Exploring women's experiences obtaining medication abortion outside of the formal healthcare system

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Abstract

Despite legal and technological advances, women still face barriers to abortion care in legally restricted or low-resource settings. The advent of medication abortion using misoprostol with or without mifepristone, has enabled women to self-manage their abortions outside of the formal healthcare system. Self-managed abortions are often assisted by telemedicine services, which provide women with evidence-based guidance on managing the abortion process on their own. This thesis explores two separate abortion telemedicine services operating in legally restricted and/or low resource settings – a global online telemedicine service and an abortion support hotline in Venezuela – and evaluates the outcomes associated with each. By interviewing counsellors at a Venezuelan abortion support hotline and the women who used the service, we gained a stronger understanding of the hotline's successes, barriers, and areas for improvement. We conclude that abortion telemedicine services provide effective and acceptable care, in general, and we recommend greater access to misoprostol in Venezuela.

Malgré les progrès juridiques et technologiques, les femmes se heurtent toujours à des obstacles pour accéder aux soins liés à l'avortement dans des contextes où la législation est restreinte ou les ressources sont faibles. L'avènement de l'avortement médicamenteux utilisant le misoprostol avec ou sans mifépristone a permis aux femmes de gérer elles-mêmes leur avortement en dehors du système de santé officiel. Les avortements autogérés sont souvent assistés par des services de télémédecine, qui fournissent aux femmes des conseils fondés sur des preuves pour gérer elles-mêmes le processus d'avortement. Cette thèse explore deux services distincts de télémédecine pour l'avortement opérant dans des contextes légalement restreints et/ou à faibles ressources - un service mondial de télémédecine en ligne et une ligne d'assistance téléphonique pour l'avortement au Venezuela - et évalue les résultats associés à chacun. En interrogeant les conseillers d'une ligne téléphonique vénézuélienne d'aide à l'avortement et les femmes qui ont utilisé ce service, nous avons pu mieux comprendre les succès, les obstacles et les points à améliorer de cette ligne. Nous concluons que les services de télémédecine de l'avortement fournissent des soins efficaces et acceptables, en général, et nous recommandons un plus grand accès au misoprostol au Venezuela.

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The opportunity to conduct this project has enabled me to become a champion for women's sexual and reproductive rights. Having witnessed at a young age how the anti-abortion discourse affects women, I knew that I wanted to learn more about the topic and advocate for its equitable access. I have not only grown professionally, but also personally through this opportunity that has also refined my ability to think critically about the intersectional issues that impact women's health. I will use my voice to continue empowering women to take charge of their reproductive autonomy.

ABORTION RIGHTS ARE HUMAN RIGHTS

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Abbreviations and acronyms

CBO	Community-based organization
EML	Essential Medicines List
FALDAS-R	Feminists in Free and Direct Action for Sexual and Reproductive Autonomy (Feministas en Acción Libre y Directa por la Autonomía Sexual y Reproductiva)
FDA	The United States Food and Drug Administration
GBV	Gender-based violence
IDI	In-depth interview
IPPF	International Planned Parenthood Federation
IUD	Intrauterine device
LMP	Last menstrual period
MMR	Maternal mortality ratio
NGO	Non-governmental organization
NSAIDs	Non-steroidal inflammatory drugs
OCPs	Oral contraceptive pills
PAC	Post-abortion care
PAR	Participatory action research
PI	Principal investigator
PLAFAM	Civil Association for Family Planning (Asociación Civil de Planificación Familiar)
REB	Research ethics board
SRH	Sexual and reproductive health
TOP	Termination of pregnancy
UN	United Nations
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
WHO	World Health Organization
WHW	Women Help Women

Chapter 1: Introduction

1.1 Background

1.1.1 Medication abortion

Medication abortion, commonly referred to as “medical abortion” or “abortion with pills,” signifies the use of misoprostol, with or without mifepristone, for termination of a pregnancy (Moseson et al., 2020; Zamberlin et al., 2012). Mifepristone, also known as the abortion pill, or RU-486, is an anti-progestin that blocks the action of the hormone progesterone, which is necessary to maintain a pregnancy (Zamberlin et al., 2012). It acts on the uterus of a pregnant person to induce decidual necrosis, cervical softening, and increased uterine contractility and prostaglandin sensitivity (“Practice Bulletin No. 143,” 2014). Misoprostol is an inexpensive prostaglandin E_1 analogue in a tablet form that causes the cervix to soften and uterus to contract in order to expel the products of conception (Baird, 2000; “Practice Bulletin No. 143,” 2014). First trimester medication abortion with mifepristone-misoprostol is a highly safe and effective procedure, with an efficacy of 95-99% when taken at up to 9 weeks’ gestation (Blumenthal et al., 2009; Chen & Creinin, 2015). Furthermore, evidence shows that serious complications occur in fewer than 0.4% of cases (Cleland et al., 2013; E. G. Raymond et al., 2013). The United States Food and Drug Administration (FDA) first approved mifepristone in 2000, and in 2016 the US FDA approved a new evidence-based regimen and drug label, extending the gestational age limit for mifepristone/misoprostol to 10 weeks (70 days) from the first day of the last menstrual period (LMP) (FDA, 2019).

The evidence-based regimen for medication abortion is 200 mg mifepristone administered orally, followed by 800 mcg of misoprostol administered buccally, sublingually, or vaginally 24-48 hours later up to 70 days (10 weeks) LMP (FDA, 2019). The combined regimen does not

require anesthesia or a hospital setting, thus increasing access to safe abortion care when aspiration abortion is unsafe or unavailable (Blumenthal et al., 2009). The combined regimen has also been found to decrease mortality and morbidity (Harper et al., 2007). The World Health Organization (WHO) added mifepristone to its Essentials Medicines List (EML) for early induced abortion where the law permits and where culturally acceptable (WHO, 2017). Misoprostol is included on the WHO's EML for its use with mifepristone for early pregnancy termination, post-partum hemorrhage prevention and treatment, and miscarriage management (including post-abortion care). The effects of medication abortion – which include uterine cramping and prolonged bleeding – are similar to those associated with spontaneous abortion (Foster, A.M., 2005). Common side effects include nausea, vomiting, and diarrhea (Foster, A.M., 2005.)

