Journal of Adolescent Health 52 (2013) 58–63

ELSEVIER

JOURNAL OF ADOLESCENT HEALTH

www.jahonline.org

Original article

An Exploratory Analysis of Associations Between Eating Disordered Symptoms, Perceived Weight Changes, and Oral Contraceptive Discontinuation Among Young Minority Women

Kelli Stidham Hall, Ph.D.[a,*], Katharine O'Connell White, M.D., M.P.H.[b], Vaughn I. Rickert, Psy.D.[c], Nancy K. Reame, Ph.D., M.S.N.[d], and Carolyn L. Westhoff, M.D., M.Sc.[e]

[a] *Office of Population Research, Center for Health and Wellbeing, Princeton University, Princeton, New Jersey*
[b] *Department of Obstetrics and Gynecology, Baystate Medical Center, Tufts University Medical School, Springfield, Massachusetts*
[c] *Section of Adolescent Medicine, Indiana University-Purdue University Indianapolis, Indianapolis, Indiana*
[d] *School of Nursing, Columbia University, New York, New York*
[e] *Department of Obstetrics and Gynecology, School of Medicine, Department of Epidemiology, School of Public Health, Columbia University, New York, New York*

Article history: Received October 26, 2011; Accepted April 17, 2012
Keywords: Eating disorder; Oral contraceptives; Perceived side effects; Weight gain; Discontinuation

A B S T R A C T

Purpose: To explore associations between eating-disordered (ED) symptoms, perceived oral contraceptive (OC)-related weight changes, and OC discontinuation among young minority women.
Methods: We conducted a prospective substudy of a randomized controlled trial evaluating the impact of a pill pack supply (3 vs. 7 months) on OC continuation among young urban women presenting to a university-affiliated community-based family planning clinic for OC management. Participants (n = 354) were adolescent (n = 173) and young adult (n = 181) women aged 13–24 years, predominantly underinsured and largely Hispanic (92%). We conducted a structured baseline interview that included an ED screening instrument. At the 6-month follow-up, we conducted a telephone interview to determine OC continuation and dimensions of perceived OC-related weight changes during the study period.
Results: At baseline, 24% of the subjects fulfilled the moderate/severe ED symptom screen criteria (n = 60). By 6 months, 57% of the subjects (n = 200) reported weight changes and 62% (n = 218) had discontinued OC use. Unadjusted discontinuation rates were similar across age- and ED symptom groups. In multivariate analysis, both ED symptoms (odds ratio = .49, 95% confidence interval = .25–.96, $p = .04$) and perceived weight changes (odds ratio = .60, 95% confidence interval = .38–.94, $p = .03$) were negatively associated with OC continuation.
Conclusions: ED symptoms and perceived weight changes were associated with an increased likelihood of OC discontinuation among these young women. Reproductive health practitioners should consider psychological symptoms when managing OC.

IMPLICATIONS AND CONTRIBUTION

Young, urban, minority women with eating-disordered symptoms and perceived OC-related weight changes may be at risk for OC discontinuation.

More than 80% of the >800,000 annual pregnancies among U.S. adolescents are unintended [1–5]. Young minority women, including Hispanic women, have a two- to three-fold higher unintended pregnancy rate than Caucasian women [4]. Although 60% of sexually active adolescents use oral contraceptives (OCs) [1,6,7], up to 60% will discontinue by 6–12 months [7]. Half of all unintended pregnancies are because of pill discontinuation [6–13].

The most frequently reported reasons for discontinuation are perceived side effects of OC, especially weight gain [8–12]. In fact, adolescents who worry about OC-related body weight changes alone are at risk for discontinuation [8]. Among a racially

* Address correspondence to: Kelli Stidham Hall, Ph.D., Office of Population Research, Center for Health and Wellbeing, Princeton University, 228 Wallace Hall, Princeton University, Princeton, NJ 08544.
E-mail address: kshall@princeton.edu (K.S. Hall).

1054-139X/$ - see front matter © 2013 Society for Adolescent Health and Medicine. All rights reserved.
http://dx.doi.org/10.1016/j.jadohealth.2012.04.015

diverse group of 209 sexually active OC initiators, adolescents who expressed concern over weight gain at study onset had a 15% lower 3-month compliance rate than those without weight concerns [8]. Even without measured weight change, OC users who self-reported weight gain during the study had a 23% lower compliance rate [8].

Concerns about OC-attributed weight changes may be even more prevalent among young women with unhealthy eating behaviors. Although eating disorders (ED) are the third-most common chronic health problem among all adolescents [13], national surveys suggest that >90% of girls report body dissatisfaction and nearly half restrict their diet to control body weight [13].

