Introducing a "same day referral" program for post-coital IUD insertion in Ontario: A mixed-methods study with pharmacists

Andréanne Chaumont, MSc[1], Angel M. Foster, DPhil, MD, AM[2,3*]

[1] Faculty of Medicine, University of Ottawa
[2] Faculty of Health Sciences, University of Ottawa
[3] Institute of Population Health, University of Ottawa
* Corresponding author

ABSTRACT

Objectives: Post-coital insertion of the Copper-T intrauterine device (IUD) is the most effective method of emergency contraception (EC). However, few women use this method of pregnancy prevention in Canada. Our study aimed to explore Ontario pharmacists' knowledge of the IUD as EC and interest in a hypothetical "same day referral" program that would provide women seeking progestin-only EC with information about and a timely referral for post-coital IUD insertion.

Methods: We received 198 mailed surveys from representatives of Ontario pharmacies and conducted 17 in-depth interviews with a subset of respondents in 2015. We analyzed the survey data using descriptive statistics and interviews for content and themes using both deductive and inductive techniques.

Results: Our results suggest that Ontario pharmacists underestimate the efficacy of the IUD as EC and lack awareness of the protocols for use. Survey respondents and interviewees expressed support for a "same day referral" program in Ontario and believe more effective methods of EC should be easily accessible. Interviewees discussed current barriers to the use of IUDs as EC, including the up-front costs associated with insertion and a general lack of awareness about EC among health professionals and communities.

Discussion: There is a significant need for continuing education on the full range of EC methods among pharmacists. Considerable enthusiasm exists for undertaking efforts to expand access to more effective EC methods. Developing a pilot project to facilitate timely referrals for post-coital IUD insertion appears warranted.

RÉSUMÉ

Objectifs: L'insertion postcoïtale d'un dispositif intra-utérin (DIU) au cuivre est la méthode la plus efficace de contraception d'urgence (CU). Toutefois, peu de femmes au Canada utilisent cette méthode de prévention de la grossesse. Notre étude visait à explorer les connaissances des pharmacien(ne)s ontarien(ne)s sur le DIU utilisé comme CU, ainsi que leur intérêt pour un programme hypothéque d'orientation du même jour, qui fournirait en temps opportun de l'information et une insertion postcoïtale d'un DUI aux femmes désirant une CU à progestatif seul.

Méthodes: Nous avons reçu 198 sondages par la poste de la part de représentants de pharmacies ontariennes, et avons mené 17 entrevues détaillées avec un sous-ensemble des répondants en 2015. Nous avons analysé les données de l'enquête à l'aide de statisques descriptives, ainsi que le contenu et les thèmes des entrevues au moyen de méthodes déductives et inductives.

Résultats: Nos résultats indiquent que les pharmacien(ne)s de l'Ontario sous-estiment la capacité du DIU utilisé comme CU et ne con- naissent pas les protocoles nécessaires. Les répondants à l'enquête et les sujets interrogés ont exprimé leur soutien au programme d'orientation du jour même en Ontario et croient que des méthodes plus efficaces de CU devraient être facilement accessibles. Les personnes interrogées ont discuté des obstacles actuels à l'utilisation du DIU utilisé comme CU, incluant les coûts initiaux associés à l'insertion, et le manque général de connaissances sur la CU parmi les professionnels de la santé et les communautés.

Discussion: Il existe un besoin important de formations professionnelles continues pour les pharmacien(ne)s sur la gamme complète de CU. Plusieurs démontrent un enthousiasme considérable quant au déploiement d'efforts pour améliorer l'accès à des méthodes plus efficaces de CU. Il semble justifié d'instaurer un projet pilote qui faciliterait l'orientation pour la pose postcoïtale d'un DIU, et ce, en temps opportun.

