



Original research article

Pharmacy access to Ulipristal acetate in major cities throughout the United States[☆]

Maryssa Shigesato^{a,*}, Jennifer Elia^a, Mary Tschann^a, Holly Bullock^b, Eric Hurwitz^c, Yan Yan Wu^c, Jennifer Salcedo^a

^aDepartment of Obstetrics, Gynecology & Women's Health, John A. Burns School of Medicine, University of Hawaii at Manoa, Honolulu, HI

^bDepartment of Obstetrics & Gynecology, University of Utah School of Medicine, Salt Lake City, UT

^cOffice of Public Health Studies, University of Hawaii at Manoa, Honolulu, HI

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Abstract

Objective: Ulipristal acetate (UPA) is a prescription emergency contraceptive pill (ECP). Despite the potential for UPA to reduce the risk of unintended pregnancies, a recent study in Hawaii demonstrated less than 3% of pharmacies stocked UPA and less than 23% reported the ability to order it. The primary outcome of our study was to assess the availability of UPA in a sample of large cities nationwide.

Study design: We conducted a telephone-based secret shopper study of 533 retail pharmacies sampled proportionally from 10 large cities in five geographic regions across the US. Callers represented themselves as uninsured 18-year-old women attempting to fill prescriptions for UPA between February and May 2016. Using a semi-structured questionnaire, callers inquired regarding availability and use of UPA.

Results: Less than 10% (33/344; 95% CI: 6.5–12.7%) of pharmacies indicated the ability to immediately fill a UPA prescription, while 72% (224/311; 95% CI: 65.0–77.0%) of pharmacies without immediate availability reported the ability to order UPA, with the median predicted wait time of 24 h (IQR: 21.5 to 26.0 h).

Conclusion: Despite evidence for increased efficacy of UPA over levonorgestrel (LNG) ECPs, the availability of UPA in a sample of US major cities is extremely limited. Given that ECPs should be taken as soon as possible after unprotected sex, the long wait times when ordering UPA present an access barrier. Efforts to improve the availability of UPA are important to optimize the potential of ECPs to decrease unintended pregnancy following unprotected sex.

Implications: Interventions are needed to address barriers to obtaining UPA from retail pharmacies nationwide.

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Keywords: Emergency contraception; Ulipristal acetate; Pharmacy availability; Contraceptive access

1. Introduction

Emergency contraception is used after unprotected sex, when a contraceptive method has been used incorrectly, or after sexual assault to reduce the risk of pregnancy. In 2010, a single 30 mg dose of ulipristal acetate (UPA) was approved as an emergency contraceptive pill (ECP) for use up to 120 h after unprotected sex. In contrast, levonorgestrel (LNG) is a single 1.5 mg dose ECP approved for use within 72 h after unprotected sex that maintains some efficacy to 120 h [1,2].

As an emergency contraceptive, LNG delays ovulation but has no effect once the level of luteinizing hormone (LH) begins to rise, triggering ovulation [1]. However, UPA remains effective in postponing ovulation if given prior to the LH peak [1]. When a decision-analytic model was used to compare the cost-effectiveness of UPA and LNG, it was found that if UPA was used for the 4,176,572 estimated annual ECP uses in the United States (US), it would result in 37,589 fewer unintended pregnancies and save \$116.3 million annually in healthcare costs compared to LNG ECPs [3]. In addition, UPA may be more effective than LNG at preventing pregnancy in obese and overweight women [4]. Although UPA is a more effective ECP, a recent survey of pharmacy availability of UPA in Hawaii showed that only 2.6% of retail pharmacies had UPA immediately available

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* Corresponding author. Tel.: +1 808 286 2867.

E-mail address: maryssas@hawaii.edu (M. Shigesato).

(compared to 82.4% for LNG), and only 22.8% reported the ability to order the medication [5]. To assess if this limited availability exists more widely, we designed a nationwide telephone secret shopper study of US retail pharmacies in major cities. The purpose of this study was to estimate the immediate pharmacy availability of UPA in a sample of cities with populations over 500,000 and the ability of such pharmacies to order UPA on customer request. Secondary analyses included the estimated time to UPA availability when ordered, the availability of ECPs other than UPA, and accuracy of information provided on ECP use by pharmacy staff.

