Direct Pharmacist Prescribing of Emergency Contraception: Findings of an Academic Detailing Intervention Pilot Study

May Nguyen; Niamh O’Grady, PharmD; Sally Rafie, PharmD, BCPS, APh, NCMP, FCCP, FCPHA; Sheila Mody, MD, MPH; Marisa Hildebrand, MPH

Abstract

**Purpose**
This exploratory study tested the effectiveness of an academic detailing (AD) intervention for improving pharmacist emergency contraception (EC) practices compared to a handout intervention in a state where pharmacists can prescribe EC using a statewide protocol. AD is a peer educational outreach designed to encourage evidence-based practices that improve patient outcomes and healthcare costs.

**Methods**
In this pilot randomized controlled trial, four community pharmacies in San Diego County, California, received an AD intervention or a control handout intervention regarding pharmacist prescribing of EC. The AD intervention group received a one-hour training from an expert pharmacist regarding EC prescribing and an informational EC handout, while the handout intervention group received only the handout. Participants completed a survey assessing EC practices, knowledge, and attitudes before and after the interventions. Phone interviews were performed one month following the interventions.

**Results**
Participants in the AD intervention group demonstrated greater knowledge of clinical considerations for prescribing ulipristal acetate (UPA) EC and California statewide protocols for pharmacist prescribing of EC compared to the handout intervention. Participants in the AD intervention were also more likely to have begun prescribing EC following the intervention compared to those in the handout intervention, which was observed in both quantitative and qualitative results.

**Conclusions**
Increased prescribing rates in the AD intervention group highlight the utility of AD for implementation of pharmacist services. Training that focuses on the clinical considerations for the EC products and statewide protocol for pharmacists’ prescribing of EC could lead to increased community access to EC in pharmacies and more accurate counseling by pharmacists.

**Keywords**
emergency contraception; pharmacist; prescribing; academic detailing; intervention; ulipristal acetate; levonorgestrel.

Background
Emergency contraception (EC) is any form of contraception that is taken after sexual intercourse to prevent pregnancy.\(^1\) In California, pharmacists who have completed one hour of continuing education may prescribe levonorgestrel EC (LNG EC) and ulipristal acetate EC (UPA EC).\(^2\) While LNG EC is more popular due to its longer time on the market and over-the-counter availability, UPA EC is a more effective product in some cases, particularly for patients taking EC 3-5 days after unprotected intercourse and patients with a greater body mass index.\(^3,4,5\)

A cross-sectional survey performed among California community pharmacists identified key facilitators and barriers for pharmacists prescribing EC.\(^6\) The current study utilizes the results of that survey to design and deliver an academic detailing (AD) intervention to facilitate pharmacist prescribing of EC. AD is a non-commercial educational outreach facilitated by a trained healthcare professional who provides accurate and up-to-date information on treatment options.\(^7,8\) AD has demonstrated effectiveness in enhancing pharmacist immunizations, naloxone prescribing, and referrals for smoking cessation.\(^9,10,11\)

Objectives
This pilot study seeks to examine the impact of an AD intervention on pharmacist knowledge, attitudes, and practices toward prescribing EC through a mixed methods study with community pharmacists.

Methods
This was a two-arm, clustered, non-blinded randomized controlled trial comparing an AD intervention to a handout intervention for improving pharmacist EC prescribing. The study sample (n=8) consisted of pharmacists from two chain and two independent pharmacies in San Diego County. Two pharmacies were randomly allocated to the AD intervention and two to the handout intervention. The EC handout intervention group reviewed an educational reference handout developed by the American Society for Emergency Contraception and Birth Control Pharmacist, which was tailored to meet California Board of Pharmacy statewide protocol.\(^1,12\) The AD intervention reviewed the same handout and also received an accredited continuing pharmacy education program provided by an expert pharmacist as a one-hour training to prescribe EC under California Board of Pharmacy’s statewide protocol adapted from Birth Control Pharmacist (Table 1).\(^1,13\)
Participants received surveys assessing EC knowledge, practices, and attitudes before and 30 days after the interventions. Qualitative interviews regarding experiences with the intervention, changes in practice, barriers and facilitators to prescribing EC, and attitudes toward EC prescribing practices were performed one month after the interventions. This study was approved by the Human Research Protection Program of the University of California, San Diego, and occurred from March to May 2019.

Primary outcomes were the number of LNG and UPA EC prescriptions initiated by pharmacists within 30 days following the interventions, knowledge of the statewide protocol and EC products, and attitudes toward providing EC services. Secondary outcomes were acceptability of the training interventions, as well as barriers and facilitators toward EC prescribing. The participants’ average attitudes regarding EC prescribing were assessed using a 5-point Likert scale: 1 = strongly disagree to 5 = strongly agree. Participant interviews were transcribed verbatim and analyzed using Dedoose (SocioCultural Research Consultants, LLC, Los Angeles, CA). Interviews were coded to identify themes in the data by two independent researchers. Researchers then came to a consensus on codes to develop themes and sub-themes.