Keywords: Emergency Contraceptions; IUDs; Canada

Unintended pregnancies continue to be a major public health issue in Canada; nearly one in three Canadian women experience an unintended pregnancy over the course of their reproductive lives [1]. Methods of long-acting reversible contraception (LARC), including the hormonal intrauterine device (IUD), the Copper-T IUD, and implants, are safe and extremely effective at preventing pregnancies for 3-10 years [2]. In addition, the post-coital insertion of the Copper-T IUD is the most effective method of emergency contraception (EC) [3-5]. Insertion of the IUD within 7 days of unprotected or under-protected sexual intercourse represents an important option for women who not only want to prevent pregnancy after a specific event but also desire highly effective, ongoing contraception [5,6].

In Canada, the IUD remains underused for both contraceptive and EC purposes [7,8]. A number of factors likely influence this dynamic, including lack of awareness and misinformation about the device, the up-front costs associated with insertion, and the limited availability of heath care professionals trained in insertion and removal. Indeed, a study conducted in Ontario found that a limited number of family medicine residents felt adequately prepared to perform an IUD insertion [9]. Although overarching trends suggest that the use of the IUD, in general, is increasing, use of the IUD as EC is minimal [4].

Progestin-only emergency contraceptive pills (ECPs) have long been available in Canada and are the most widely used method of post-coital pregnancy prevention [10]. In Ontario, progestin-only ECPs (commonly referred to by the brand name Plan B®) have been available directly from pharmacies for more than a decade [11]. However, a number of studies suggest that there are barriers to "real world" access [12-14]. Further, some evidence suggests that progestin-only ECPs may be less effective when used by women weighing 165 pounds or more [15].

Consequently, health professionals have repeatedly identified developing mechanisms to increase access to the IUD as EC as a priority. Currently, there are four brands of IUDs that can be used for EC, Flexi-T®, Liberté UT®, Mona Lisa®, and Nova-T® [16]. In recent years, a team in British Columbia developed a pilot project to explore the possibility of implementing a timely referral program [17]. This program trained pharmacists to offer women seeking progestin-only ECPs the option of being referred for an IUD and created a network of area providers that would then be able to schedule an insertion within seven days [18]. Participating pharmacists and clinicians found the initiative acceptable and the program successfully improved the accessibility of IUDs for post-coital contraception [17].

To date no similar projects have been undertaken in Ontario. However, pharmacists play a critical role in EC service delivery in the province and as the most available, accessible, and approachable health care professionals they could play a central role in increasing timely access to the IUD as EC. Using a mixed-methods approach, we explored Ontario pharmacists' EC knowledge, attitudes, and provision practices; in a previous publication we presented the results related to progestin-only ECPs [19]. In this paper, we specifically focus on the findings related to the IUD as EC and explore pharmacists' opinions regarding a hypothetical "same day referral" program similar to that which was implemented in British Columbia.

METHODS

As we have detailed previously [19], our study comprised two components—a mailed survey to a representative sample of retail pharmacists in Ontario and in-depth interviews with a sub-set of survey respondents. We received ethics approval from the Research Ethics Boards at the University of Ottawa to conduct this study (File#H03-14-20 and File#02-15-12).

Component I: Mailed survey

Based on a questionnaire developed by Dunn and colleagues [10], we developed a 56-item survey to explore Ontario pharmacists' EC knowledge, attitudes, and provision practices. Our survey included five primary sections: 1) demographic questions about the respondent and the pharmacy; 2) knowledge of different modalities of EC; 3) EC provision practices; 4) attitudes toward EC and patients seeking EC; and 5) a free space for additional comments. Six questions specifically focused on the IUD as EC. We piloted the survey instrument, in both English and French, with 13 pharmacists in the greater Ottawa region and integrated feedback into the final instrument.

We used the Ontario College of Pharmacists (OCP) database to identify our sample of retail pharmacies. Using a stratified random selection process, we selected 1,428 pharmacies—or roughly one third of retail pharmacies in the province for inclusion; we intentionally oversampled independent pharmacies and pharmacies located in rural and Franco-Ontarian communities in order to capture a range of perspectives and experiences. We invited the head pharmacist—or the best-po-

sitioned person at the pharmacy—to complete the survey. We fielded our four-contact survey over a four-month period (June 2015-September 2015). We initiated the study by mailing a full bilingual survey package including the instruction letter, survey instrument, stamped return envelope, and lottery and key informant interview response card to pharmacies in our sample. We used unique identifiers to track respondents and sent a reminder postcard, a second survey package, and a final postcard reminder to non-respondents at 2-4 week intervals. After accounting for incorrect addresses and returns, we ultimately contacted 1,396 pharmacies. We included all surveys received before the end of the 2015 calendar year in our analysis.