Although both drugs are on WHO's Essential Medicines List, mifepristone is only approved and available in about 62 countries worldwide (Gynuity Health Projects, 2020). The majority of these countries are middle or high-income countries, leaving a gap in low-income countries where there is a higher likelihood of unsafe abortion procedures. Conversely, misoprostol is approved in more than 120 countries worldwide (Gynuity, 2017).

Misoprostol, commonly known by its brand name Cytotec, was originally marketed as an oral preparation used to prevent and treat gastroduodenal damage induced by nonsteroidal anti-inflammatory drugs (NSAIDs) (Tang et al., 2013). It is commonly used alone for safe and effective early pregnancy termination in settings where mifepristone is unavailable or unaffordable (Harper et al., 2007). The overall efficacy of the misoprostol-only protocol is 75-90% for up to 63 days (9 weeks) gestation when three doses of 800 mcg is administered buccally, vaginally or sublingually at intervals of at least three hours (Raymond et al., 2019).

To rule out the risks associated with an ectopic pregnancy, prior evidence-based regimens stipulated that the gestational sac should be confirmed by clinical evaluation or ultrasound before medication abortion is performed. However, research abounds that these tests are unnecessary for safe and effective medication abortion (Harper et al., 2002; Kapp et al., 2017; Raymond et al., 2019, 2020). Another emerging body of literature shows high efficacy (98%) of very early medication abortion performed as early as 1 day after a missed menstrual period or as soon as pregnancy is confirmed (without prior ultrasound) (Raymond et al., 2019; Raymond & Bracken, 2015).

The acceptability of medication abortion among women seeking abortions is high, regardless of the setting or regimen used (Winikoff & Sheldon, 2012). High levels of satisfaction with medication abortion have been documented due to increased privacy and autonomy, and the less invasive nature of the procedure when compared with surgical alternatives (Foster et al., 2017). Medication abortion methods have been shown to decrease maternal mortality and improve the reproductive health of women living in settings with restrictive legal or cultural norms and few resources (Harper et al., 2007; Singh & Maddow-Zimet, 2016).

1.1.2 Abortion telemedicine services to facilitate self-managed abortion

Self-managed abortion

Self-managed abortion, which is also known as “self-sourced”, or “self-administered” abortion, can include a variety of methods to perform an abortion outside of a medical setting without formal clinical supervision (Wainwright et al., 2016) . According to Erdman (2018), “self-managed abortion refers to self-sourcing of abortion medicines (mifepristone and misoprostol, or misoprostol alone) followed by self-use of the medicines including self-management of the abortion process outside of a clinical context.” Self-managed abortion is not

restricted to any particular milieu — it has been observed in settings that are both legal and illegal, safe and unsafe, and where it is easily accessible or difficult to obtain (WHO. Preventing Unsafe Abortion, 2020).

Abortion telemedicine services

Across the world, telemedicine services are becoming an increasingly popular option for women seeking to end their pregnancies independently. This is particularly true in low-resource settings have outlawed abortion or made it difficult to obtain (Gomperts et al., 2008). According to the World Health Organization (2010), telemedicine is defined as the "delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries." Simply put, telemedicine is the use of electronic information and telecommunication technologies to provide a health service or consultation from a distance.

There are three specific telemedicine modalities used to convey information remotely:

1. Store and forward or "e-consults" (asychonronous): an online consultation in which patient information is sent to a specialist for interpretation. The specialist subsequently sends back diagnostic/treatment recommendations. Examples include secure text messaging or email, as well as the transfer of images, audio, or other multimedia files (Lee & Hitt, 2020; Weigel et al., 2019).
2. Real-time telemedicine (synchronous): encompasses real-time exchange of information between patients and health care providers. Examples include videoconferences, telephone calls, and online communications that are facilitated by specialized software applications (Lee & Hitt, 2020; Weigel et al., 2019).

3. Remote patient monitoring: the patient's home monitoring device sends data to a clinician for review. Remote patient monitoring can be used for patients with chronic diseases, such as hypertension or diabetes. Examples of this type of monitoring include vital signs or blood glucose levels, which are transmitted to a provider electronically (Lee & Hitt, 2020; Weigel et al., 2019).

As we move towards an increasingly digital world, telemedicine is becoming more prominent in medicine. There has been a notable interest and increase in use in telemedicine for reproductive and sexual healthcare delivery in recent years, including for prenatal care, contraceptive service delivery, testing and treatment of sexually transmitted infections, and medication abortion care (Lee & Hitt, 2020; Weigel et al., 2019).

Abortion telemedicine services can facilitate counselling and assessment, confidential and safe access to abortion medication, clinical guidance and emotional support throughout the process. Consistent with the WHO's guidelines for providing outpatient care, first trimester abortion care can be provided on an outpatient basis by a range of providers (World Health Organization, 2015). Women can take the medication without supervision and self-assess whether the abortion was successful (Gomperts et al., 2008; Wainwright et al., 2016).

Research consistently demonstrates that medication abortion facilitated through telemedicine is as safe and effective as in-person abortion care (Endler et al., 2019; Grossman et al., 2011; Grossman & Grindlay, 2017; Raymond et al., 2019). Given that access to abortion is inequitable in many settings due to geographical, financial, and legal barriers, abortion telemedicine services increases equitable access, and mitigates barriers, to care and reproductive autonomy (Upadhyay & Grossman, 2019; Whaley & Betstadt, 2016).

Telemedicine for abortion care is crucial in legally restricted settings and for rural and underserved communities in developing countries – populations that traditionally suffer from lack of access to health care (Erdman et al., 2018; Gomperts et al., 2008). Abortion telemedicine services improve health outcomes, improve quality of care through patient-centered care, increase educational opportunities for providers, and provide socioeconomic benefits to patients, providers and the healthcare system (Whaley & Betstadt, 2016).

A range of telemedicine modalities exist for medication abortion globally. In a direct-to-consumer model, women interact directly with providers online and the abortion medications are sent to women by mail or via prescription to an area pharmacy, rather than being obtained in a clinic (Raymond et al., 2016). Direct-to-consumer telemedicine abortion services are initiated by the patient, with the encounter likely initiated from the patient's home or a location of her choice (Lee & Hitt, 2020; Weigel et al., 2019).