Young women, particularly adolescents, have been shown to exhibit other unhealthy behaviors including sexual risk behavior and noncompliance to medication. ED symptoms predict early onset of sexual activity, condom nonuse and misuse, increased number of partners, and acquisition of sexually transmitted infections [14,15]. In a cross-sectional study of 76 young Caucasian female subjects with type 1 diabetes mellitus and preclinical ED attitudes, 30% reported self-adjusting their insulin doses to facilitate weight loss [16]. Halmi et al found a 56% discontinuation rate for antidepressant therapy among 122 Caucasian adolescents with anorexia nervosa [17].

In addition to risky health behaviors, ED patients exhibit a magnified fear and distorted perception of weight gain [18]. It is unknown whether ED symptoms also amplify perceived OC-attributed weight changes and hinder OC use. We conducted an exploratory analysis of associations between ED symptoms, perceived weight changes, and OC discontinuation among a cohort of minority urban adolescent and young adult women participating in a larger OC behavior intervention trial.

Materials and Methods

Sample and setting

Data for this prospective cohort study were collected as part of a randomized trial evaluating the impact of an OC pill pack supply on 6-month OC continuation rates among urban family planning patients. The trial was conducted between December 2006 and September 2009 at a university-affiliated community-based clinic in New York City, which serves a predominantly Latina population. We randomly assigned participants to either a conventional 3-month supply or an enhanced (7-month) OC supply. A detailed description of the intervention and primary outcomes of the larger trial is reported elsewhere [19]. The Institutional Review Board of Columbia University Medical Center approved this research, and all participants gave informed consent before participation. Parental consent was not required of minors for sexual and reproductive health care under New York state law.

Women aged 13–35 years presenting to the clinic requesting OCs were eligible to participate in the primary trial. Potential participants were excluded if they (1) had contraindications to OC; (2) had a desired pregnancy within 6 months; or (3) intended to leave the area within 6 months. The sample of analysis for the present substudy was limited to adolescent and young adult participants aged 13 through 24 years.

Study procedures

After screening for eligibility and obtaining informed consent, study staff administered a structured baseline interview. Information obtained included demographic and social characteristics, self-reported height and weight, and reproductive and contraceptive histories. The baseline interview also included the Eating Disorder Screen for Primary Care (ESP) [20], a standardized instrument to screen for ED symptoms in nonpsychiatric settings. Subjects responded yes or no to five questions on ED thoughts and behaviors. A score of two or more positive answers was considered high, denoting moderate symptoms predictive of an ED. The ESP has demonstrated 100% sensitivity and 71% specificity in nonpsychiatric adult populations [20].

Participants in the primary trial were stratified by age (<18 or ≥18 years) and insurance status (uninsured or Medicaid/privately insured) and then randomized to receive either a 3-month standard of care supply or enhanced 7-month OC supply. Participants saw a clinician and received routine care per clinic protocols, including relevant history, targeted physical examination, pregnancy and other laboratory testing as indicated, instructions for revisits, and standardized pill-taking instructions. All study materials were available in English and Spanish, and the study staff was bilingual.

We interviewed subjects by telephone at 6-month follow-up to assess OC use over the study period, pregnancy since last interview, adverse events, and symptoms considered OC side effects, including weight changes.

We asked about dimensions of weight change occurring with OC use using questions from our previous contraceptive studies [21]. Items included the following: (1) whether participants had experienced weight changes during the study (occurrence); (2) whether the change was an increase or decrease (type); (3) whether it was a little, some, or a lot of change (severity); whether it was a good, bad, or neither change (quality); and (4) whether changes were attributed directly to OC use (OC-attributed). Responses to occurrence, type, and OC-attributed dimensions were dichotomous variables. Responses to severity and quality were categorical variables on a three-point Likert scale.

We classified participants as OC continuers or discontinuers based on responses at the 6-month interview. We defined OC continuation as having taken a pill in the past 7 days. Women who had not taken any OC for >7 days before the interview (not including nonuse of placebo pills) were considered OC discontinuers. The 7-day threshold was based on the sensitivity analyses from a previous trial and pilot studies [21].

Data analysis

We used descriptive statistics to assess rates of ED symptoms, reported weight changes, and OC continuation, and to compare adolescents (age: 13–19 years) and young adults (age: 20–24 years) on all study variables. We used t tests and χ^2 tests as appropriate. We conducted multiple variable analyses with logistic regression. Two-sided significance tests were used throughout the analysis. The following relationships were assessed: (1) proportions of ED symptoms at baseline and proportions of OC continuation at 6 months; (2) proportions of ED symptoms at baseline and proportions of reported weight changes at 6 months; (3) proportions of reported weight changes and OC continuation at 6 months. Baron and Kenny's technique [22] was used to explore any mediation effect of reported weight