ELSEVIER

Contraception 83 (2011) 528 – 536

Contraception

Original research article

Women's out-of-pocket expenditures and dispensing patterns for oral contraceptive pills between 1996 and 2006☆

Su-Ying Liang[a,*], Daniel Grossman[b,c], Kathryn A. Phillips[a,d]

[a]Department of Clinical Pharmacy, UCSF Center for Translational and Policy Research in Personalized Medicine (TRANSPERS Center), University of California San Francisco, San Francisco, CA 94143, USA

[b]Ibis Reproductive Health, Oakland, CA 94612, USA

[c]Department of Obstetrics, Gynecology, and Reproductive Services, Bixby Center for Global Reproductive Health, University of California San Francisco, San Francisco, CA 94143, USA

[d]Philip R. Lee Institute for Health Policy Studies, University of California San Francisco, San Francisco, CA 94143, USA

Received 8 August 2010; revised 26 September 2010; accepted 27 September 2010

Abstract

Background: Little is known about the out-of-pocket expenditures and dispensing patterns for oral contraceptive pills (OCPs), factors associated with these outcomes and whether they change over time.

Study Design: Observational cohort using 1996–2006 Medical Expenditure Panel Surveys.

Results: Women spent $16 out-of-pocket per pack, on average (median=$10.41). Of the OCP users, 38% paid $15 or more per pack and 44% obtained one pack per purchase. Over time, fewer women paid $15 or more (52% in 1996–1998 vs. 34% in 1999–2006, $p<.001$) and fewer obtained one pack per purchase (76% in 1996–1998 vs. 35% in 1999–2006, $p<.001$). Age and insurance were associated with out-of-pocket expenditures and dispensing patterns.

Conclusion: Women paid a substantial amount out-of-pocket for OCPs and dispensing limits remained, although these improved over time. Better insurance coverage of contraception and policies targeting younger women and the uninsured in particular would help overcome barriers to OCP access.

Keywords: Oral contraceptive pills; Out-of-pocket expenditures; Dispensing patterns; Women's health

1. Introduction

Oral contraceptive pills (OCPs) are the most commonly used contraceptive in the United States [1]. Because OCPs require daily use, obtaining supplies of the method can be an obstacle to effective use. A nationally representative survey of US women found that 23% of those at risk of unintended pregnancy had a period of at least 1 month in the prior year when they were not using a contraceptive method [2]. Of those women who experienced a gap in contraceptive use, 40% reported difficulty obtaining or using their method, including 5% reporting difficulty paying for a method, 5% reporting no time to make medical visits to get a method, 17% experiencing problems or side effects using a method, and 5% not liking any available method [2].

Gaps in use of OCPs may be related to what women have to pay out of pocket and how many packs they receive. Our previous study based on 1996 national survey data found that women paid a substantial amount out-of-pocket for OCPs, and approximately three-quarters of OCP users obtained only 1 month's supply per purchase [3]. Since then, little research has focused on OCP out-of-pocket expenditures and dispensing patterns and whether these patterns change over time.

The objective of this study was to examine the trends in out-of-pocket expenditures for OCPs and the number of packs obtained per purchase during the period 1996–2006 using nationally representative data. We also aimed to understand the individual-level factors that were associated with greater barriers to OCP access, including paying more

☆ This study was funded by the William and Flora Hewlett Foundation.

* Corresponding author. University of California San Francisco, San Francisco, CA 94143, USA (fedex 94118). Tel.: +1 415 514 0457; fax: +1 415 502 0792.

E-mail address: liangs@pharmacy.ucsf.edu (S.-Y. Liang).

0010-7824/$ – see front matter © 2011 Elsevier Inc. All rights reserved.
doi:10.1016/j.contraception.2010.09.013

out-of-pocket or receiving fewer pill packs at one time. In addition, we sought to examine expenditures related to clinician visits for contraceptive management.

