

BACKGROUND

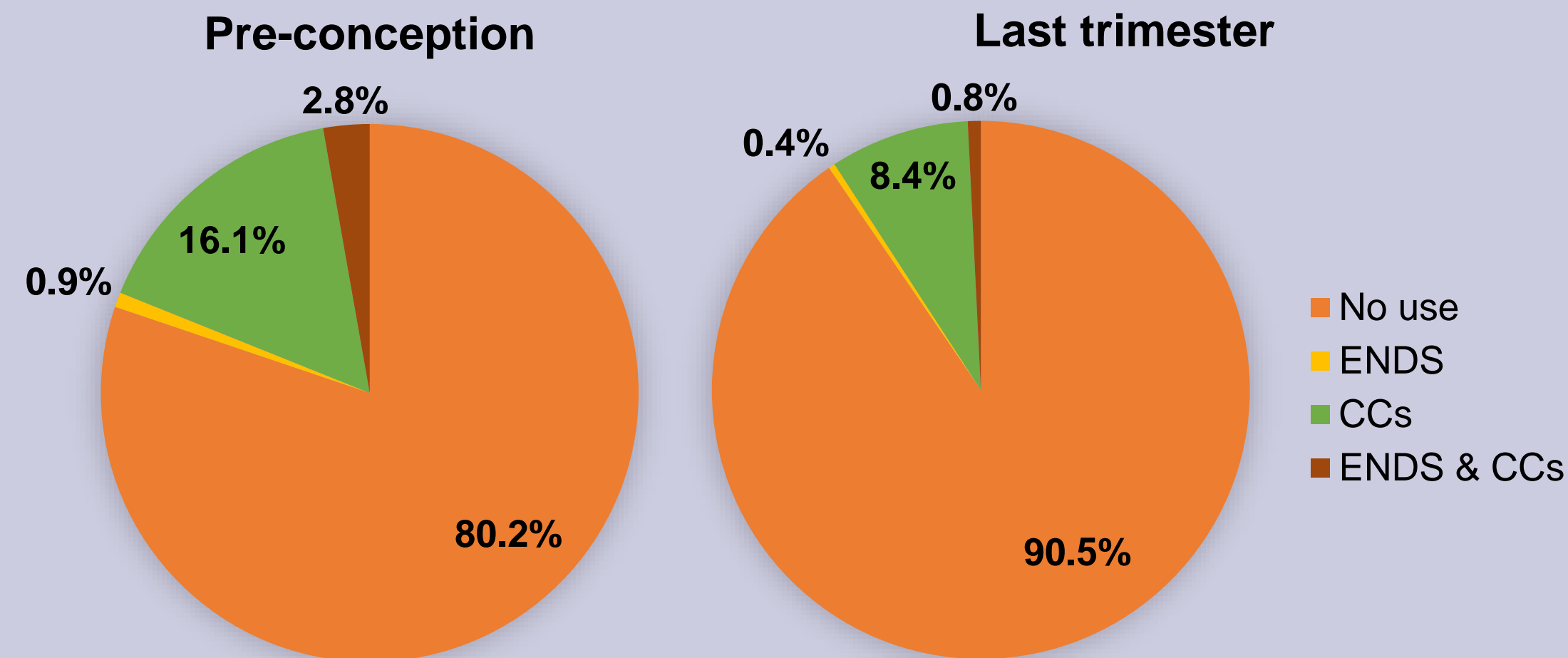
- Nicotine exposure during pregnancy can harm the fetus' brain development, lung development, auditory processing, and could lead to perinatal mortality.¹⁻⁴
- However, use of nicotine replacement therapy for pregnant tobacco users is still debated, which may make it difficult to quit.^{5,6}
- Electronic nicotine delivery systems (ENDS) have been rapidly gaining popularity in the US, with 9.9% of high school females reporting past 30 day use of ENDS in 2017.^{7,8}
- Previous research has shown that pregnant women are using ENDS as well as conventional cigarettes (CCs),⁸ but research remains limited.
- This study assessed how use of CCs and ENDS during the 3 months prior to conception relate to changes in behavior (switching or quitting) during the last trimester.

METHODS

- Cross-sectional data were from Phase 8 (2016-2017) of the Pregnancy Risk Assessment Monitoring System (PRAMS), an ongoing population-based survey developed by state health departments and the Centers for Disease Control and Prevention (CDC).
- Questions about current CCs, ENDS, and dual use (CCs and ENDS) in the 3 months prior to conception and during the last trimester were assessed (N=72,661; 29% 25-29 years of age, 59% White, and 62% ≥13 years of education).
- Patterns of switching behavior between pre-conception to the last trimester of pregnancy were examined.
- Logistic regression models were used to assess the association between product choice prior to conception and prenatal quitting in Stata/SE 16.0.