One such provider of a direct-to-consumer abortion telemedicine service is Women Help Women. Women Help Women (https://womenhelp.org) is a global non-profit organization that provides telemedicine abortion services via the Internet and distributes the mifepristone and misoprostol regimen by mail. The user makes a request online and fills out a consultation form which contains questions on pregnancy duration, demographic characteristics, pregnancy history, contraceptive use, and any diseases, health conditions, or allergies. The consultation form is subsequently reviewed by a trained provider and if the user meets the medical screening criteria, a medication abortion package is mailed directly to the user. Support is provided during and after the abortion process online by a multilingual team, and women have the option to share their outcome or engage in a follow-up exchange over email.

Similarly, safe abortion hotlines have become crucial for women in restrictive cultural and legal settings who require information about safe medication abortion (Berer, 2020; Erdman et al., 2018). Safe abortion hotlines often fall outside of the formal healthcare system and in Latin America, Africa, Asia, and Europe are generally implemented by feminist activist groups (Berer, 2020; Drovetta, 2015; Zamberlin et al., 2012). This model provides free, safe, and scientific information about unwanted pregnancy, abortion and post-abortion care, as well as information on contraception, including emergency contraception via telephone, text messages or mobile applications such as Whatsapp (Drovetta, 2015; Gerdts & Hudaya, 2016). Using internet blogs, social media platforms, and word-of-mouth, these hotlines are widely publicized and designed to raise public awareness of safe abortion to facilitate its social and legal decriminalization, and to reach a geographically broad and socially diverse public with confidential, reliable and accurate information on the safe and effective self-use of available medication (usually misoprostol-alone). Consistent with other abortion telemedicine modalities, women can effectively self-manage their abortions safely under the guidance of abortion hotlines (Drovetta, 2015; Gerdts & Hudaya, 2016).

1.1.3 Abortion in Latin America and the Caribbean

Every year, there are roughly 121 million unintended pregnancies around the world; of these, 73.3 million (or 61%) end in induced abortions (safe and unsafe) (Bearak et al., 2020; Ganatra et al., 2017). Of these, approximately 25 million are "unsafe abortions," almost all of which take place in developing countries (WHO, 2017). The WHO defines an unsafe abortion as a "procedure for terminating an unintended/unwanted pregnancy either by individuals without the necessary skills or in an environment that does not conform to minimum medical standards,

or both." Conversely, a safe abortion is defined by WHO as one that is performed by a person with the necessary skills, using a WHO recommended method appropriate to the pregnancy duration. (WHO, 2017). Health complications arise when abortions are performed by unqualified practitioners that use dangerous methods, such as the insertion of foreign bodies (Paxman et al., 1993; WHO. Preventing Unsafe Abortion, 2020.). Similar problems occur when women who self-administer medication abortion do not have access to credible information, which can lead to short and long-term consequences, such as risk of incomplete abortion (including retained products of conception), ongoing pregnancy, hemorrhage, and absence of bleeding as a result of a missed ectopic pregnancy (Foster, A.M., 2005).

It has been observed that nations with conservative legal abortion laws have the highest rates of unsafe abortions and mortality due to abortion (Ganatra et al., 2017; Zamberlin et al., 2012). Abortion is legally restricted in most of Latin America and the Caribbean, where 75% of the estimated 6.5 million abortions performed annually are defined as unsafe (Guttmacher, 2016). Conversely, it is legal in Cuba, Guyana, Mexico City, Uruguay and as of December 2020, in Argentina. In the rest of Latin America and the Caribbean, the laws vary. In El Salvador, Honduras, Dominican Republic, and Nicaragua abortion is not permitted under any circumstances. The following countries in the region allow abortion almost exclusively to save the woman's life: Antigua and Barbuda, Brazil, Chile, Dominica, Guatemala, Panama, Paraguay, Venezuela). Some countries offer limited exceptions for rape (Brazil, Chile, Mexico and Panama) and grave fetal anomaly (Chile, Panama and almost half of the states of Mexico) (Guttmacher, 2018). In Colombia, abortion is legal only in cases of threat to a woman's life or physical/mental health, grave fetal anomaly, or rape or incest (Guttmacher, 2013). The variation in abortion laws across Latin America and the Caribbean mean that 97% of women of

reproductive age live in countries with restrictive abortion laws, which poses both a serious public health problem and a threat to their sexual and reproductive health rights (Guttmacher, 2018). Pervasive patriarchal influence perpetuates gender inequality in Latin America, which in turn results in high rates of unintended pregnancy and abortions (Kulczycki, 2011). In these settings, women experience limited autonomy over their sexual and reproductive health and have reduced access to education on family planning methods (Kulczycki, 2011).

Studies in Latin America indicate that the increase in self-use of misoprostol for medication abortion is related to a decrease in the serious complications, maternal mortality, and maternal morbidity associated with unsafe abortion (Gomperts et al., 2014; Gomperts et al., 2008). Misoprostol's off-label use for ending pregnancy became widely known in Brazil in the 1980s and then spread to other parts of Latin America in the 1990s (Winikoff & Sheldon, 2012). Over the past three decades, the growing use of misoprostol has substantially changed the practice of clandestine abortion in Latin America and the Caribbean (*Abortion in Latin America and the Caribbean*, 2016).

While misoprostol can be purchased with a prescription or on unregulated markets in Latin America, mifepristone is not approved for use and therefore unavailable in some countries (Zamberlin et al., 2012), with a few exceptions (Argentina, Chile, Colombia, Guyana, and Uruguay) (Gynuity, 2020). Further, inequalities in access to abortion care are pronounced in Latin America, where social class determines (and reduces) access to abortion services in private clinics, forcing some women to acquire misoprostol for exorbitantly high prices on the unregulated market (Zamberlin et al., 2012). Furthermore, abortion stigma is pervasive in Latin America and influenced by conservative Catholic and social norms that place a high value on motherhood (Kumar et al., 2009; Letourneau, 2016; Sorhaindo et al., 2014). This restrictive

setting serves as another barrier to accessing safe abortion in the region.

