICS			
Race **African American** **Caucasian** **Asian** **Latino/Hispanic** **Other/Unknown**	 95 (61) 27 (17) 11 (7) 16 (10) 6 (4)	 80 (59) 43 (32) 6 (4) 5 (4) 2 (2)	.01*
Maternal age (years)	31.9±5.9	31.7±5.7	.83
Nulliparity	44 (28)	35 (25)	.72
BMI (kg/m^2)	33.1±8.4	33.0±8.7	.88
Medicaid	99 (64)	85 (63)	.96
Current smoker	13 (8)	15 (11)	.42
PREECLAMPSIA RISK FACTOR			
Prior preeclampsia (any)	51 (33)	48 (35)	.64
Prior severe preeclampsia	19 (12)	17 (13)	.93
Chronic Hypertension	89 (57)	65 (48)	.11
Pregestational Diabetes	43 (28)	29 (21)	.22
Chronic Kidney Disease	11 (7)	3 (2)	.06
Lupus	5 (3)	5 (3)	.83
Antiphospholipid Ab Syndrome	3 (2)	0 (0)	.25
Multifetal gestation	9 (6)	19 (14)	.02*

Supplementary Table 1: Baseline demographic characteristics. Data presented as N(%). P<0.05 considered significant (*)



UNIVERSAL SCREENING FOR ASPIRIN THERAPY TO PREVENT PREECLAMPSIA

CONFIDENTIAL

TODAY'S DATE: _____

FIRST NAME: _____ LAST NAME: _____

DATE OF BIRTH: _____

Universal Screening and Aspirin Therapy To Prevent Preeclampsia

(US AT TOPP)

Did you have preeclampsia in a previous pregnancy?

☐ YES ☐ NO

Do you have high blood pressure (chronic hypertension) outside of pregnancy?

☐ YES ☐ NO

Do you have diabetes?

☐ YES ☐ NO

Do you have chronic kidney disease?

☐ YES ☐ NO

Do you have lupus?

☐ YES ☐ NO

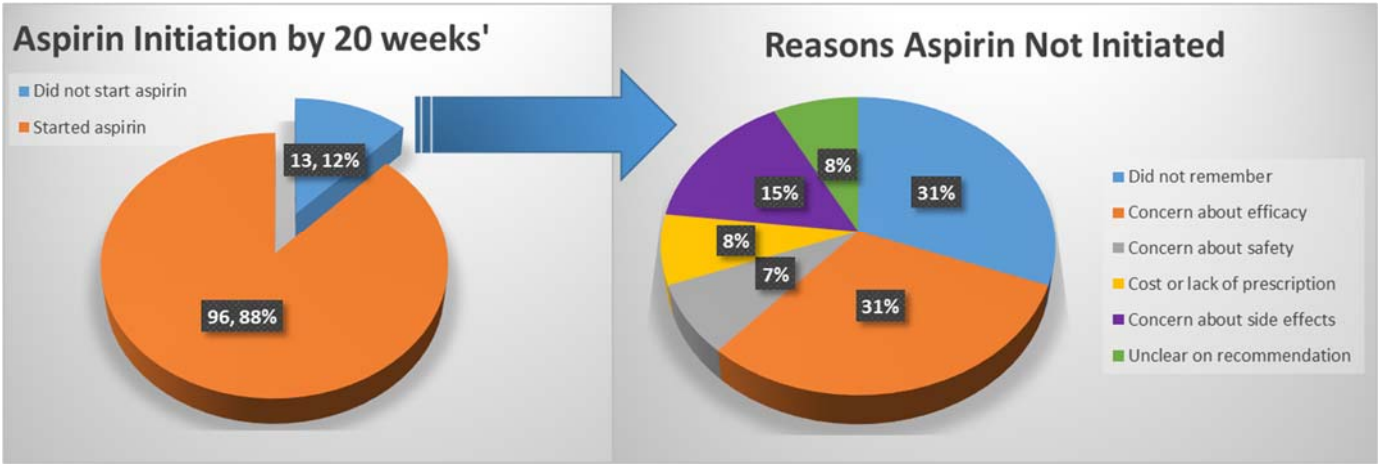
Do you have antiphospholipid antibody syndrome?

☐ YES ☐ NO

Is this pregnancy with twins or triplets?

☐ YES ☐ NO

Supplementary Figure 1: Screening form completed by patients at check in for first trimester ultrasound appointment



Supplementary Figure 2: Survey of aspirin initiation by 20 weeks in prospective cohort of high risk pregnant women at Thomas Jefferson University Hospital (N=109).