HHS Public Access

Author manuscript

Med Care Res Rev. Author manuscript; available in PMC 2021 December 01.

Published in final edited form as:

Med Care Res Rev. 2021 December ; 78(6): 789–797. doi:10.1177/1077558720963651.

Pharmacists' Perceptions, Barriers, and Potential Solutions to Implementing a Direct Pharmacy Access Policy in Indiana

Jenny L. Beal, PharmD, PhD[a] [Candidate], Ryan S. Ades, PharmD, RPH[b] [Assistant Director of Experiential Education, Assistant Professor of Pharmacy Practice], Veronica Vernon, PharmD, BCACP, BCPS, NCMP[c] [Assistant Professor of Pharmacy Practice], Tracey A. Wilkinson, MD, MPHd[d] [Assistant Professor of Pediatrics], Ashley H. Meredith, PharmD, BCACP, BCPS, CDE, FCCP[*,a] [Clinical Associate Professor of Pharmacy Practice]

[a] Department of Pharmacy Practice, Purdue University, 575 Stadium Mall Drive, West Lafayette, IN, 47907

[b] Manchester University College of Pharmacy, 10627 Diebold Rd. Fort Wayne, IN 46845

[c] Butler University College of Pharmacy and Health Sciences, 4600 Sunset Ave, Indianapolis, IN 46208

[d] Indiana University School of Medicine, Department of Pediatrics, Division of Children's Health Services Research, 410 W. 10th Street, Indianapolis, IN, 46202

Abstract

This study assessed pharmacists' perceptions, barriers, and potential solutions for implementing a policy allowing pharmacists to prescribe hormonal contraceptives in Indiana. A mixed-methods survey (N=131, 22.3% response rate), using Likert-type scales, dichotomous responses (yes/no), and open-ended questions, was distributed to pharmacy preceptors in Indiana. Pharmacists felt prescribing contraceptives would be beneficial (79.1%) and were interested in providing this service (76.0%), but only 35.6% reported having the necessary resources. Participants with a PharmD were significantly more likely to feel the service would be beneficial (OR=10.309, 95%CI=[1.678, 62.500]) and be interested in prescribing contraceptives (OR=9.091, 95%CI=[1.456, 55.556]). Reimbursement (86.4%), training courses (84.7%), private counseling rooms (69.5%), and increasing technician responsibilities (52.5%) were identified as ways to increase implementation. Women had significantly greater odds of being more comfortable than men prescribing injections (OR=2.237, 95%CI=[1.086, 4.605]), and intravaginal rings (OR=2.215, 95%CI=[1.066, 4.604]), when controlling for age, degree, and setting. Qualitative findings reinforced quantitative findings.

Keywords

hormonal contraceptives; direct pharmacy access; pharmacist; access

[*]Purdue University College of Pharmacy, 640 Eskenazi Ave, Fifth Third Bank FOB, 3rd Floor, Indianapolis, IN, 46202, ahmeredith@purdue.edu, 317-880-5407.

Declaration of Interest The authors have no conflicts of interest to declare.

Introduction

Access to hormonal contraceptives remains an important public health issue as almost half of pregnancies are unintended (Finer & Zolna, 2016), 95% of which can be attributed to inconsistent, inappropriate, or nonuse of contraceptives (Sonfield, Hasstedt, & Gold, 2014). Removing barriers to accessing birth control, such as cost, has been shown to reduce rates of unintended pregnancies by up to 40% (Colorado Department of Public Health and Environment). Policymakers have worked to improve women's access to contraceptives by enacting what have been referred to as direct pharmacy access policies. Direct pharmacy access policies provide pharmacists with the legal ability to prescribe hormonal contraceptives to women, which can improve access by increasing the number of healthcare providers able to prescribe contraceptives and by allowing women to receive a prescription and the medication at the same location (Gardner et al., 2008; Tak, Kessler, Scott, & Gunning, 2019; Beal & Illingworth Plake, 2020). In the past five years, 11 states and Washington DC have passed legislation to allow direct pharmacy access of hormonal contraceptives (Rafie & Landau, 2019).