Results

Quantitative Results

Thirty days post-intervention, the AD intervention group dispensed three LNG EC, two of which were prescribed by pharmacists. The handout intervention group sold 12 OTC LNG EC products, but neither dispensed nor prescribed LNG EC. No participants in either group prescribed UPA EC in the 30-day window. However, participants in the handout intervention increased the quantity of UPA EC dispensed from prescriptions by other providers. Following the interventions, both the AD and handout intervention groups had improved test scores. In the AD intervention group 75% of participants demonstrated correct understanding of statewide protocol for EC and 100% understood differences between LNG EC and UPA EC compared to 25% and 75% of participants in the handout intervention group, respectively.

Participant attitudes toward prescribing EC were more positive following both interventions. Participants in the AD intervention group were more likely to agree with feeling well trained to prescribe EC (mean 4.75) compared to participants in the handout intervention group (mean 4.00). Participants in both groups indicated intentions to incorporate changes in their practice following the interventions, such as offering to prescribe EC to patients buying OTC EC. Participants in the handout intervention group endorsed a greater number of specific EC changes in practice (mean 4.75) compared to the AD intervention group (mean 4). Barriers toward prescribing EC most frequently endorsed by participants in both groups were time and staffing resource limitations (Table 3).

Qualitative Results

Participants in the AD intervention group stated that the AD format addressed questions surrounding therapeutic options of EC as well as how to put prescribing into practice.
Conversely, participants in the handout intervention group felt the time to review the handout was adequate, but some wanted more time to discuss the information. Following the AD intervention, participants in the AD intervention group were better able to differentiate EC products (e.g., weight, days after sex, drug-drug interactions) and understand statewide protocols compared to those in the handout intervention group, which was consistent with qualitative interviews. Most notably, participants in the AD intervention group were more likely to initiate prescribing EC. While participants in both groups expressed intentions to provide EC for their patients, participants in the handout intervention group had more perceived barriers toward prescribing EC. An AD intervention with an experienced practitioner and topic expert could give pharmacists more confidence to navigate these barriers.

At the time of this study, payment for pharmacist services was not yet available, and study participants felt this was critical to improve patient access to EC. As of April 2019, legislation has been implemented requiring CA Medicaid (Medi-Cal) to provide payment for visits with a pharmacist for contraception, including EC.” In the next sentence, please change reimbursement to billing. This has significantly changed reimbursement procedures for pharmacist prescribing of EC and can be included in future AD interventions.

Although AD was more time-intensive than the handout intervention, there were discernible benefits. The AD intervention led to higher EC prescribing rates within one month of the intervention and greater knowledge of state policies and differences between LNG and UPA EC. Additionally, an AD intervention can be delivered remotely, so long as there is opportunity for question and answers. Increased EC prescribing could provide greater patient access to EC, particularly to UPA EC, which is not available OTC.

**Discussion**

The goal of the AD intervention was to educate California community pharmacists on prescribing and dispensing LNG and UPA EC. The results of this study highlight the utility of an AD intervention for pharmacist prescribing of EC in the community pharmacy setting, which is consistent with current literature regarding AD interventions to enhance pharmacist immunizations and other services (9,10,11).

Survey results showed participants in the AD intervention had increased understanding of California EC prescribing policies and differences between LNG and UPA EC compared to those in the handout intervention group, which was consistent with qualitative interviews. Most notably, participants in the AD intervention group were more likely to initiate prescribing EC. While participants in both groups expressed intentions to provide EC for their patients, participants in the handout intervention group had more perceived barriers toward prescribing EC. An AD intervention with an experienced practitioner and topic expert could give pharmacists more confidence to navigate these barriers.

At the time of this study, payment for pharmacist services was not yet available, and study participants felt this was critical to improve patient access to EC. As of April 2019, legislation has been implemented requiring CA Medicaid (Medi-Cal) to provide payment for visits with a pharmacist for contraception, including EC.” In the next sentence, please change reimbursement to billing. This has significantly changed reimbursement procedures for pharmacist prescribing of EC and can be included in future AD interventions.

Although AD was more time-intensive than the handout intervention, there were discernible benefits. The AD intervention led to higher EC prescribing rates within one month of the intervention and greater knowledge of state policies and differences between LNG and UPA EC. Additionally, an AD intervention can be delivered remotely, so long as there is opportunity for question and answers. Increased EC prescribing could provide greater patient access to EC, particularly to UPA EC, which is not available OTC.

**Limitations**

This pilot study had a small sample size and was not powered to show statistical significance between groups. In addition, this study was conducted in California and may not be generalizable to other states. Clustered randomization resulted in exclusively chain pharmacies in the handout intervention and exclusively independent pharmacies in the AD intervention. Participants in the AD intervention group were mostly pharmacy owners, while pharmacists in the handout intervention group were either staff pharmacists or pharmacy managers. Pharmacy owners may have more knowledge and ability to implement changes in practice through store policy.

**Conclusion**

Educational interventions provided to community pharmacists can lead to improved EC prescribing practices. An AD
intervention may help impart a greater level of understanding that better prepares pharmacists to prescribe EC compared to a handout. While pharmacists acknowledge the importance of EC prescribing and have intentions to incorporate it to their practice, lack of EC knowledge and ability to change store policies can be barriers to prescribing EC.