1.1.4 The situation in Venezuela

Since 2014, the women of Venezuela have seen a rapid decline in their economic, social, civil, political and cultural rights due to mismanagement of government funds, corruption, a collapse of oil prices, inflation and international sanctions (Albaladejo, 2018; Bahar, 2018). WHO (2002) defines a complex humanitarian emergency as a significant disruption in livelihoods and threats to life product of a combination of political instability, violence, social inequities, and underlying poverty that can also lead to large-scale displacement. Between 2018 and 2019, the country's socioeconomic, political and environmental crisis in Venezuela severely worsened, leading to a complex humanitarian emergency in the country and in neighbouring regions, particularly in Colombia (Human Rights Watch, 2019; UNHCR, 2019). As a result, more than 5.4 million Venezuelans have fled a country plagued by severe unemployment, hyperinflation levels reaching 283,000 percent, violent crime, a collapse in essential infrastructure (water, gas, fuel and transportation), as well as shortages of basic necessities like food, clean water, medication, basic medical supplies and education services (UNHCR, 2020).

The current deterioration of Venezuela's systems at all levels have also undone decades of progress in reducing infant mortality rates (García et al., 2019). In 2016, infant mortality in Venezuela reached 21 deaths per 1,000 live births, up from 15 deaths per 1000 live births in 2008 (García et al., 2019). This translates to a reversal of the infant mortality rates reported in 1999 (García et al., 2019). The newly reported infant mortality rates are well above the average 15 deaths per 1,000 live births in 2017 for Latin America and the Caribbean (García et al., 2019).

The dire humanitarian crisis and the resulting collapse of the healthcare system in Venezuela has disproportionately affected women's rights, imposing significant limitations on

the bodily autonomy of women and girls, due to their limited access to sexual and reproductive health care (Albaladejo, 2018; Turkewitz et al., 2021). The available data on health in Venezuela is extremely scant, and sexual and reproductive health data is particularly sparse. In 2016, the Pharmaceutical Federation of Venezuela reported contraceptive shortages of approximately 90%. Contraceptives are sold on unregulated markets (online and in-person) for ten times the average minimum monthly wage, with the recipients often defrauded by receiving illegitimate products (Albaladejo, 2018). The lack of access to all contraceptive types in the country has inevitably increased unwanted or unsustainable pregnancies in Venezuela (Albaladejo, 2018; Turkewitz et al., 2020; UNFPA, 2020). As a result, an increasing number of women are seeking sterilization and abortion to prevent and terminate their unwanted pregnancies (Albaladejo, 2018; Marillier & Squires, 2018).

Venezuela, a predominantly Catholic country, has among the most restrictive abortion laws in Latin America and the Caribbean. Abortion is illegal in Venezuela except to save the life of a pregnant woman. The Partial Reform Law of the Penal Code, dated October 20, 2000, states that: "abortion is legal only when the life of the mother is at risk. Participation in this medical act will be punished by imprisonment of six months to two years for the woman who causes the abortion" (Art. 432) and imprisonment for the person who performs the abortion (Art, 433). Doctors serve as the final authorities in instances where the woman's life is at risk. Women seeking abortions in Venezuela face high levels of stigma, dangers from unsafe abortion practices, obstetric violence, and the fear of legal prosecution.

The disparities in access to adequate care, contraception, skilled birth attendants, and medical supplies have led to increases in adolescent pregnancy, sexually transmitted infections, unsafe abortions, and maternal mortality (Albaladejo, 2018; Turkewitz et al., 2021). According

to the latest data published by Venezuela's public health authority, maternal mortality rates increased by 66% between 2015 and 2016 (MPPS, 2016). Women and girls in Venezuela are also facing rampant sexual and gender-based violence, exploitation, and trafficking, including pressure to exchange sex for food or protection (Human Rights Watch, 2019; UNHCR, 2019).

1.2 Rationale

Despite the strict abortion laws that persist in nations across the world, many women are undeterred from seeking abortion. It is critical to study their experiences with the self-management of medication abortion, especially when this process is facilitated by telemedicine services that fall outside of formal healthcare systems. This will help to improve abortion harm reduction methods and preserve women's reproductive autonomy. Given today's current climate and pandemic lockdown restrictions, it is critically important to reduce unnecessary barriers that inhibit access to safe and effective abortion care.

In 2018, Cambridge Reproductive Health Consultants received funding to conduct a scoping review on the safety and efficacy of medication abortion at 28-35 LMP. As part of this scoping review, my thesis supervisor asked me to lead the data analysis of unpublished records from a global online telemedicine service provider, Women Help Women, to examine outcomes for women who received mifepristone/misoprostol through the online telemedicine service before 35 days LMP. This analysis aimed to contribute to an emerging body of literature on the use of medication abortion in the earliest stages of pregnancy. To our knowledge, no other studies have examined self-management of a very early medication abortion as facilitated by a global online telemedicine service.

Although there is some research from Latin America which explores the use of information hotline services to increase access to safe abortion care (Drovetta, 2015), to our knowledge, the abortion experiences of women in Venezuela fare largely understudied. By seeking the perspectives of both providers of the abortion telemedicine service, as well as the users of the “Feminists in Free and Direct Action for Sexual and Reproductive Autonomy” (FALDAS-R) hotline in Venezuela, I present current evidence on the thoughts, perspectives and avenues for improving abortion care in this region. The findings herein will be used by abortion telemedicine service providers and advocacy organizations to identify potential avenues for improving access to abortion care in Venezuela in particular, and more broadly, in settings where in-person abortion care is not possible. Specifically, FALDAS-R, a Venezuelan safe abortion information hotline provider and feminist activist organization, Women Help Women, as well as other sexual and reproductive rights advocacy organizations will use the findings of this thesis.

Although much has been published about medication abortion, less attention has been paid to women’s experiences with telemedicine services in legally restricted settings and at very early stages of pregnancy. This thesis aims to fill this gap in knowledge. This thesis explores the experiences of women using telemedicine services to terminate their pregnancy using abortion medications from outside of the formal healthcare system. This study aims to contribute to the literature on the reproductive health of women in Venezuela in a time where the country is situated in a multi-dimensional crisis. Given the significance of medication abortion and telemedicine in reshaping the nature of abortion, it is crucial to have a deeper understanding of women’s experiences. This thesis offers a unique opportunity to explore women’s narratives and may prove useful for future service delivery improvements through a mixed-methods study.