This expansion of pharmacists' scope of practice has been met with some opposition; however, possibly the most unexpected opposition has come from within the pharmacy community itself (Rafie & Landau, 2019). Although direct pharmacy access policies include pharmacists in all practice settings, it is expected that those in community and outpatient clinic settings would be the best positioned to provide this service. Given the current processes and workflow expectations for community pharmacists, pharmacist time constraint issues for offering increased services have been well-documented (Schommer & Gaither, 2014; Hilverding & DiPietro Mager, 2017; Landau et al., 2009; Rafie & El-Ibiary, 2011; Rafie et al., 2019). Finding ways to eliminate barriers to implementation, particularly in the community setting, is necessary as the number of pharmacist-provided services continues to grow. In recent years, pharmacists have gained the legal authority to provide healthcare services such as immunizations (Bach & Goad, 2015), smoking cessation products (NASPA, 2019) and naloxone prescribing (NASPA, 2019), and assessment and treatment of minor ailments including strep throat and influenza (NASPA, 2019), with the intention to improve patient access to care. However, if barriers are not addressed, the full benefit will not be realized.

New Contributions

Little is known regarding pharmacists' reasons for supporting or opposing direct pharmacy access. Also, while previous studies have captured pharmacists' perceived barriers to prescribing hormonal contraceptives, the authors are unaware of any studies exploring what solutions may ease or eliminate said barriers or controlling for other factors that may explain variation in perceptions, such as age, gender, terminal pharmacy degree, or pharmacy practice setting. This study seeks to address these gaps in knowledge and inform policymakers in states, such as Indiana, that have not yet enacted or implemented direct pharmacy access.

Methods

This study used a mixed-methods design to assess Indiana pharmacists' perceptions, comfort levels, and potential solutions to barriers related to implementing a direct pharmacy access policy. IRB-exempt approval (1907022437) was granted by Purdue University.

Sampling

Staff at two Indiana pharmacy schools emailed the survey link and information sheet to pharmacy preceptors for completion, while the research team directly emailed the materials to pharmacy preceptors affiliated with a third Indiana pharmacy school. Pharmacy preceptors (N=588) serve as mentors to pharmacy students as they complete their experiential training (ACPE, 2015). Each pharmacy school individually sets criteria for who is eligible to serve as a preceptor, but the Accreditation Council for Pharmacy Education (ACPE) assesses each school's preceptor criteria to ensure program requirements are met (ACPE, 2015). The ACPE stipulates that the majority of pharmacy preceptors must be pharmacists, however, preceptors come from a wide range of practice settings and have varied professional experience (ACPE, 2015). Pharmacy preceptors were chosen as the study population due to their diverse makeup in terms of gender, pharmacy degree, and practice setting (American Association of Colleges of Pharmacy, 2019) and the availability of a sampling frame with contact information for Indiana pharmacy preceptors. The sampling frame allowed probabilistic sampling to be used rather than a convenience sample. Eligibility criteria to participate in the study included currently having an active US pharmacist license and currently practicing as a pharmacist in Indiana.

Instrument

An online survey was designed based on previous literature (Rafie et al., 2012; Rodriguez et al., 2016; Landau et al., 2009; Hilverding et al., 2017) to assess Indiana pharmacists' attitudes, perceived barriers, and solutions for prescribing hormonal contraceptives. Perceptions and comfort were measured using five-point Likert-type scales with agreement and comfort response anchors (1=strongly disagree to 5=strongly agree, and 1=extremely uncomfortable to 5=extremely comfortable, respectively). Beliefs were measured using dichotomous responses (yes/no). Several items were qualitatively assessed by collecting short answers. Demographic data were also collected to identify trends in the data.

Data Analyses

Binomial logistic regression (*a priori* alpha=0.05) was used to test associations between gender (women and men), degree (PharmD and BSPharm), age (18 to 30, 31 to 40, 41 to 50, and 51 years of age and older), setting (conducive to prescribing, such as community pharmacy, and less conducive to prescribing), and perceived benefits of providing the service, interest in providing the service, and ability to provide the service with the resources currently available. Cumulative odds ordinal logistic regression with proportional odds was used to determine the effect of participant age, gender, pharmacy degree, and setting on participants' comfort level with prescribing combined oral contraceptives, progestin-only oral contraceptives, transdermal patches, injections, intravaginal rings, and emergency contraceptives.

Two researchers used thematic content analysis to assess the qualitative data by independently reviewing the responses and identifying themes. The researchers then met to finalize themes before independently coding all responses. Responses were coded to more than one theme if they contained elements that mapped to more than one theme. The researchers then compared codes and discussed discrepancies until all codes had been reconciled.

Results

In total, 138 responses were collected; however, after excluding those who did not meet the eligibility criteria (n=7), 131 responses were analyzed (22.3% response rate). The majority of respondents were women (59.5%, n=69) with a mean age of 40.8 years (range: 27–75 years), and most had received a Doctor of Pharmacy (PharmD) degree (75.0%, n=87). Additional demographic data can be found in Table 1.

