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Reasons for Hormonal Contraceptive Use in a Cohort of African-American Women Living in the Detroit Area

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Abstract

OBJECTIVES: To characterize reasons for hormonal contraceptive (HC) use in 1,455 African-American women, aged 23–35 years.

STUDY DESIGN: The community-based cohort members were recruited from the Detroit, Michigan area in 2010–2012. HC history was collected via telephone interview.

RESULTS: Seven percent reported HC use exclusively for non-contraceptive purposes, and 49% reported non-contraceptive reasons in addition to contraception. Non-contraceptive reasons were reported for all HC types, but were most common for combined oral contraceptives. Primary reasons were for irregular cycles, heavy bleeding, and pain.

CONCLUSIONS: In this large cohort of Black women, HC use to treat menstrual problems was common.

Keywords

Depo-Provera; hormonal contraceptive(s); implant; intrauterine device(s); patch; oral contraceptives

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INTRODUCTION

The use of hormonal contraceptives (HCs) in the U.S. has increased since the 1990s and continues to rise [1,2]. At least 80% of African-American women are ever users of HCs [3], and approximately 20% were currently using HCs in 2006–2013 [1,4]. In the 1990s and early 2000s, the U.S. saw a dramatic increase in the number of available HCs, from the initial approvals of implantable and injectable contraceptives (referred to as long-acting reversible contraceptives, or LARC) to the introduction of the patch and the ring [3,5]. In this new context, contraceptive selection is related to convenience, cost, side effects, peer utilization, and awareness of method [6,7], and many women try more than one HC route in their lifetime [3]. Yet, studies of reasons for HC use are relatively limited, and mainly concern reasons for choosing one HC type over another in the context of family planning [6,7], as opposed to clinical indication(s) for use, and most focus on oral contraceptive use. Such data are especially limited for African Americans because even if included, findings are not reported stratified by race [8]. We collected HC history in a cohort of African-American women who came of age during the 20-year period in which the variety of available HCs increased dramatically in the U.S. [3,5]. Our objective was to describe characteristics of HC users and reasons for HC use by HC type.

METHODS

This analysis utilized data from the Study of Environment, Lifestyle & Fibroids (SELF), a prospective cohort study of 1,693 young (23–35 years), African-American women living in the Detroit, Michigan area. SELF was designed to investigate risk factors for uterine fibroid incidence and growth [9]. Recruitment and baseline data collection were completed in 2010–2013 [10]. Participants were recruited from the Detroit area via advertisements in local print, radio, and television media, brochures at clinics and community events, and via the Henry Ford Health System (HFHS) [9]. The primary eligibility requirements were age, self-identified African-American/Black, and having no prior clinical diagnosis of uterine fibroids. SELF was approved by the institutional review boards of the National Institute of Environmental Health Sciences and HFHS.

Information on each participant's history of HC use was collected via telephone interview as part of an enrollment questionnaire. Women were asked if they had ever used each of the following types of HC: "birth control pills" (oral contraceptives; OCs), "mini-pill" (progestin-only OCs), hormonal implant, hormonal patch, vaginal ring, "hormone shots like Depo-Provera," and hormonal intrauterine devices (H-IUD). Brief descriptions and examples of common brand names were provided for hormonal implants and shots. For each HC type (and separately for each H-IUD), women were asked about their reason(s) for use.

Women responded to separate "yes/no" questions regarding the following reasons for use: "to prevent pregnancy?" "for irregular menstrual cycles, or to regulate how often you had periods?;" "for heavy bleeding?" "for menstrual pain?" or "for any other reason?". Women who reported "any other reason" were asked to report the specific other reason(s).

All data management and analyses were performed in SAS 9.4 (SAS Institute, Cary, NC, USA).