2. Materials and methods

2.1. Overview

A telephone-based secret shopper study of pharmacies in cities across the US with populations of at least 500,000 people was conducted. We selected 10 such cities representative of different geographic regions of the country: the West (Denver and Seattle), the Midwest (Detroit and Chicago), the Northeast (Philadelphia and Boston), the South (Jacksonville and Charlotte), and Southwest (Los Angeles and Dallas).

2.2. Sampling

Our study was powered to estimate the percentage of pharmacies with UPA immediately available within 4% of the true prevalence (true prevalence \pm 2%) with 95% confidence. We estimated a baseline prevalence of immediate availability of UPA of 5% and predicted that 5% of pharmacies sampled would be excluded from analysis. Based on these estimates, we planned to sample 505 randomly selected pharmacies, which was inflated to 535 to account for exclusions. The number of pharmacies selected from each city was proportionate to the total number of pharmacies identified in each city. Cities with populations over 500,000 in the 2010 US Census were considered. We randomly selected two cities per region (West, Midwest, South, Northeast, and Southwest) out of the 33 total US cities meeting population criteria. Pharmacies in each city were identified through two online phone books and cross-referenced with chain pharmacy websites, in an attempt to replicate the anticipated actions of consumers. Computerized random stratified sampling was then performed by the statistical consultant and the list of selected pharmacies returned to the study team.

Calls were made from February through May 2016. Pharmacies were defined as independent pharmacies if they had fewer than 5 locations within the city, with the remaining being categorized as chain pharmacies. Pharmacies were excluded if they were not available to the general public (e.g., a pharmacy in a skilled nursing facility), would not accept the study call, could not be reached after three

attempts, had an incorrect or disconnected phone number, or were unable to provide information in English.

Callers represented themselves as uninsured 18-year-old women attempting to fill a prescription for ella® (UPA) and followed a semi-structured questionnaire (Fig. 1). Calls were made on weekdays between 8:00 a.m. and 5:00 p.m. in the time zone of the pharmacy location. Callers directed their questions to the pharmacy staff member who answered the phone and did not specifically ask to speak to a pharmacist. Information on immediate availability of UPA and LNG ECPs, ability to order UPA if not immediately available, out-of-pocket prices for ECPs, instructions provided on ECP use, and pharmacy and staff details were recorded. The data were then entered and managed using REDCap (Research Electronic Data Capture) electronic data capture tools hosted at University of Hawaii John A. Burns School of Medicine. Data were analyzed using R statistical software version 3.2.3 (2015). This study was deemed not to be human subjects research by the University of Hawaii Institutional Review Board.

2.3. Outcome measures

The primary study aim was to evaluate the immediate availability of UPA. Secondary outcomes included: ability to order UPA and anticipated time to availability, availability of other ECP products, associations of pharmacy type (chain or independent) and region with ECP availability, accuracy of instructions provided on ECP use, and differences in the accuracy of information provided by pharmacists and other pharmacy staff members. Questions assessing the accuracy of ECP information provided included how soon after unprotected sex UPA needs to be taken and differences between UPA and LNG ECPs. Answers for the following questions were recorded: open-ended responses to differences between UPA and LNG (if a difference was indicated; Table 4), interval after unprotected intercourse during which UPA needs to be taken, and names of other ECP options available at the time of the call. Information on call duration and number of call attempts was also gathered. Call times were recorded for all pharmacies included in the analyses. Call times included hold times if the caller was transferred to a different member of the pharmacy staff or placed on hold by the pharmacy for any other reason.

2.4. Statistical analysis

Frequency measures and proportions for the following outcomes were gathered: ability to immediately fill UPA, type of staff member serving as the primary pharmacy contact, ability to order UPA, availability of other ECPs, and number of pharmacies providing correct responses to inquiries regarding differences between UPA and LNG ECPs.

Sample means with 95% confidence intervals (CIs) were estimated for the following outcomes: call duration, number of call attempts, interval to UPA availability, and ECP cost.

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