Comfort

Overall, pharmacists reported feeling somewhat or extremely comfortable with the idea of prescribing the combined oral pill (65.8%, n=77/117), progestin-only oral pill (64.1%, n=75/117), transdermal patch (61.2%, n=71/116), injection (50.4%, 59/117), intravaginal ring (59.8%, n=70/117), and emergency contraceptives (69.2%, n=81/117) (Table 2). Fewer respondents (20.9%, n=24) were comfortable with prescribing IUDs. The odds of respondents from all settings, degrees, genders, and ages feeling comfortable with prescribing combined oral contraceptives ($\chi^2(6)=5.687$, p=0.459), progestin-only contraceptives ($\chi^2(6)=8.882$, p=0.180), patch ($\chi^2(6)=5.618$, p=0.467), and emergency contraceptives ($\chi^2(6)=6.559$, p=0.364) were similar. However, the odds of women being more comfortable with prescribing contraceptive injections was 2.237 (95% CI = [1.086, 4.605]), which was statistically significant ($\chi^2(1)=4.773$, p=0.029) when controlling for degree, setting, and age. The odds of women being more comfortable with prescribing intravaginal rings for contraception was 2.215 (95% CI = [1.066, 4.604]), which was statistically significant ($\chi^2(1)=4.537$, p=0.033).

Perceptions

The majority of pharmacists (70.9%), agreed their pharmacy education prepared them adequately to counsel patients on hormonal contraceptive use. Despite the majority of pharmacists reporting that being able to prescribe hormonal contraceptives would be beneficial (79.1%), and that they would be interested in providing this service (76.0%,), only 35.6% reported that they currently have the resources necessary to begin providing this service.

When controlling for participant gender, age, and practice setting, it was found that those surveyed with a PharmD degree were significantly more likely (OR=10.309, 95%CI=[1.678, 62.500]) to report that prescribing hormonal contraceptives would be beneficial to women in Indiana than those with a Bachelor of Pharmacy (BSPharm) degree (p=0.012). If given all necessary resources, those with a PharmD were also significantly more likely (OR=9.091, 95%CI=[1.456, 55.556]) to be interested in prescribing hormonal contraceptives

than those with a BSPharm degree (p=0.018) when controlling for gender, setting, and age. No significant differences were found between gender, setting, age, or degree among perceptions of currently having adequate resources to begin prescribing hormonal contraceptives.

Among pharmacists who believed prescribing hormonal contraceptives would not be beneficial (n=26), the most common reason was liability concerns (80.7%), followed by need for additional training (57.7%) (Figure 1). Among pharmacists not interested in providing this service (n=25), liability concerns (60.0%) and fear that women would neglect to seek routine care (60.0%) were the most common reasons cited (Figure 2). When asked what form additional training should take, a three- to four-hour live training session was the most preferred (33.6%), followed by a one- to two-hour (25.0%) and three- to four-hour online training sessions (16.4%).

The four most commonly reported ways to ease prescribing of contraceptives were to 1) receive insurance reimbursement for providing the service (86.4%), 2) undergo a training course on prescribing contraceptives (84.7%), 3) gain access to a private counseling room (69.5%), and 4) increase pharmacy technician responsibilities to free up pharmacists from dispensing duties (52.5%). The qualitative data supported these results and provided greater depth.

Proposed Solutions

The researchers achieved 91.7% interrater reliability before reconciling coding to reach 100% agreement. Five themes emerged from the thematic analysis of the responses to the question “What resources would you need to be able to start prescribing hormonal contraceptives?”. The identified themes were: training, company culture, implementation, physical environment, and other. The training theme included any comments referring to the need for additional training, refresher courses, or continuing education requirements. The company culture theme included policy or corporate-related needs such as more time, staff, or other support. Comments were coded under the implementation theme if they discussed task-related issues such as reimbursement or necessary materials and tools. The physical environment theme included any needs related to physical space. Finally, the “other” theme included any comments that did not relate to resources needed to provide this service. Illustrative quotes for each theme may be found in Table 2.