RESULTS

Ever use of HCs was common in this cohort (n=1,455, 86%). Average age of HC initiation was 18. Ever use of estrogen-containing HCs was reported by 87% of ever-HC users (Table 1). COCs were the most frequently reported HC type ever used (81%). Ever use of progestin-only HCs was reported by 59%, and the Depo-Provera shot was the most commonly reported progestin-only type (49%). More than half of ever-HC users (58%) had used both estrogen-containing and progestin-only HCs. Among women who ever used HCs, most (57%) reported using two or more HC types (Table 1).

Nearly half of ever HC users reported using HCs for non-contraceptive purposes (49%), including irregular menstrual cycles (40%) and heavy menstrual bleeding (22%; Table 2). About half (48%) of COC users reported non-contraceptive reasons for use, along with ~25% of patch, ring, shot, and H-IUD users, and 10% of implant users. Menstrual problems were reported as a reason for use by 45% of COC users, ~25% of ring, shot, and H-IUD users, 21% of patch users, and 7% of implant users. Seven percent of all HC users used HCs exclusively for non-contraceptive purposes: 11% of COC users, and 4–5% of users for each of the other HC types.

DISCUSSION

We described reasons for hormonal contraceptive use among African-American women. In this large cohort of young, Black women, COCs were the most commonly used HC. Non-contraceptive reasons for HC use were common, and reasons for use varied by HC type. Menstrual problems were the most frequently cited non-contraceptive reason for HC use. Eleven percent of COC users used COCs exclusively for relief from menstrual problems, rather than for birth control.

As these data are approximately 10 years old, and limited to Detroit, we must acknowledge the potential for limited generalizability. That stated, we arrived at similar estimates (where comparable) as other researchers. For example, our findings that COCs were the most common HC type used among African-American women are consistent with earlier, nationally representative findings [2,3]. Moreover, our findings that HCs were frequently used for non-contraceptive purposes are consistent with earlier, nationally representative findings regarding oral contraceptives [8].

Using data from the 2006–2008 National Survey of Family Growth (NSFG), the Guttmacher Institute estimated that 14% of OC users (more than 1.5 million U.S. women) used OCs for non-contraceptive purposes alone, most commonly to relieve menstrual pain and irregularity [8]. Similarly, our study found that 11% of COC users used COCs exclusively for non-contraceptive reasons, mostly for relief from menstrual problems (Table 2). Published data on reasons for use for other types of HCs within the NSFG are lacking. The 2015–2017 NSFG (the most recently published NSFG data) collected information on reasons for IUD or pill use for use occurring in the current or prior month (relative to interview date). Prior

NSFG data asked about reasons for pill use only [11]. Formal analyses of these data stratified by race have yet to be published. We examined clinical reasons for use of hormonal contraceptives across all HC types and in African-American women specifically. While the NSFG collected reasons for use for recently used oral or intrauterine HCs, SELF collected all reasons women ever used each type of HC – including the patch, the shot, and the ring. A formal analysis of the NSFG data would provide context for our findings and allow for examination of nationally representative trends in reasons for pill use stratified by race over time.

The emphasis of most public health research and interventions regarding HCs to date has been on pregnancy prevention. Our finding that a sizeable proportion of women used HCs for non-contraceptive purposes are reinforced by prior, nationally representative findings [8] and point to HCs as important for management of conditions that affect quality of life.

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REFERENCES

[1]. Jones J, Mosher W, Daniels K. Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995. Natl Health Stat Report 2012;1980:1–26.

[2]. Daniels K, Daugherty J, Jones J, Mosher W. Current contraceptive use and variation by selected characteristics among women aged 15 – 44 : United States, 2011 – 2013. Natl Heal Stat Rep 2015:1–14.

[3]. Daniels K, Mosher WD, Jones J. Contraceptive Methods Women Have Ever Used: United States, 1982–2010. Natl Health Stat Report 2013:1–15.

[4]. Hoffman SR. National Survey of Family Growth (NSFG) Code 2019.