Component II: In-depth interviews

We invited all survey respondents to participate in a follow-up in-depth interview (IDI). AC, who at the time was a master's student in the Interdisciplinary Health Sciences program at the University of Ottawa, conducted all telephone/Skype interviews in English or French after being trained by her thesis supervisor (AMF), a medical doctor and medical anthropologist. The semi-structured interview guide comprised a series of questions related to initiatives to improve and expand evidence-based EC service delivery practices. We presented participants with information about a hypothetical "same day referral" program, modelled after the BC initiative, and asked interviewees about their interest in the program and to comment on perceived facilitators and barriers to establishing a program in Ontario. The IDIs averaged 35 minutes and occurred between July and October 2015; with the permission of interviewees, we audio-recorded and later transcribed all interviews. In addition AC took intensive notes during the interview and formally memoed shortly after. As a small token of our appreciation, we gave all participants a CAD20 gift certificate to Amazon.ca.

DATA ANALYSIS

We entered survey data into FluidSurveys and later exported the information to IBM Statistics SPSS 23.0. We analyzed the demographic, knowledge, and attitudinal data using descriptive statistics and performed cross tabulations to explore differences in knowledge and attitudes by region and rural/urban location. We used ATLAS.ti to manage the IDI notes, memos, and transcripts. AC developed an initial codebook based on the interview guide and added and defined new codes that emerged from the data. AMF reviewed the codebook and a sample of coded transcripts, and discussed the findings regularly with AC. We analyzed the two project components separately and in the final phase reviewed both components for concordance and discordance. We have removed or masked all identifying information of both participants and their pharmacies.

RESULTS

Description of survey participants

Of 1,396 pharmacies in Ontario that we contacted, representative from 198 returned the questionnaire, for a response rate of 14.2%. Close to two thirds of respondent pharmacies (65%) were located in an urban area of Ontario. Respondents reported that all pharmacies were open weekdays, almost all (95%) on Saturdays, and the overwhelming majority (82%) on Sundays. One out of 10 pharmacies was located more than a 15 minute drive from another pharmacy. We present demographic information about the pharmacies of our survey respondents in Table 1.

Survey participants' knowledge of and attitudes toward the IUD as EC

Results from surveys indicate that pharmacists' knowledge of the IUD as EC is limited. Survey respondents incorrectly responded to the recommended timeframe for the post-coital insertion of the IUD, as well as the number of years for which the IUD could provide ongoing contraceptive benefit. Indeed, only 36% (n= 69) knew that the IUD could be used for up to 10 years. Our respondents correctly reported a Copper allergy as a contraindication to use (75%) but also incorrectly reported other contraindications, including history of ectopic pregnancy (45%). A significant minority (22%) incorrectly reported that use of the IUD increases the risk of ectopic pregnancy. Pharmacy representatives generally underestimated the efficacy of the IUD for both post-coital and ongoing pregnancy prevention; only 40% knew that the Copper IUD is the most effective EC modality. Finally, 14% of respondents (n=28) indicated that they lacked knowledge of the IUD as EC entirely. We detail these results in Table 2. Finally, survey participants expressed considerable interest in continuing education dedicated to EC (n=166, 86%) and nearly two thirds (n=122, 64%) reported that they would participate in a project dedicated to post-coital IUD referrals (data not shown).