1.3 Study objectives

The objective of my thesis is to understand the dynamics shaping medication abortion outside of the formal healthcare system. Through a three-part mixed-methods approach conducting a quantitative analysis of a global online abortion telemedicine's dataset of women who self-managed a very early medication abortion, key informant interviews and in-depth interviews with women who terminated a pregnancy using medication abortion in Venezuela, my thesis will address the following research questions:

1. What is the safety, efficacy, and acceptability of self-administration of very early medication abortion (less than 6 weeks gestation) in low-resource and/or legally restricted settings provided through the Women Help Women direct-to-consumer global online telemedicine service?;
2. What are women's experiences with self-management of medication abortion aided by a safe abortion information hotline in Venezuela?; and
3. What are key informants' experiences providing services to Venezuelan women? Our aim is to understand better the philosophical underpinnings of the program, the information, and services provided; and
4. How might telemedicine services be improved for women in Venezuela?

1.4 Thesis outline

This is a "thesis by articles" that consists of six chapters and explores two separate components: an assessment of the outcomes associated with a self-managed very early medication abortion provided through an online telemedicine service and a multi-methods qualitative study exploring women's experiences obtaining medication abortion with support from a hotline in Venezuela.

The first component of the thesis is as part of a project entitled, “How early can we use existing medication abortion methods? A scoping review.” The aims of this scoping review were to assess existing evidence regarding the efficacy and safety of medication abortion at days 28-35 LMP. The second component of the thesis consists of a multi-methods qualitative study exploring women’s experiences obtaining medication abortion with support for a safe information abortion hotline in Venezuela and perceptions of how the service and access can be improved. This thesis’ chapters are organized as follows:

1. Chapter 1 consists of a literature review regarding medication abortion, telemedicine services and self-managed abortion, abortion in Latin America and a closer look at the situation in Venezuela. This first chapter also discusses the rationale for this mixed-methods study, the specific aims and concludes with a thesis outline.
2. Chapter 2 presents the study methodology including data collection efforts for the Women Help Women telemedicine service dataset, the recruitment strategy for the in-depth and key informant interviews and analytical approach for both of the study components. The chapter concludes with ethical considerations and the theoretical framework on which this thesis is based.
3. Chapter 3 focuses on the first article formatted for the peer-review journal *Contraception*, based on the findings of the first component entitled: “Self-administration of very early medication abortion provided through a global online telemedicine service”. This article describes the outcomes associated with a self-managed very early medication abortion provided through the Women Help Women online telemedicine service.
4. Chapter 4 is related to the study’s second component. Chapter 4 is comprised of the first article formatted for the peer-review journal *Sexual and Reproductive Health Matters*,

entitled: “How a mobile phone hotline service is reducing barriers to self-managed abortions in Venezuela: a qualitative study”. It explores women’s experiences obtaining medication abortion with support from a hotline in Venezuela.

5. Chapter 5, formatted for the peer-review journal *Contraception*, is dedicated to the second academic article related to the second study component entitled: “Facilitating self-managed medication abortion in Venezuela through a mobile phone-based hotline: Results from a qualitative study with feminist activists” that summarizes the findings from the key informant interviews and focuses on how the telemedicine service could be improved.
6. Chapter 6 is the final chapter where I integrate the study findings from both projects, explore the implications of those findings and provide recommendations and next steps for improving the reproductive health outcomes and the provision of abortion telemedicine services in low resource and/or legally restricted settings. I conclude this chapter with a brief discussion of my positionality and reflexivity. The bibliography and appendices follow this chapter.

Chapter 2: Methods

We determined that a qualitative method would most effectively address our study aims to achieve a comprehensive understanding on the phenomenon of interest. Through this mixed-method study, we gained insight on self-managed medication abortion facilitated by telemedicine services. Prior to the data collection process, I conducted an extensive search of publicly available literature and data on abortion telemedicine services. The lack of data on self-managed very early medication abortion in general and abortion telemedicine services specifically in Venezuela validated the need to conduct a qualitative study to better understand women's and provider's experiences with regards to self-managed medication abortions assisted by telemedicine services. This fills a significant knowledge gap and informs policy and programming.

2.1 Data Collection

<u>Component 1:</u>

2.1.1 Women Help Women very early medication abortion dataset

We partnered with Women Help Women (WHW), a global online telemedicine service, to obtain internal consultation and evaluation records of women who contacted the service seeking medication abortion at 4-5 weeks gestation, received the mifepristone/misoprostol regimen from the service, and self-managed the abortion process. The dataset had been collected and stored by WHW, and we received their permission to use three-years' worth of data (2015-2018). Prior to receiving the medication abortion pills through the Women Help Women website, women must complete an online consultation form that contains 22 questions. The consultation

data we analyzed were the characteristics of women seeking very early abortion care, pregnancy duration, age, medical history, and circumstances of the pregnancy.

Once the telemedicine counsellors confirm that the woman has met the abortion criteria and that the medications were sent, WHW sends the woman an evaluation form. The follow-up indicators we analyzed included self-reported information on side-effects, outcomes, symptoms that led to seeking additional care, as well as women's satisfaction with medication abortion and the online service.

Component 2: Women's experiences with medication abortion in Venezuela

2.1.2 In-depth interviews with women who used the hotline service

As this study specifically focused on the experiences of women who consulted the FALDAS-R hotline to obtain information for self-management of medication abortion, we used purposive sampling techniques to recruit participants for in-depth interviews. According to Patton (2002 p. 230), "purposive sampling includes information-rich cases for in-depth study" on the phenomenon of interest.

I worked with FALDAS-R staff to contact women who had indicated willingness to be contacted again by the organization in the future. For those who had previously agreed to be contacted for follow-up by FALDAS-R, we orally provided information about the study, and for those who expressed interest in participating, we scheduled mutually convenient time for a Whatsapp or Skype interview. After obtaining oral informed consent, I asked participants a series of open-ended questions related to their experience with FALDAS-R safe abortion hotline service and having a medication abortion.