[5]. Troskie C, Soon JA, Albert AY, Norman WV. Regulatory approval time for hormonal contraception in Canada, the United States and the United Kingdom, 2000–2015: a retrospective data analysis. C Open 2016;4:E654–60. 10.9778/cmajo.20160017.

[6]. de Irala J, Osorio A, Carlos S, Lopez-del Burgo C. Choice of birth control methods among European women and the role of partners and providers. Contraception 2011;84:558–64. 10.1016/j.contraception.2011.04.004. [PubMed: 22078183]

[7]. Gambera A, Corda F, Papa R, Bastianelli C, Bucciantini S, Dessole S, et al. Observational, prospective, multicentre study to evaluate the effects of counselling on the choice of combined hormonal contraceptives in Italy--the ECOS (Educational COunselling effectS) study. BMC Womens Health 2015;15:69 10.1186/s12905-015-0226-x. [PubMed: 26329464]

[8]. Jones RK. Beyond Birth Control: The Overlooked Benefits Of Oral Contraceptive Pills 2011 https://www.guttmacher.org/report/beyond-birth-control-overlooked-benefits-oral-contraceptive-pills (accessed September 17, 2016).

[9]. Baird DD, Harmon QE, Upson K, Moore KR, Barker-Cummings C, Baker S, et al. A Prospective, Ultrasound-Based Study to Evaluate Risk Factors for Uterine Fibroid Incidence and Growth: Methods and Results of Recruitment. J Womens Health (Larchmt) 2015;24:907–15. 10.1089/jwh.2015.5277. [PubMed: 26334691]

[10]. Harmon QE, Baird DD. Use of depot medroxyprogesterone acetate and prevalent leiomyoma in young African American women. Hum Reprod 2015;30:1499–504. 10.1093/humrep/dev069. [PubMed: 25820696]

[11]. NSFG - 2015–2017 NSFG - Public-Use Data Files, Codebooks and Documentation n.d https://www.cdc.gov/nchs/nsfg/nsfg_2015_2017_puf.htm (accessed July 7, 2020).

IMPLICATIONS:

HCs were commonly used for both pregnancy prevention and management of menstrual symptoms, but some women used HCs exclusively for menstrual symptom relief. The importance for women of non-contraceptive reasons for HC use may not be adequately recognized, and published data on Black women's reasons for HC use remain limited.

Table 1.

Characteristics of 1,455 HC users participating in the Study of Environment, Lifestyle, and Fibroids (2010–2012, Detroit, MI area, USA)

	Ever used HCs* N=1,455 n (%)
Age at enrollment (years)	
23 – 26	421 (29)
27 – 30	498 (34)
31 – 35	536 (37)
Annual household income†	
< $20,000	643 (44)
$20,000 to $50,000	555 (38)
≥ $50,000	248 (17)
Education‡	
HS/GED or less	300 (21)
Some college/associates/technical	741 (51)
Bachelors/masters/PhD	413 (28)
Body mass index (kg/m^2)	
< 25	285 (20)
25–29	318 (22)
30–34	283 (19)
≥ 35	569 (39)
Smoking history	
Never smoked	1,077 (74)
Former smoker	109 (7)
Current smoker (< 10 cigarettes per day)	197 (14)
Current smoker (≥ 10 cigarettes per day)	72 (5)
Age at menarche	
< 10 years	271 (19)
11	286 (20)
12	390 (27)
13	244 (17)
> 14 years	264 (18)
Reproductive history	
Never pregnant	327 (22)
Gravid, but nulliparous	178 (12)
Parous	950 (65)
1 birth (percentage among parous)	393 (41)
2 births (percentage among parous)	295 (31)
3+ births (percentage among parous)	262 (28)

