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Review article

Appropriate follow up to detect potential adverse events after initiation of select contraceptive methods: a systematic review☆

Maria W. Steenland[a,*], Lauren B. Zapata[a], Dalia Brahmi[b], Polly A. Marchbanks[a], Kathryn M. Curtis[a]

[a]Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, GA 30341, USA
[b]Ipas, Chapel Hill, NC 27515, USA

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Abstract

Background: After a woman initiates certain methods of contraception [e.g., hormonal methods, intrauterine devices (IUDs)], she is generally asked to return at some interval for a follow-up visit; however, is it unclear whether follow up is needed, what an appropriate follow-up schedule is and what should be done at follow-up visits.

Methods: We conducted four separate searches in the PubMed database for all peer-reviewed articles in any language published from database inception through April 2012 that examined the following health outcomes for combined hormonal contraceptives (CHCs), IUDs or medroxyprogesterone acetate (DMPA): (a) incidence of hypertension among women who began using a CHC compared to women not using a CHC; (b) incidence of migraine among women who began using a CHC compared to women not using a CHC; (c) incidence of pelvic inflammatory disease (PID) among women who began using an IUD compared to women who started another form or used no method of contraception or examined incidence of PID at two or more time periods after IUD insertion and (d) whether initial weight gain predicts future weight gain among women who began using DMPA. The quality of each study was assessed using the United States Preventive Services Task Force grading system.

Results: A total of 15 studies met our inclusion criteria: 5 examined hypertension and combined oral contraceptive (COC) use, 7 examined PID and IUD use and 3 examined weight gain after DMPA initiation. No studies that examined migraine after CHC initiation met our inclusion criteria. Few women developed hypertension after initiating COCs, and studies examining increases in blood pressure after COC initiation found mixed results (Level I, fair to II-2, fair). Among women who had a copper IUD inserted, there was little difference in incidence of PID, or IUD removal for PID, compared with women who initiated DMPA, a hormone-releasing IUD, or COCs (Level I, good to Level II-2, fair). Studies that examined when women were diagnosed with PID after IUD insertion found mixed results. The study with the largest sample size found a much greater incidence of PID in the first 20 days after insertion, with very low rates of PID up to 8 years postinsertion (Level I, good to Level II-3, poor). Studies that examined weight gain after DMPA initiation found that weight gain >5% of baseline weight at 6 months was associated with greater mean change in weight and greater mean change in body mass index at follow-up times ranging from 12 to 36 months (Level II-2, fair to Level II-3, fair).

Conclusions: Evidence on select adverse events associated with initiation of contraceptive use is limited but does not suggest increased risk of hypertension among COC users or increased risk of PID among IUD users. DMPA users who gain >5% of baseline body weight may be at increased risk of future weight gain.

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Keywords: Contraception; Adverse event; Hypertension; Pelvic inflammatory disease; Weight gain

1. Introduction

After a woman initiates a contraceptive method [e.g., hormonal methods, intrauterine devices (IUDs)], she is generally asked to return to the provider for a follow-up visit. These return visits are used to check for side effects (e.g.,

☆ Disclaimer: The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

* Corresponding author.
E-mail address: inu8@cdc.gov (M.W. Steenland).

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Table 1
Studies that examined incidence of hypertension or increase in BP among women who initiated COCs compared with women who used a placebo or nonhormonal contraceptive.

Reference, country, sources of support	Study design	COC formulation	Population	Outcome	Results	Strengths	Weaknesses	Quality
Cardoso et al., 1997 [4], Portugal, PRAXIS XXI-SAU-1302r95	Prospective cohort, FU 6–9 months	Low-dose monophasic COC, 150 mg of desogestrel and 30 mg of EE	15 normotensive women who used COCs and 8 women who used an IUD	-Clinic BP, 24-h ambulatory BP, daytime SBP/DBP-Ambulatory BP was obtained automatically at 20-min intervals	-Mean values (+S.E.) of clinic, 24-h ambulatory and daytime BP before and 6–9 months after contraceptive use	-Women were normotensive at B-Used 24-h ambulatory BP in addition to clinic BP-Authors assess comparability of groups at B for differences in confounding variables	-Small sample size -Only 1 follow-up period assessed-Statistically significant difference in age at B	II-2, fair

	Before	After
	Systolic	
	Clinic BP	
COC	126.1±3.3	130.5±6.2
IUD	127.2±5.3	127.9±5.6
	24-h ambulatory	
COC*	120.1±2.5	127.7±3.9
IUD	122.9±4.1	122.7±4.0
	Daytime	
COC*	124.6±2.6	131.0±3.8
IUD	125.4±5.1	126.2±4.1
	Nighttime	
COC**	108±2	120±4

*p<.04, authors do not specify whether p value refers to systolic or diastolic.

	Before	After
	Diastolic	
	Clinic BP	
COC	77.4±2.7	83.0±4.4
IUD	78.1±4.2	77.3±4.7
	24-h ambulatory	
COC*	74.9±1.7	80.7±2.4
IUD	76.9±3.9	77.1±3.8
	Daytime	
COC*	79.4±1.9	84.9±2.6
IUD	81.6±3.6	82.9±3.9
	Nighttime	
COC**	64±2	73±2

*p<.04, **p<.02 authors do not specify whether p value refers to systolic or diastolic.

-2 women in the COC group developed 24-h systolic BP values above 140 mmHg