The interview guide comprised open-ended questions based on an extensive review of the literature and previous studies conducted by my supervisor, Dr. Angel M. Foster. The interviews included questions about patient demographics, living situation, and general sexual and reproductive health history. Next, the interview explored the circumstances surrounding the unintended pregnancy, the participant's decision to obtain an abortion and how she came to choose telemedicine services, the experience of self-managing the abortion process, including side effects and complications (if any), and her opinions about the overarching process. The interviews were structured so that participants could reflect on ways in which telemedicine services can be expanded or improved. In total, I conducted 12 semi-structured interviews with women who had used the service, and each interview lasted 60-90 minutes. All interviews took place between July and November 2019. We compensated participants with the equivalent of USD20 for their participation. With permission, I audio-recorded all interviews and took extensive notes throughout the 12 interviews conducted. I conducted 11 interviews in Spanish, and one in English.

Immediately following each interview, I uploaded audio-files to my personal, password protected laptop and wrote a reflective memo on the interview content and experience where I began identifying emergent themes. I used NVivo 12 to organize and manage the data.

2.1.3 Key informant interviews with hotline counsellors

Using a purposive and snowball recruitment strategy between April and May 2019, I interviewed 10 women (counselors, activists and administrators) who provide abortion information services through the FALDAS-R hotline. Our key informants were well-positioned

to provide insights on their service provision to Venezuelan women; from these interviews, we obtained to gain a deeper understanding of the program's philosophical underpinnings, as well as the information and services provided. We conducted the interviews in a semi-structured format and explored why those affiliated with FALDAS-R work in this field, how the safe abortion hotline service could be expanded or improved, accessibility of these services for women in Venezuela, and how abortion services, in general, could be improved in Venezuela.

The interviews lasted an average of 60 minutes and I conducted all of them in Spanish. With the consent of the participants, I audio-recorded all but one key informant interview and took notes during and memoed after each interview. We compensated key informants an equivalent of USD 20 for their participation in our study. I used NVivo 12 to organize and manage the data.

2.2 Data analysis

Component 1: WHW dataset

Using Microsoft Excel© to produce descriptive statistics, I analyzed characteristics of women seeking very early abortion care, their gestational age at time of consultation, their reported side effects, and outcomes collected over a three-and-a-half-year period (2015-2018). Using the data from consultation forms completed by 1,123 women and data from an evaluation survey completed by a subset of women, I also analyzed women's satisfaction with this service, reported side effects, and women's feelings towards the outcome of their abortion. My supervisor incorporated these findings into the final scoping review project.

Component 2: Venezuela study

The process of analyzing the in-depth and key informant interviews from the Venezuelan component of this thesis was iterative, such that it began during the data collection phase through the preliminary identification of themes and patterns. This process was facilitated by taking written notes and creating memos shortly after each interview was completed. The reflective memos included information on my personal thoughts, future directions, and the ways that my positionalities could be influencing the researcher-participant interactions and my interpretation of the findings. The memos also served as a tool to determine when thematic saturation had been reached. After conducting 10 in-depth interviews with women who used the service, we conducted two more to confirm thematic saturation, after which we stopped recruiting. I transcribed all interviews verbatim in Spanish and translated the interviews to English shortly thereafter. I transcribed the one English-language interview directly.

I analyzed the data for content and themes. I developed a code book with *a priori* codes derived from the research questions and interview guides and later added codes resulting from themes that emerged throughout the analytic process. I used NVivo 12 qualitative software to manage the data, which included transcripts, notes and memos.

2.3 Theoretical foundation

We used action-oriented research as the framework for study component 1, and participatory action research (PAR) to guide study component 2. Action-oriented research is a collaborative, applied research effort with the objective of generating data that can address and benefit practical concerns and eventually advance scientific knowledge (Small, 1995).

As part of study component 2, we used participatory action research to guide the project and engage research participants, which provided a meaningful opportunity for a mutually beneficial working relationship. According to Green and Thorogood (2018 p. 110), "participatory methods aim to redress the unequal power relationships inherent in research such that researchers share responsibility and knowledge with participants. Built on democratic principles, the intention is that communities will determine the research agenda, and participate in the process of research, action and development." As part of both research components explored in this thesis, I held community meetings with Women Help Women and FALDAS-R members to generate interest in the project, answer questions, define the research question and include community priorities in the research agenda. Our project was designed to empower participants, prioritize collaboration and capacity building through participation, acquire knowledge, and affect social change. As is characteristic of action research in general, our design embraced the planning, acting, observing, and reflecting cycle which was ongoing throughout the life of the project.

2.4 Ethical considerations

This study received approval from the Social Sciences and Humanities Research Ethics Board at the University of Ottawa (FILE #12-16-15). The letter of approval from the University of Ottawa REB can be found in Appendix A. During the interview process, I obtained oral consent in order to protect participants' confidentiality and ensure that participation is voluntary. Only the research team had access to recordings, interview notes and memos. We redacted all personally identifying information within this thesis and research articles. As we were discussing sensitive information, I emphasized to participants that they

could stop the interview at any time and could ask me to stop recording the interview at any time without penalty. Minimal risks were imposed on the participants, as interviews were voluntary and confidential.

Chapter 3: Article 1

I have drafted this manuscript as an original research article for submission to *Contraception*. The manuscript adheres to the structural, formatting, and length requirements of this peer-reviewed journal.

Self-administration of very early medication abortion provided through a global online telemedicine service

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Abstract

Objective: To assess the safety, efficacy, and acceptability of home administration of very early medication abortion (4-5 weeks gestation) in low-resource and/or legally restricted settings provided through the Women Help Women global online telemedicine service.

Study design: We used information collected from womxn (women, trans-men, and gender non-binary folx) who completed the Women Help Women online consultation and follow-up form between 2015 and 2018 to analyze demographics, gestational age, medication abortion outcome, satisfaction with online support and the service, and symptoms that led to seeking additional medical care.

