

Migraine occurs in almost one third of women of reproductive age. While headache is a commonly reported side effect of hormonal contraception (HC), and a principal reason for its discontinuation, no rigorous studies have evaluated the headache risk attributable to HC. This makes it difficult for physicians to counsel women with migraine about the possible impact of contraceptive methods on headache. There have been no subsequent studies that adequately address this question, largely due to lack of reliable long-term follow-up data collection mechanisms. Advances in web technology and improved understanding of motivational psychology and marketing create an opportunity to obtain real-time subject-reported data using a prompted web-based electronic diary. This prospective observational cohort pilot study used an innovative web-based data collection program to capture highly-reliable data to examine the risk of new onset or worsening migraine in women who initiate HC, compared with those using nonhormonal or no contraception.

In this study, our team built and implemented use of an online data collection system based on e-mail and text messaging technology to capture data about headache incidence and prevalence in women initiating hormonal contraception compared with that of similar aged women using nonhormonal contraceptives (condoms, sterilization, or the Copper IUD) or not contracepting. Participants provided daily data for 84 consecutive days.

Study analyses are currently ongoing. Our preliminary analyses showed that, of the 153 subjects who completed data collection, 29 (19%) reported experiencing headaches on a regular basis at enrollment. Twelve (8%) women reported a history of symptoms of migraine without aura and 19 (12%) reported a history of symptoms of migraine with aura at enrollment. The median total headache days over the three months for all participants was 7 days. The median headache days over three months in nonhormonal contraceptive users was 6 days compared to 6 days in users of estrogen-progesterone and compared to 8 days in users of progesterone-only contraception.

Preliminary study results suggest that, when compared to a proper control group, hormonal contraceptive users experience the same incidence of headache disease as nonhormonal contraceptive users. We are looking forward to completing these analyses and reporting our results in a peer-reviewed journal. The results of this study has the potential to affect the lives of millions of American women seeking contraception. This innovative electronic data collection method should increase compliance and can be applied to many future studies. Most importantly, we will be able to counsel our reproductive age patients seeking contraception more accurately on the risk of new or worsening migraine as a contraceptive side effect.