Discussion

A majority of surveyed pharmacists in Indiana were interested in prescribing contraceptives, which is consistent with what has been found in other states (Rodriguez, 2018; Landau et al., 2009; Hilverding & DiPietro Mager, 2017). The finding that those with a PharmD degree were significantly more likely to be interested in providing this service suggests that pharmacist willingness to provide this service may continue to increase as PharmDs make up a growing proportion of the pharmacist workforce (ACPE, 2020). To build on previous literature, this study assessed pharmacists’ reasons for lack of interest in prescribing contraceptives and what solutions would make providing this service easier. Liability issues and concerns that women would neglect to seek other routine preventative care were the

most common reasons provided by pharmacists who were not interested in providing this service. Insurance reimbursement, additional training, a private counseling room, and more time or staff were the most commonly mentioned resources needed to provide this service. These concerns could serve as guidance to policymakers as they consider what stipulations to include.

Over 50% of pharmacists reported being somewhat or extremely comfortable with prescribing all forms of hormonal birth control other than intrauterine devices (IUDs). While the findings regarding oral and transdermal contraceptives match previous literature, Hilverding et al. (2017) found that 44% of pharmacists supported prescribing intravaginal rings and only 37% supported prescribing injectable hormonal contraceptives. One possible explanation for the increased comfort seen in our study is that the pharmacy curriculum has evolved to place a greater focus on contraception as more states have adopted direct pharmacy access policies.

Many pharmacists who reported feeling uncomfortable prescribing contraceptives wished to have additional training, or a refresher course. Most respondents wanted training regarding clinical aspects, but also training on billing. The preference for additional training was addressed in other states with pharmacy access policies by requiring pharmacists to complete a training program to become eligible to prescribe contraceptives (Oregon Board of Pharmacy, 2020).

Of those not interested in prescribing contraceptives, most lacked interest due to concerns about the legal responsibility associated with prescribing contraceptives and/or concerns that women would not receive recommended health care. Although this policy would increase scope of practice, pharmacists would still be covered by malpractice insurance. Malpractice policies available to pharmacists cover prescribing within the scope of practice in the state in which the pharmacist is licensed (HPSO and Pharmacists Mutual). Some pharmacists were concerned that women may choose to forego recommended preventative care, such as pap smears, if they received birth control from a pharmacist rather than visiting an obstetrician/gynecologist. This concern was also found among pharmacists in Ohio (Hilverding & DiPietro Mager, 2017); however, studies in other states have found that 89% of women seeking contraception at the pharmacy had seen a clinician within the past year (Lu et al., 2019). Furthermore, updated guidelines have decreased the frequency of recommended pap smears. (ACOG, 2017).

In order to prescribe contraceptives, pharmacists reported requiring insurance reimbursement, additional training, a private counseling room, and more time. While 86.4% of pharmacists reported that insurance reimbursement would make it easier to prescribe contraceptives, only 34.7% said that patient out-of-pocket payment would make it easier. The reason for this difference may be due to the concern that women would not be able to afford or willing to pay out-of-pocket for this service. However, the Direct Access Study (Gardner et al., 2008) found that 82.1% of women paid out-of-pocket for screening and consultation related to receiving a contraceptive prescription. Regardless, insurance payment clauses are being included in an increasing number of direct pharmacy access policies (HB 2879; Rafie & Landau, 2019).

For pharmacist-provided services to be financially sustainable, pharmacists must receive reimbursement for the provision of the service in addition to product dispensing (Smith, Bates, Bodenheimer, & Cleary, 2010; Snyder et al., 2015; Dombrowski et al., 2019). Currently, pharmacists in different states have gained the legal ability to prescribe, or "furnish", hormonal contraceptives through either collaborative practice agreements (CPA), standing orders, or statewide protocols (Beal & Illingworth Plake, 2019). Pharmacists are not considered providers under CPAs and standing orders, which prevents pharmacists from being able to directly bill for the service provided (Kliethermes, 2017; McGinley, 2017). Pharmacists are only eligible for insurance reimbursement for assessment of the patient when prescribing contraceptives if they are operating under a statewide protocol or autonomous prescriptive authority (McGinley, 2017).

Lack of time and staff shortages are frequently cited barriers to implementing direct pharmacy access policies (Rafie & Landau, 2019; Hilverding et al., 2017; Landau et al., 2009; Rodriguez et al., 2016) which were also noted by our survey respondents. However, 52.5% of respondents were in support of increasing pharmacy technician responsibilities in order to free up the pharmacist from dispensing duties. Currently 13 states permit "tech-check-tech" (TCT), eight of which permit TCT in the community setting (Ksiazek et al., 2019). TCT requires a pharmacist to verify prescription orders for safety and accuracy but allows a technician to perform the final product verification (Frost & Adams, 2017). TCT has been implemented to increase time pharmacists spend providing direct patient care (Frost & Adams, 2017). Indiana does not currently permit TCT, but it may be an important solution to explore.