Results: From March 2015 to June 2018, Women Help Women received 1,123 online consultation forms from womxn seeking medication abortion early in pregnancy. Sixty-four percent of respondents were 4 weeks pregnant and 35% were 5 weeks pregnant. Nearly half (n=501, 45%) completed a follow-up evaluation. Ninety-four percent of these women reported taking the medication abortion pills; 98% of these women reported the abortion was successful. Eleven percent (n=51) sought medical care following self-administration of the medication abortion pills. However, only 7% (n=33) required additional treatment. Eighty-two percent were satisfied with the medication abortion process and 85% were satisfied with the online support they received.

Conclusion: Home administration of very early medication abortion is safe, acceptable, and feasible in low resource and/or legally restricted settings.

Implications: This study confirms that womxn are able to successfully self-administer medication abortion provided through an Internet-based telemedicine service as soon as the diagnosis of early pregnancy is made.

Keywords: Medication abortion, telemedicine, global health, mifepristone, misoprostol, self-management, digital health

Self-administration of very early medication abortion provided through a global online telemedicine service

1. Introduction

Each year, 56 million induced abortions occur worldwide [1-2]. Of these, approximately 25 million are "unsafe", and almost all them take place in developing countries [3]. Increasing access to safe abortion care is an essential step in decreasing worldwide maternal morbidity and mortality and in improving the status of reproductive health care for women globally [1, 4]. One way of providing safe abortion services in legally restricted or low-resource settings is through the use of telemedicine services [5-6].

Telemedicine, which involves using information technology and telecommunication to provide a health assessment and treatment to patients remotely, has been used in many medical fields to improve access to care in low-resource settings [7,8]. Telemedicine services for abortion care provide counselling and assessment, access to medication abortion pills, and clinical guidance through the abortion process through the Internet, email communications and/or video conferencing without an in-person visit to an abortion provider [7-9]. According to World Health Organization (WHO) guidelines, many components of abortion care in the first trimester can be provided on an outpatient basis and by a range of providers; women can self-administer the abortion medication and self-evaluate the abortion completeness at home [7, 10].

Women Help Women (https://womenhelp.org) is a global activist non-profit organization that provides comprehensive Internet-based telemedicine abortion services with mifepristone and misoprostol in regions where abortion is restricted by laws, stigma, and/or lack of access [11]. Studies have shown that self-administration of medication abortion as provided by telemedicine

services has increased access to safe abortion care, decreased maternal mortality, and improved the reproductive health of women living under restrictive legal and cultural norms.

There is a wealth of evidence that supports the acceptability, efficacy and safety of medication abortion with 200 mg mifepristone followed by 800 mcg of misoprostol in early pregnancies up to 9 weeks from the first day of the last menstrual period (LMP) [12]. Less evidence exists for the safety and efficacy of medication abortion for pregnancy termination as early as the diagnosis of pregnancy is made or immediately after an anticipated or missed period [13,14]. It is common for women who opt for early termination of their pregnancy to be told to wait until the intrauterine gestational sac can be seen on ultrasound [13,14]. There is little available data regarding the effectiveness of medication abortion drugs in very early pregnancy [13]. Furthermore, little to no literature exists regarding self-administration of very early medication abortion provided through a non-profit telemedicine service. The aim of this study was to assess the safety, efficacy, and acceptability of self-administration of very early medication abortion (initial consultation at 35 days LMP or less) in low-resource settings provided through the Women Help Women direct-to-consumer global online telemedicine service.

2. Materials and Methods

This study analyzes data obtained from women who contacted the Women Help Women website from March 2015 to June 2018 seeking very early medication abortion (28-35 LMP) care and who performed a medication abortion through Women Help Women's telemedicine service. Information was collected from the initial web-based consultation form and the follow-up evaluation form.

2.1 Description of the telemedicine service

The initial consultation form contains 35 questions to determine the womxn's situation, their pregnancy duration based on their last menstrual period, their age, their country of residence, their contraceptive use, the method used to confirm the pregnancy, whether they have any diseases or allergies, and current use of medications to determine possible risk factors or contraindications. Contraindications include allergy to misoprostol or mifepristone, chronic adrenal or hepatic failure, hemorrhagic disorder or bleeding disorders, inherited porphyria, severe anemia, ectopic pregnancy, heart disease or cardiovascular problems, severe asthma or the presence of an intrauterine device in situ.

Using a direct-to-consumer telemedicine approach, the individual makes a request online and fills out a consultation form. A trained counsellor then reviews the medical information provided and determines whether the individual meets the required medical screening criteria. A team of physicians with extensive obstetrics, gynecology, and abortion provision experience reviews incoming online consultations and questions. If the individual does not report risk factors or contraindications to mifepristone/misoprostol, a package containing 1 tablet of 200 mg mifepristone and 4 tablets of 200 micrograms misoprostol is mailed directly to the individual; on average it takes less than a week from the initial consultation for the womxn to receive the medication abortion drugs. Womxn receive an email with information about the correct use of the abortion medications, including a description of the signs and symptoms that might indicate a complication for which they must seek medical care. Womxn with gestations of 9 weeks or less were advised to swallow 200 mg mifepristone, followed 24 hours later by sublingual administration of the 800 mcg of misoprostol. The online service is available 365 days a year by a multilingual team of counsellors and medical professionals.

Womxn received an electronic follow-up evaluation by email two weeks following the delivery of the medication abortion pills. The evaluation form included questions about whether the women used the medication, the procedure's outcomes, their satisfaction with the online service and the self-administration of the abortion medication, whether side effects were experienced, and symptoms were experienced that led them to seek medical care, and the medical treatment received.

2.2 Analysis plan

We worked with a de-identified dataset provided by Women Health Women. We analyzed the consultation and evaluation datasets using descriptive statistics in Microsoft Excel© 2016 including frequencies/percentages and means for characteristics of the study population and the outcomes of interest.

2.3 Ethics

This study received ethics approval from the University of Ottawa Research Ethics board. In the online consultation, womxn agree to the "terms of use" of the telemedicine service, which states that the data collected could be disclosed to third parties, such as doctors, pharmacists, and consultants of Women Help Women and that this data can be used anonymously for statistical analysis and publication.