Description of in-depth interview participants and their pharmacies

We conducted 17 IDIs with Ontario pharmacists, 15 in English and two in French. The majority of our participants were women, worked in urban areas, and had been practicing for

Table 1. Characteristics of the pharmacies reported on by survey respondents (N=198)*

Characteristic	n	%
Type of pharmacy (n=197**)†		
Independent	77	39
Chain	60	31
Banner	51	26
Region of the pharmacy (n=195)		
South	91	47
Central	41	21
East	34	17
North	29	15
Location of pharmacy (n=197)		
Urban	128	65
Rural	69	35
Other pharmacy located within a 15 minutes' drive (n=198)		
Yes	180	91
No	18	9
Store Hours (n=198)		
Weekdays	198	100
Saturdays	189	96
Sundays	163	82

*We have presented information contained in this table in a previous publication [19].
**The overall number of respondents was 198; however, the number provided denotes how many respondents answered that particular question.
†These questions included an "other" response that allowed participants to write-in information. We have not presented those results in **Table 1**.

Table 2. Survey respondents' knowledge of the IUD as EC (N=198)*

Knowledge statement	Number and percentage of correct answers	
	n	%
The IUD is the most effective modality of emergency contraception (n=188*) [Correct answer: Yes]	78	42
IUDs increase the risk of ectopic pregnancy (n=186) [Correct answer: No]	40	22
Both the Copper-T IUD and the levonorgestrel-releasing IUD (the Mirena®) can be used as EC (n=186) [Correct answer: No]	100	54
In Ontario, the Copper-T IUD must be inserted by a physician (n=189) [Correct answer: Yes]	149	79

*We provide the number of responses to each question in parentheses and the correct answer to each knowledge statement in brackets.

Table 3. Demographic information of IDI participants (N=17)

Characteristic	n (%)
Gender	
Female	12 (71)
Male	5 (39)
Number of years working in a pharmacy	
<2	2 (12)
2–5	8 (47)
6–10	6 (35)
>10	1 (6)
Location of current pharmacy	
Urban	11 (65)
Rural	6 (35)

2-10 years. We present basic demographic information in Table 3. Seven pharmacists in the interview component of the study reported that they currently had a Copper-T IUD in stock; seven additional pharmacists reported that they did not have any type of IUD in stock but would order one on request.

Interviewees evinced limited knowledge of the IUD as EC

Consistent with the findings from the survey, our interviewees were interested in the IUD as EC but generally lacked knowledge about this modality of post-coital contraception. Nine pharmacists were able to provide some information about the provision of an IUD as EC but had incomplete knowledge regarding the timeframe for use or the type of IUD that could be used. These pharmacists explained that they gained this knowledge on the job. As Pharmacist #8 commented, "I think that we did not cover this at all in school. As a recent grad, I remember exactly what happened. And we did not cover using IUDs as [emergency contraception]."

Participants were generally positive about the prospect of a "same day referral" program

Only one pharmacist in the interview component of the study had heard of efforts to provide "same day referrals." However, once we described a hypothetical initiative, participants responded positively. Pharmacists indicated the need for introducing and promoting more effective EC methods in the province, efforts that could be supported with the introduction of a referral system. As Pharmacist #11 asserted, "Yes, like it is definitely an option for people to consider…probably have a higher chance of preventing pregnancy…a prime over Plan B®." Several interviewees also noted the advantages of having an automatic bridge to an ongoing contraceptive that is more effective than daily oral contraceptive pills.

All of our interviewees expressed the view that community pharmacists are accessible health service professionals and excellent resources for patients seeking information and advice. Participants practicing in smaller communities and rural areas noted that sometimes pharmacists in these settings are the only accessible provider. As a consequence, interviewees felt that pharmacists, once trained and informed, were well positioned to participate in a referral program and facilitate increased access to timely IUD insertion by working with clinics and physicians.

Perceived facilitators and barriers to same day referrals

Interviewees believed that pharmacists have the appropriate skills, in general, to participate in a "same day referral" program. A number of participants specifically mentioned that pharmacists already serve as trained and autonomous health service professionals and are well-positioned to initiate discussions, counsel patients, and ultimately make referrals. As explained by Pharmacist #7, "That sort of thing, [that] is a huge role for pharmacists that we already do. We have the knowledge and we have the expertise to be able to educate people about [the IUD as EC]…and we are accessible and have the resources." Interviewees view pharmacists as having key responsibilities in educating, counseling, and screening potential patients; some interviewees also noted that pharmacists could play an important role in following-up with the patient once the IUD was inserted.