2. Materials and methods

2.1. Data sources

We used data from the 1996–2006 Medical Expenditures Panel Survey (MEPS). The MEPS is an ongoing survey sponsored by the Agency for Healthcare Research and Quality (AHRQ) (Rockville, MD) and is designed to provide nationally representative data on the demographic characteristics, health status, health care use, access to care and insurance status of the US civilian, noninstitutionalized population [4]. The MEPS collects data from patients, providers and pharmacies (http://www.meps.ahrq.gov). This study used data from three components of MEPS: (1) the household component, with household respondent-reported information on patient sociodemographics and insurance status; (2) the prescription drug component, with detailed pharmacy-reported information on the medication name, quantity dispensed, payments by household and insurance sources, and national drug codes; and (3) the office-based medical provider visits file, which is part of the MEPS medical provider component, with detailed medical provider-reported information on the dates of visit, diagnosis and procedure codes associated with the visit, and payments by household and insurance sources for the visit. The 2006 MEPS was the latest available when we conducted the analyses for this study, allowing us to study trends over a 10-year period since the 1996 study.

2.2. Study population

We identified women, aged 13–50 years, with at least one OCP purchase during 1996–2006 (unweighted n=8151, representing approximately 95 million OCP users in 1996–2006). OCP users were identified based on data from their pharmacies. To determine which pharmacy-reported medications were OCPs, we compared these names against a list of OCPs available in the US [5] during the study period. The final analysis sample excluded outlier responses (unweighted n=153, including respondents reporting more than 16 OCP purchases during the year or respondents reporting per-pack expenditures of more than $90).

2.3. Dependent variables

Dependent variables were (1) out-of-pocket expenditures per pack and (2) number of packs obtained per purchase. The MEPS defines "expenditures" as the payments made by various payment sources such as the respondent and her insurance. Out-of-pocket expenditures are the payments made by the respondent or other family members. We defined one OCP pack (or 28 pills) as 1 month's supply. We categorized the number of packs per purchase according to the pharmacy-reported quantity (number of tablets or number of packs). We examined the person-level dispensing pattern by calculating the modal number of packs obtained per purchase during each calendar-year period.

We hypothesized that the expenditure and dispensing patterns were associated with patient sociodemographics and insurance status, and that these variables might have changed over time. We examined variables including age; race/ethnicity; education; census region of residence; type of insurance, including whether the woman was enrolled in a managed care plan or a plan with prescription drug coverage (although we cannot be certain that OCPs were covered); and year.

2.4. Statistical analyses

We described the patterns of out-of-pocket expenditures per pack for OCPs by reporting the values of mean and median, and the percentage of purchases at various costs per pack. In addition to examining the out-of-pocket expenditures per pack, we constructed two measures to further evaluate women's financial burden. First, we calculated the ratio of total out-of-pocket (total amount paid by women) to total expenditures (total amount paid by women and insurance) for all OCPs dispensed during one calendar-year period. Second, we estimated the annual out-of-pocket expenditures if women were to obtain 13 cycles per year with a median cost per pack and calculated the ratio of the estimated annual out-of-pocket expenditures for OCPs to the reported annual out-of-pocket expenditures for all health services.

Chi-square tests were used to examine bivariate relationships between predictors and the dependent variables, and to examine the patterns of out-of-pocket expenditures and the numbers of packs per purchase over time. Logistic regression was used to examine the predictors of the out-of-pocket expenditures per pack. The cut-off point for classifying the level of out-of-pocket expenditures, $15 per pack, was chosen based on the mean out-of-pocket expenditures of our study sample (including those with zero out-of-pocket expenditures). Ordered logistic regression was used to examine predictors of the number of packs obtained per purchase. We classified the number of packs per purchase into three levels: 1 pack, 2–3 packs and 4+ packs. We chose these categories because many insurance plans limited prescription drug dispensing to 1 month supply at the community pharmacies and many state Medicaid programs limited prescription drug dispensing to a 30- or 100-day supply in 2005 [6]. We also conducted a subanalysis to describe the out-of-pocket expenditures for office-based visits related to contraceptive management.

Independent variables for regression models were chosen based on theory, prior studies [3,7], statistical significance in the initial bivariate analyses, and parsimony. The Hosmer–Lemeshow goodness-of-fit test was used to check whether