Despite concerns that pharmacists might refuse to provide contraceptives due to religious or personal reasons (Rafie et al., 2012), only 4.6% of surveyed pharmacists in Indiana reported lack of interest in providing this service due to religious reasons. It is important to note that a lack of interest does not necessarily equate to refusal to provide the service. Although refusal to provide contraceptives in any state is concerning, currently only six states explicitly permit pharmacists to refuse to provide contraceptives while nine states allow non-pharmacist providers to refuse contraceptive services (Guttmacher Institute, 2019).

Findings may not be generalizable to all pharmacists in the United States, since only pharmacy preceptors were surveyed. However, the respondents span a fairly representative sample of genders, race, ethnicity, age, and practice settings (Bowen Center for Health Workforce, 2017), supporting generalizability of results. Only study participants' degree differed from the Indiana pharmacist population; in 2018, 45% of pharmacists had a BSPharm, while only 25% of respondents in this study had a BSPharm. Since the PharmD degree became mandatory in 2004 and those with a BSPharm were grandfathered in (ACPE, 2020), the percentage of practicing pharmacists with a PharmD continues to grow, which may, in part, explain why this study had a larger proportion of pharmacists with a PharmD.

Conclusion

More states are allowing pharmacists to prescribe hormonal contraceptives through direct pharmacy access policies. The majority of surveyed pharmacists in Indiana are interested in

providing this service, while citing similar barriers and concerns as those found in previous studies. Insurance reimbursement, additional training, and expanding technician roles were all proposed solutions for overcoming barriers such as time constraints and liability concerns and should be considered in the implementation of pharmacy access programs.

Acknowledgments

We would like to thank all the pharmacy college faculty and staff that helped distribute the survey. Authors JB and AM had full access to all the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Funding Statement This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

1. Accreditation Council for Pharmacy Education (ACPE). (2015). Accreditation standards and key elements for the professional program in pharmacy leading to the Doctor of Pharmacy degree. Retrieved from https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf.
2. Accreditation Council for Pharmacy Education (ACPE). (2020). About. Retrieved from https://www.acpe-accredit.org/about/.
3. American Association of Colleges of Pharmacy (AACP). (2019). American Association of Colleges of Pharmacy Preceptor Survey: 2019 National Summary Report. Retrieved from https://www.aacp.org/sites/default/files/2019-09/2019-preceptor-survey-national%20summary%20report.pdf.
4. Bach AT and Goad JA (2015). The role of community pharmacy-based vaccination in the USA: Current practice and future directions. Integrated Pharmacy Research and Practice, 4, 67–77. [PubMed: 29354521]
5. Beal JL and Illingworth Plake K (2020). Social and legislative shaping of access to contraceptives and the pharmacists' role: A literature review. Research in Social and Administrative Pharmacy, 16, 628–636. [PubMed: 31337541]
6. Bowen Center for Health Workforce. Data Report: 2018 Indiana pharmacist licensure survey. Retrieved from https://scholarworks.iupui.edu/bitstream/handle/1805/18812/2018%20Pharmacist%20Data%20Report%20Final.pdf?sequence=4&isAllowed=y.
7. Colorado Department of Public Health and Environment. Taking the unintended out of pregnancy: Colorado's success with long-acting reversible contraception, 2017. Retrieved from www.colorado.gov/pacific/cdphe/cfpi-report.
8. Dombrowski SK, Bacci JL, Klatt PM, Osborne M, Castelli G, Burns A, and McGivney MAS (2019). Key factors for sustainable integration of pharmacists in team-based primary care physician practices. Journal of the American Pharmacists Association, 59, 439–448. [PubMed: 30982772]
9. Finer LB and Zolna MR (2016). Declines in unintended pregnancy in the United States, 2008–2011. The New England Journal of Medicine, 374, 843–852. [PubMed: 26962904]
10. Frost TP and Adams AJ (2017). Tech-Check-Tech in community pharmacy practice settings. Journal of Pharmacy Technology, 33(2), 47–52.
11. Gardner JS, Miller L, Downing DF, Le S, Blough D, and Shotorbani S (2008). Pharmacist prescribing of hormonal contraceptives: Results of the Direct Access study. Journal of the American Pharmacists Association, 48(2), 212–221. [PubMed: 18359734]
12. Guttmacher Institute. Refusing to provide health services. 12 1, 2019. Retrieved from https://www.guttmacher.org/state-policy/explore/refusing-provide-health-services.
13. H.B. 2879, (2015) (enacted). Retrieved from https://olis.leg.state.or.us/liz/2015R1/Measures/Overview/HB2879.
14. Healthcare Providers Service Organization (HSPO). Pharmacist professional liability insurance. Retrieved from. http://www.hpso.com/individuals/professional-liability/pharmacist-professional-liability-insurance.