Further studies with larger cohorts are needed to better understand the differences between handout versus AD interventions surrounding practice changes to prescribing EC for community pharmacists, as well as the effectiveness of other implementation strategies.

About the Authors

May Nguyen is a 2022 MD candidate at the University of California, San Francisco School of Medicine. She has no conflicts of interest to report.

Niamh O’Grady, PharmD, is an Acute Care Pharmacy PGY-1 Resident at Yale New Haven Hospital. She has no conflicts of interest to report.

Sally Rafie, PharmD, BCPS, APh, NCMP, FCCP, FCPHa, is a Pharmacist Specialist at UC San Diego Health, an Assistant Clinical Professor at the University of California San Diego Skaggs School of Pharmacy and Pharmaceutical Sciences, and the Founder of Birth Control Pharmacist. Dr. Rafie is an expert in women’s health and leading researcher in the field of pharmacist contraception services. Dr. Rafie is a member of the Clinical Advisory Board for Afaxys, Inc.

Sheila Mody, MD, MPH, is an Associate Professor of Obstetrics, Gynecology, and Reproductive Sciences at the University of California, San Diego School of Medicine. She has no conflicts of interest to report.

Marisa Hildebrand, MPH, is a Family Planning Research Associate at the University of California, San Diego School of Medicine. She has no conflicts of interest to report.

References

1. Committee on Health Care for Underserved Women. ACOG Committee Opinion Number 542: Access to emergency contraception. Obstet Gynecol. 2012 Nov;120(5):1250-3. doi: 10.1097/aog.0b013e318277c960.

2. CA Board of Pharmacy Regulation [Internet]. Section 1746: Emergency Contraception. Available from: https://www.pharmacy.ca.gov/publications/ec_protocol.pdf

3. Glasier AF, Cameron ST, Fine PM, Logan SJ, Casale W, Van Hor J, Sogor L, Bithe DL, Scherrer B, Mathe H, Jaspart A, Ulmann A, Gainer E. Ulipristal acetate versus levonorgestrel for emergency contraception: a randomised non-inferiority trial and meta-analysis. Lancet. 2010 Feb 13;375(9714):555-62. doi: 10.1016/S0140-6736(10)60101-8. Epub 2010 Jan 29. Erratum in: Lancet. 2014 Oct 25;384(9953):1504.

4. Praditpan P, Hamouie A, Basaraba CN, Nandakumar R, Cremers S, Davis AR, Westhoff CL. Pharmacokinetics of levonorgestrel and ulipristal acetate emergency contraception in women with normal and obese body mass index. Contraception. 2017 May;95(5):464-469. doi: 10.1016/j.contraception.2017.01.004.

5. Kapp N, Abitbol JL, Mathé H, Scherrer B, Guillard H, Gainer E, Ulmann A. Effect of body weight and BMI on the efficacy of levonorgestrel emergency contraception. Contraception. 2015 Feb;91(2):97-104. doi: 10.1016/j.contraception.2014.11.001.

6. Mody SK, Rafie S, Hildebrand M, Oakley LP. Exploring emergency contraception prescribing by pharmacists in California. Contraception. 2019 Dec;100(6):464-467. doi: 10.1016/j.contraception.2019.08.012.

7. Yeh JS, Van Hoof TJ, Fischer MA. Key Features of Academic Detailing: Development of an Expert Consensus Using the Delphi Method. Am Health Drug Benefits. 2016;9(1):42-50.

8. Van Hoof TJ, Harrison LG, Miller NE, Pappas MS, Fischer MA. Characteristics of Academic Detailing: Results of a Literature Review. Am Health Drug Benefits. 2015;8(8):414-422.

9. Caffrey AR, DeAngelis JM, Ward KE, Orr KK, Morrill HJ, Goscininski M, LaPlante KL; Rhode Island Pharmacy Pneumococcal Vaccination Education Group. A pharmacist-driven academic detailing program to increase adult pneumococcal vaccination. J Am Pharm Assoc (2003). 2018 May-Jun;58(3):303-310. doi: 10.1016/j.japh.2017.08.010.

10. Eovy KE, Groff L, Hill LG, Godinez W, Gandhi R, Reveles KR. Impact of student pharmacist-led naloxone academic detailing at community pharmacies in Texas. J Am Pharm Assoc (2003). 2020 Jan-Feb;60(1):81-86. doi: 10.1016/j.japh.2019.09.007.

11. Jin M, Gagnon A, Levine M, Thabane L, Rodriguez C, Dolovich L. Patient-specific academic detailing for smoking cessation: feasibility study. Can Fam Physician. 2014 Jan;60(1):e16-23.

12. American Society for Emergency Contraception [Internet]. Reports and Factsheets [cited 2021 May 30]. Available from: https://www.americansocietyforec.org/reports-and-factsheets

13. Birth Control Pharmacist [Internet]. Emergency Contraception Online Study Course. [cited 2021 Sept 11]. Available from: https://birthcontrolpharmacist.com/emergency/