	Ever used HCs* N=1,455 n (%)
Ever use of HCs by type	**1,455 (100)**
Estrogen-containing	
Any route	1,272 (87)
Combined oral contraceptives (COCs)	1,185 (81)
Patch	303 (21)
Ring	227 (16)
Progestin-only contraceptives	
Any route	864 (59)
Depo-Provera	720 (49)
Hormonal intrauterine device (H-IUD)	177 (12)
Implant	42 (3)
Mini-pill	77 (5)
Number of HC types* ever used	**1,455 (100)**
1	617 (42)
2	510 (35)
3	238 (16)
≥ 4	90 (6)
Age at first use, Median [IQR]§	18 [16,20]

*HC use history at enrollment in SELF. Includes combined oral contraceptives (COCs), the patch, the ring, Depo-Provera, hormonal intrauterine devices (H-IUDs), the implant, and the mini-pill (progestin-only pill). Non-hormonal IUDs and emergency contraceptives are not included.

†Annual household income was missing for n=12 participants.

‡Education was missing for n=1 participants.

§Age at first use was missing for n=1 COC users, n=1 patch users, and n=1 shot users.

Abbreviations: HCs, hormonal contraceptives; HS, high school graduate; GED, general education development; PhD, doctor of philosophy; SELF, Study of Environment, Lifestyle, and Fibroids.

Table 2.

Reasons for use and age at first use, by hormonal contraceptive (HC) type, in 1,455 ever HC users participating in the Study of Environment, Lifestyle, and Fibroids (2010–2012, Detroit, MI area, USA)

Reason for Use*	Total (n=1,455)	Estrogen-containing			Progestin-only		
		COCs† (n=1,185)	Patch‡ (n=303)	Ring (n=227)	Shot (n=720)	H-IUD (n=177)	Implant (n=42)
Contraceptive Reasons							
Birth control	1,357 (93)	1,051 (89)	286 (95)	219 (96)	685 (95)	170 (96)	42 (100)
Birth control only	745 (51)	619 (52)	229 (76)	165 (73)	520 (72)	130 (73)	38 (90)
Non-contraceptive Reasons							
Any non-contraceptive reason	710 (49)	566 (48)	74 (24)	62 (27)	200 (28)	47 (27)	4 (10)
Non-contraceptive reasons only§	98 (7)	134 (11)	16 (5)	8 (4)	34 (5)	7 (4)	0 (0)
Menstrual problems//	671 (46)	529 (45)	63 (21)	57 (25)	186 (26)	47 (27)	3 (7)
Menstrual problems only§	79 (5)	107 (9)	9 (3)	8 (4)	26 (4)	5 (3)	0 (0)
Irregular cycles	587 (40)	465 (39)	52 (17)	50 (22)	159 (22)	37 (21)	2 (5)
Heavy bleeding	323 (22)	267 (23)	21 (7)	13 (6)	77 (11)	28 (16)	2 (5)
Menstrual pain	255 (18)	202 (17)	23 (8)	16 (7)	70 (10)	16 (9)	1 (2)
Other¶	100 (7)	76 (6)	8 (3)	8 (4)	15 (2)	3 (2)	1 (2)

*Women could report multiple reasons for use.

†Reason(s) for use for oral contraceptives could not be stratified by mini-pill versus combined oral contraceptives for women who had used both types (n=64, 5% of pill users); few used only the mini-pill, n=13, so no data are shown for mini-pill.

‡Reasons for use data were missing for n=1 patch user.

§To the exclusion of all other reasons for use, by HC type. For the "Total" column and "Non-contraceptive reasons only" row, the participant could not have used any type of HC for contraceptive purposes, ever. For the "Total" column and "Menstrual problems only" row, participants could not have ever used any type of HC for reasons other than irregular cycles, heavy bleeding, or menstrual pain.

//Includes irregular cycles, heavy bleeding, or menstrual pain.

¶Other non-contraceptive reasons included acne, endometriosis, menstrual migraines/headaches, premenstrual syndrome (PMS), premenstrual dysphoric disorder (PMDD), polycystic ovary syndrome (PCOS), and ovarian cysts.

Abbreviations: COCs, combined oral contraceptives; H-IUD, hormonal intrauterine device.