15. Hilverding AT and DiPietro Mager NA (2017). Pharmacists' attitudes regarding provision of sexual and reproductive health services. Journal of the American Pharmacists Association, 57, 493–7. [PubMed: 28619391]
16. Kliethermes MA (2017). Understanding health care billing basics. Pharmacy Today, 23(7), 57–68.
17. Ksiazek S et al. (2019). Member boards, NABP continue to explore expansion of pharmacy technician roles. National Association of Boards of Pharmacy Innovations, 48(7), 6–8.
18. Landau SC, Besinque K, Chung F, Dries-Daffner I, and Monastersky Maderes N (2009). Pharmacist interest in and attitudes toward direct pharmacy access to hormonal contraception in the United States. Journal of the American Pharmacists Association, 49, 43–50. [PubMed: 19196596]
19. Lu S, Rafie S, Hamper J, Strauss R, and Kroon L (2019). Characterizing pharmacist-prescribed hormonal contraception services and users in California and Oregon pharmacies. Contraception, 99(4), 239–243. [PubMed: 30562478]
20. McGinley E (2017). Pathways to Pharmacist Prescriptive Authority. Retrieved from https://nabpdistrict1.pharmacy/wp-content/uploads/2017/09/2-ppg-HO-Law.pdf.
21. National Alliance of State Pharmacy Associations (NASPA). (2019). Pharmacist Prescribing: "Test and Treat". Retrieved from https://naspa.us/resource/pharmacist-prescribing-for-strep-and-flu-test-and-treat/.
22. National Alliance of State Pharmacy Associations (NASPA). (2019). Pharmacist Prescribing: Tobacco Cessation. Retrieved from https://naspa.us/resource/tobacco-cessation/.
23. National Alliance of State Pharmacy Associations (NASPA). (2019). Pharmacist Prescribing: Naloxone. Retrieved from https://naspa.us/resource/naloxone-access-community-pharmacies/.
24. Oregon Board of Pharmacy. Oregon pharmacists prescribing of contraceptive therapy. Retrieved from https://www.oregon.gov/pharmacy/pages/contraceptiveprescribing.aspx.
25. Pharmacists Mutual. Pharmacist limits of liability and what we cover. Retrieved from https://www.phmic.com/pharmacy-professional-liability/.
26. Rafie S and Landau S Opening New Doors to Birth Control: State Efforts to Expand Access to Contraception in Community Pharmacies. Birth Control Pharmacist, 2019. Retrieved from https://birthcontrolpharmacist.com/.
27. Rafie S, Richards E, Rafie S, Landau SC, and Wilkinson TA (2019). Pharmacist outlooks on prescribing hormonal contraception following statewide scope of practice expansion. Pharmacy, 7(96), 1–11. doi: 10.3390/pharmacy7030096.
28. Rafie S, Haycock M, Rafie S, Yen S, and Harper CC (2012). Direct pharmacy access to hormonal contraception: California physician and advanced practice clinician views. Contraception, 86, 687–693. [PubMed: 22717185]
29. Rafie S, and El-Ibiary SY 2011. Student pharmacist perspectives on providing pharmacy-access hormonal contraception services. Journal of the American Pharmacists Association, 51(6), 762–5. [PubMed: 22068199]
30. Rodriguez MI, Biel FM, Swartz JJ, Anderson L, and Edelman AB (2018). Pharmacists' experience with prescribing hormonal contraception in Oregon. Journal of the American Pharmacists Association, 58(6), 608–613. [PubMed: 30190201]
31. Rodriguez MI, McConnell J, Swartz J, and Edelman AB (2016). Pharmacist prescription of hormonal contraception in Oregon: Baseline knowledge and interest in provision. Journal of the American Pharmacists Association, 56, 521–6. [PubMed: 27594105]
32. Schommer JC and Gaither CA (2014). A segmentation analysis for pharmacists' and patients' views of pharmacists' roles. Research in Social and Administrative Pharmacy, 10:508–528. [PubMed: 24268770]
33. Smith M, Bates DW, Bodenheimer T, and Cleary PD (2010). Why pharmacists belong in the medical home. Health Affairs, 29(5). DOI: 10.1377/hlthaff.2010.0209
34. Snyder ME, Earl TR, Gilchrist S, Greenberg M, Heisler H, Revels M, and Matson-Koffman D (2015). Collaborative drug therapy management: Case studies of three community-based models of care. Preventing Chronic Disease. DOI: 10.5888/pcd12.140504.