However, our interviewees also perceived that there would be a number of barriers to implementing an initiative in Ontario. Our interviewees noted that for a program to be effective, raising awareness of the initiative, among pharmacists and physicians, would be required and appropriate screening tools and continuing education resources would need to be developed. Pharmacists suggested that an educational letter in the monthly Canadian Pharmacist's Letter could be an important initial step. However, pharmacists also expressed concern that the lack of qualified personnel to perform the insertion—and to do so in a timely way—would be a barrier to implementation; this issue was especially salient for our rural participants. Interviewees also felt that the considerable lack of awareness about the IUD, in general, and the IUD as EC, in particular, among women in the general population, as well as the high up-front costs as-

sociated with IUD insertion, would constitute significant barriers.

DISCUSSION

Expanding access to emergency contraception in Canada has long been identified as a priority among reproductive health and rights stakeholders [8,11,20]. Further, in recent years there has been a plethora of efforts in North America to expand access to long-acting, reversible contraception [21-23]. Misinformation among providers, a dearth of trained providers, high up-front costs, and lack of awareness among women have limited the availability and accessibility of IUDs, both as ongoing methods of contraception and as EC [24-26]. Yet research also suggests that when women are informed about the IUD as EC, demand increases [27].

Our findings suggest that creation of a "same day referral" initiative in Ontario could be a viable first step in expanding access to more effective modalities of EC. Although pharmacists in both components of our study had relatively limited knowledge of the IUD as EC, a finding that is consistent with other studies of health professionals in North America [25], our participants expressed considerable interest in participating in such an initiative. Importantly, pharmacists saw themselves as being well-positioned to offer these types of referrals and identified that this type of program would meet a demonstrable need. Although content-specific information would need to be developed to ensure that pharmacists provided women with accurate information, pharmacists in our study feel confident in their ability to leverage their overarching skills in educating, counseling, and referring patients. Creating a pilot initiative modelled after the BC initiative as a proof of concept appears warranted.

However, even in the absence of a dedicated "same day referral" program, our findings suggest that developing continuing education resources and training modules for pharmacists would be well received. Our survey participants indicated considerable enthusiasm for participating in such efforts and our interviewees further elaborated on potential avenues for disseminating information. Our interviewees, even those who had recently completed their training, indicated that coverage of EC in pharmacy education is lacking. Further research could be conducted to assess the coverage of EC in pharmacy training programs and explore ways of strengthening this area of the curriculum, if needed.

Our study has a number of limitations. First, our survey response rate of 14.2% is low and thus our results should be viewed as exploratory. Second, although we administered the survey in both French and English and oversampled pharmacies in Franco-Ontarian communities, we had very few participants in both components who were based in language-minority areas. Future research would benefit from inclusion of these perspectives. Finally, reproductive health is an evolving field. We completed our data collection in the fall of 2015; efforts undertaken in the last 15 months would therefore not be captured in our study.

Despite these limitations, our study offers insights into the knowledge, attitudes, and practices of Ontario pharmacists toward the IUD as EC and points to several avenues for improving access to a full range of contraceptive services. The enthusiasm among pharmacists for the development of a "same day referral" program is encouraging and the facilitators and barriers identified by our interviewees could inform this type of effort. Engaging with a range of stakeholders to build upon these results and explore creative educational, training, and service delivery initiatives appears warranted.

ACKNOWLEDGEMENTS

Andréanne Chaumont received a Queen Elizabeth II Graduate Scholarship in Science and Technology and several grants from the University of Ottawa to support this project. Dr. Foster's 2011-2016 Endowed Chair in Women's Health Research was funded by the Ontario Ministry of Health and Long-Term Care and the funding attached to her Chair covered the costs associated with this study. We are also grateful to the Society of Family Planning for its support of Dr. Foster's mentorship activities. We would like to thank Drs. Raywat Deonandan and Karen Phillips for their feedback during various phases of this project and Dr. Sheila Dunn for providing us with her survey instrument. We are also grateful to the team of volunteers for their efforts. The conclusions and opinions expressed in this article are those of the authors and do not necessarily represent the views of the organizations with which the authors are affiliated or the funders.

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