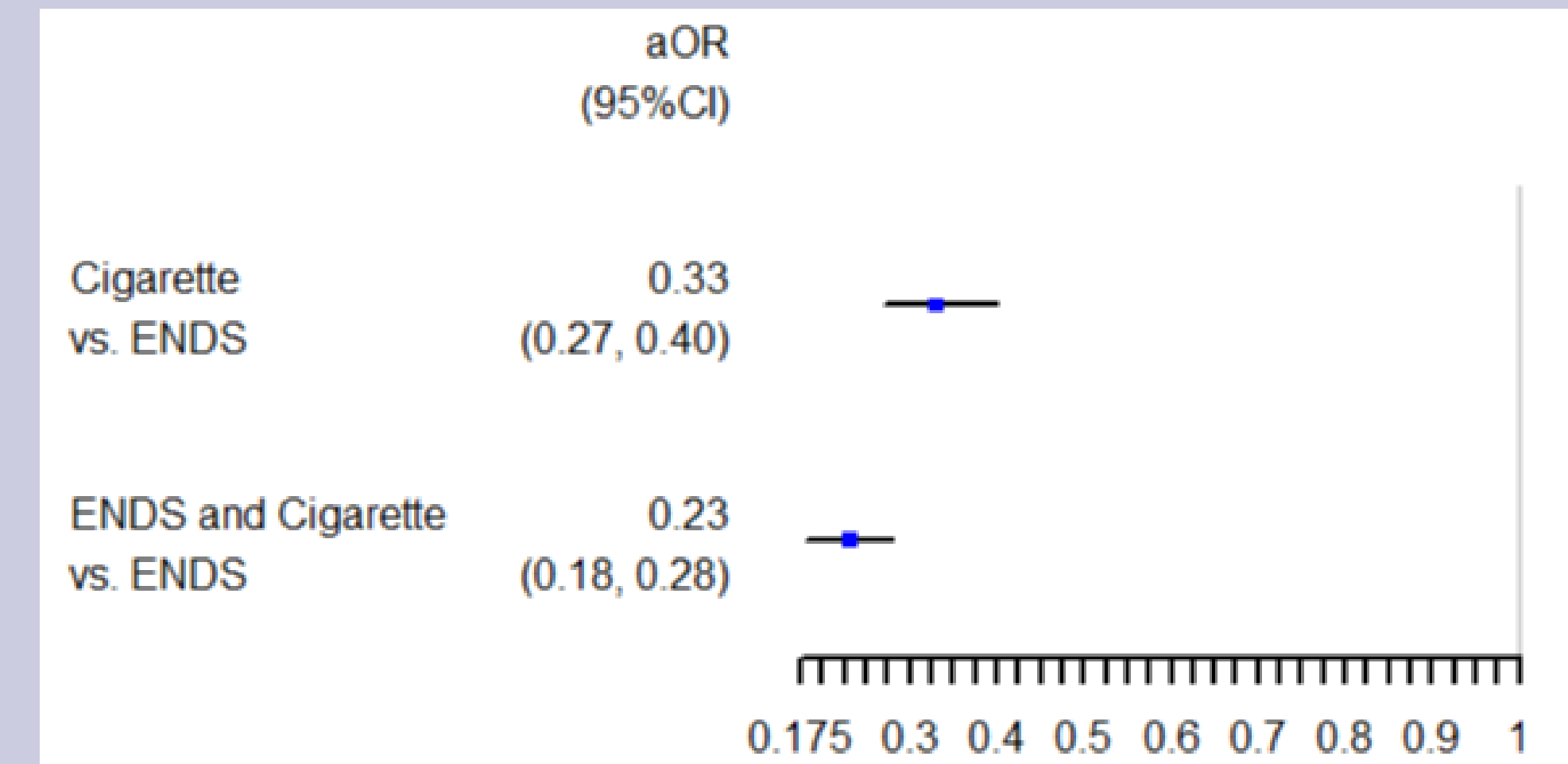
RESULTS

Figure 1: Use of CCs and ENDS among women pre-conception and during the last trimester of pregnancy – PRAMS 2016-2017



- 14,394 women used ENDS and/or CCs pre-conception (19.8%).
 - 52.1% had quit by their last trimester.
 - 33.1% of dual users dropped to a single product (CC: 84.6%; ENDS:15.4%).
 - 0.9% of women using a single product became dual users.
 - 0.4% of CC users switched to ENDS.
 - 0.1% of women who did not use CCs or ENDS preconception added a product by the last trimester.

Figure 2: Association of CCs and ENDS use pre-conception with quitting by the last trimester of pregnancy – PRAMS 2016-2017



NOTE: Adjusted for age, race/ethnicity, and education

- 6.8% (95%CI: 6.2%, 7.3%) of ENDS users, 81.3% (95%CI: 80.0%, 82.0%) of CCs users, and 11.9% (95%CI: 11.2%, 12.7%) of dual users completely quit by the last trimester.
- Odds of quitting for CCs only and dual users were lower when compared to ENDS users.
- Those who used CCs only had a higher odds of quitting compared to dual users.

CONCLUSIONS

- About half of pre-conception CCs and ENDS users quit during pregnancy. Therefore, there is a continuing need for intervention and support for cessation during pregnancy.
- Exclusive vapers were more likely to quit than exclusive smokers and dual users, and smokers were more likely to quit than dual users.
- Pregnant women do not frequently switch from CCs to ENDS, which could indicate that women did not view ENDS as a less harmful than CCs during pregnancy.
- As product choice may influence prenatal quitting and switching, further study of these dynamics and their health impacts is needed.

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