35. Sonfield A, Hasstedt K, and Gold RB (2014). Moving forward: Family planning in the era of health reform. Guttmacher Institute. Retrieved from https://www.guttmacher.org/sites/default/files/report_pdf/family-planning-and-health-reform.pdf.

36. Tak CR, Kessler LT, Scott MA, and Gunning KM (2019). Pharmacist-prescribed hormonal contraception: A review of the current landscape. Journal of the American Pharmacists Association, 59, 633–641. [PubMed: 31300307]

37. The American College of Obstetricians and Gynecologists (ACOG). Cervical cancer screening FAQs. Retrieved from https://www.acog.org/Patients/FAQs/Cervical-Cancer-Screening?IsMobileSet=false.

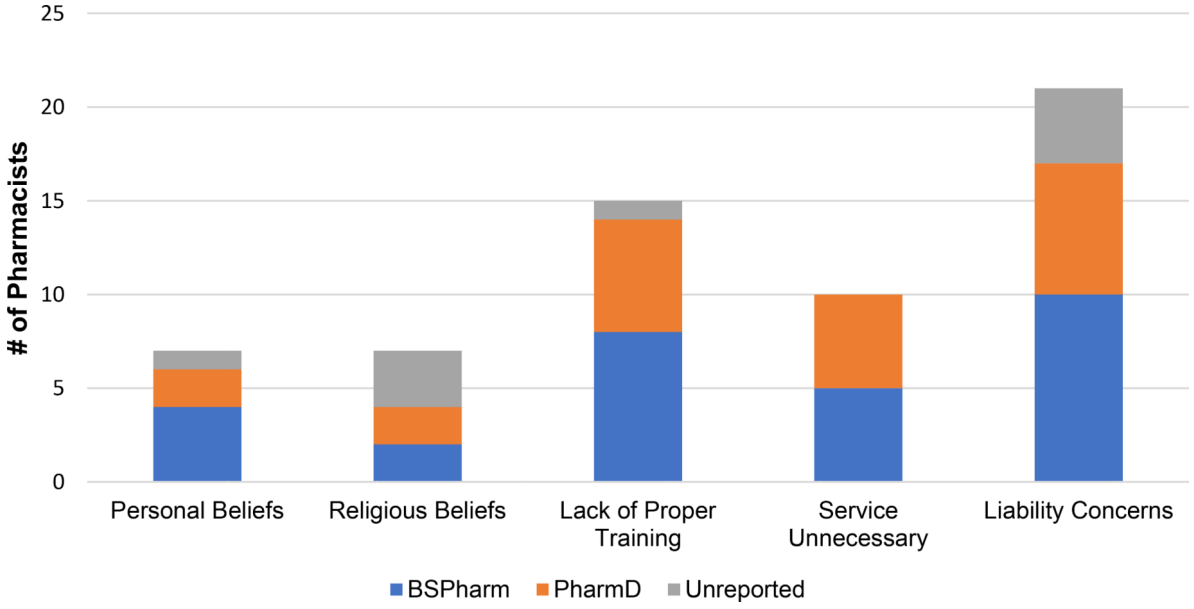

Figure 1.
Perceptions of Why Prescribing Contraceptives is not Beneficial, by Degree

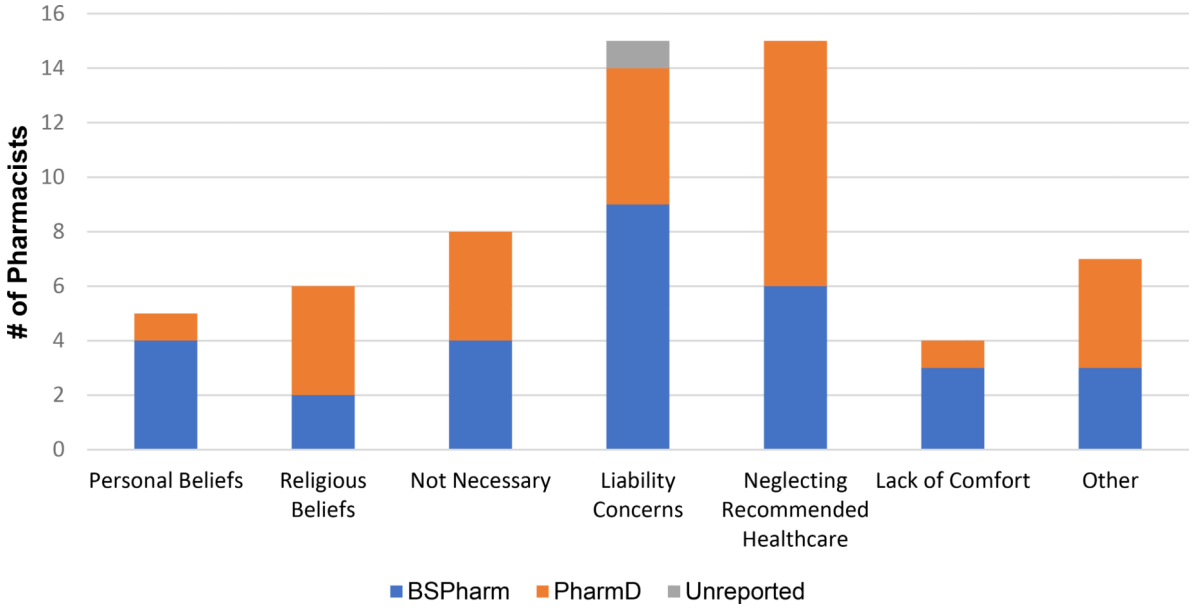

Figure 2.
Perceptions of Why not Interested in Prescribing Contraceptives, by Degree

Table 1.

Demographics of Study Participants

	Participants[a]		Indiana Pharmacists[b]
	n	%	%
Gender	**116**		
Woman	69	59.5%	59.5%
Man	46	39.7%	40.2%
Other	1	0.9%	
Race	**116**		
White	112	96.6%	90.3%
Asian	2	1.7%	5.0%
More than one race	2	1.7%	0.9%
Ethnicity	**114**		
Hispanic or Latinx	3	2.6%	2.3%
Non-Hispanic or Latinx	111	97.4%	97.7%
Age	**114**		
Mean (years)		40.8	43.5
Range (years)		27–75	
Degree	**116**		
BSPharm	29	25.0%	44.8%
PharmD	87	75.0%	54.7%
State of Graduation	**116**		
Indiana	101	87.0%	
Other	15	12.9%	
Year of Graduation	**116**		
Before 1980	2	1.7%	
1980–1989	10	8.6%	
1990–1999	23	19.8%	
2000–2009	38	32.8%	
2010–2019	43	37.1%	
Pharmacy School Type	**116**		
Public	79	68.1%	
Private, non-religious	31	26.7%	
Private, religious	6	5.2%	
Practice Setting	**116**		

	Participants[a]		Indiana Pharmacists[b]
	n	%	%
Community (chain, grocery)	34	29.3%	
Community (independent)	11	9.5%	
Hospital outpatient	8	6.9%	
			41.9%
Ambulatory care (primary care)	12	10.3%	
Ambulatory care (specialty)	6	5.2%	
Hospital inpatient (dispensing)	3	2.6%	
Hospital clinical (inpatient care)	34	29.3%	
Other	8	6.9%	
Precepting	**128**		
Butler University	13	10.2%	
Manchester University	8	6.3%	
Purdue University	37	28.9%	
More than one school	70	54.7%	

[a] Calculated with a denominator to reflect only survey participants responding to each demographic item

[b] Based on 2018 Indiana Pharmacist Licensure Survey (2019)

Table 2.

Resources Needed to Implement Prescribing of Hormonal Contraceptives

Theme (n)	Illustrative Quotes
Training (36)	"…I would need some re-education on the subject." "I would need more info on how to prescribe and bill for service"
Company Culture (23)	"company policies would need to be in place first" "As pharmacy services expand, the large retail companies are forcing us to take added responsibility while removing technician payroll, creating unsafe and unreasonable expectations while decreasing patient care (though the companies say patient care is better)"
Implementation (21)	"payment for consult not just product. billing capabilities for this in community-based pharmacy setting. If payment is received, can argue more time to support pharmacist providing the service" "Billing mechanism, approved protocols"
Physical Environment (6)	"We do not have the space in the pharmacy area to provide the pharmacist and patient a private area to discuss options."
Other (10)	"I don't currently work in a setting where patients are seen."