3. Results

3.1 Consultation

From March 2015 to June 2018, the Women Help Women (WHW) received 1,123 consultation forms from womxn seeking abortion care early in their pregnancy (35 days LMP or less). The 1,123 womxn who completed the consultation form had a mean age of 28 years (range 9-49) and were from 16 countries and territories; the most common home countries for respondents were Brazil (43%, n=481), Ireland (31%, n=347), and Thailand (11%, n=121). Less than 10% of respondents were adolescents. All 1,123 womxn (100%) were sure they wanted to have a medication abortion to terminate the pregnancy. Womxn self-reported their gestational age: 724 (64%) were 4 weeks pregnant, and 399 (36%) were 5 weeks pregnant. Of the 1,123 women, 66% (n=745) were using some form of contraception in the month the pregnancy occurred and 34% (n= 378) were not using any form of contraception. The most frequently used forms of contraception were condoms (22%, n=243), combined oral contraceptive pills (14%, n=155), and withdrawal (12%, n=136). Of the 1,123 women, 98% (n=1,110) confirmed their pregnancy using one method (84%, n=934) or two or more methods (16%, n=176). The most commonly used method was a urine pregnancy test (84%, n=936), followed by a blood pregnancy test (26%, n=289) and ultrasound (7%, n=80). Table 1 presents demographic information and characteristics of women who completed the WHW online consultation form.

3.2 Follow-up

Of the 1,123 womxn who completed the consultation form, 501 (44%) completed the follow-up questionnaire after the delivery of the medication. The remaining 55% (n=622) were lost to follow-up. Of the 501 womxn who completed the follow-up form, 94% (n=473) reported using the medications, while 6% (n=28) indicated that they did not use the medications. The reported reasons for not taking the medication included experiencing a miscarriage (36%, n=10), deciding

to continue the pregnancy (18%, n=5), determining that they were not pregnant (14%, n=4), having an aspiration/surgical abortion (11%, n=3), performing a medication abortion with other medicines (11%, n=3), or having an ectopic pregnancy (7%, n=2).

3.2.1 Efficacy of very early medication abortion process provided through the WHW telemedicine service

Of the 473 womxn who reported taking the abortion medications, 98% (n=464) indicated that the abortion was successful. The three most common methods to confirm a successful abortion were by the disappearance of pregnancy symptoms (66% n=304), seeing the products of conception (40% n=185), and/or having a menstrual period following the abortion (21% n=97). Of the nine womxn who reported having an unsuccessful abortion, seven reported the method used to confirm the continued pregnancy as not experiencing bleeding (57% n=4), continuation of pregnancy symptoms (43% n=3), and/or taking a urine pregnancy test (29% n=2).

3.2.2 The abortion process and side effects

Womxn reported experiencing heavy bleeding (52% n=259), visualizing clots (61% n=304), cramping (55% n=276) and pain (46% n=232), all of which are hallmarks of the medication abortion process. Womxn were asked to rate the intensity of side effects. Womxn reported experiencing diarrhea (37% n=187), mild nausea (35%, n=175), chills (34% n=172), fever (29% n=143), and vomiting (22% n=110).

3.2.3. Safety of very early medication abortion provided through the WHW telemedicine service

Of the 473 womxn, 11% (n=51) sought medical care following self-administration of the medication abortion pills. However, only 7% (n=33) required additional treatment. Symptoms that led womxn to seeking additional medical care included excessive bleeding characterized by 4 maxi pads for more than 2 hours (47%, n=24), unbearable pain (22%, n=11), abnormal vaginal discharge (8%, n= 4), and/or fever (8%, n=4). Womxn were most commonly treated with antibiotics (60%, n=20) and/or curettage (46%, n=15).

3.2.4 Acceptability of the abortion telemedicine service

Womxn reported high acceptability with the Women Help Women abortion telemedicine service. Overall, the majority of womxn were satisfied with the online counselling support received (85%, n=428), the medication abortion process (82%, n=410), and the information and resources available on the Women Help Women website (86%, n=433). Additionally, 83% (n=417) would recommend website to a friend and 82% (n= 410) would recommend medication abortion to a friend who wanted to terminate an unwanted pregnancy.

Women Help Women requests a 75-euro donation from those obtaining medication abortion care through the service: 77% (n=385) of women were able to cover the cost, 11% (n=56) asked Women Help Women for help covering the cost of the donation, and 11% (n=53) had trouble finding money to cover the cost of the donation.

The majority of women heard about the Women Help Women abortion telemedicine website through a Google search (75%, n=373), friends (15%, n=75), a partner organization (5% n=24), social media (3% n=17), or on the news (1% n=6).

Discussion

This study suggests that self-administration of medication abortion when requested at less than 35 days gestation provided through a telemedicine service is safe, effective, and acceptable. The low incidence of medical treatment sought after administrating the medications suggests that failure rates are similar to those reported at 7 weeks gestation [12]. Moreover, this study contributes to a body of research that shows that use of ultrasound is not required to establish gestational age or pregnancy location. Eliminating routine sonograms has the potential to reduce barriers to access and improve timely access to care. Indeed, studies have shown that reducing wait times for an abortion benefits women physically, emotionally, and financially [6,7,15].

This study has several limitations. This study analyzed retrospective self-reported data; the study had no controls for inaccuracies in pregnancy duration and the potential for response bias. Additionally, over half of the women in this study did not provide any information regarding the outcome of the abortion. Lastly, the sample size could be biased to those who have better access to Internet, and thus is not representative of all women seeking abortions under 5 weeks gestation. However, our results echo other studies related to telemedicine that show that medication abortion care can be safely provided online [5,6,7,8].

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Table 1: Characteristics of womxn who completed the WHW online consultation form (N=1,123)

Demographic characteristic	***n (%)***
Mean age	**27.6**
Age	
<18	46 (4%)
18-24	336 (33%)
25-29	312 (28%)
30-35	227 (20%)
>35	172 (15%)
Weeks pregnant	
4 weeks	724 (64%)
5 weeks	399 (36%)
Confirmed pregnancy	
Yes	1,110 (99%)
Used one method	934 (84%)
Used two or more methods	176 (16%)
No	13 (1%)
Method to confirm pregnancy	
Urine pregnancy test	936 (84%)
Blood pregnancy test	289 (26%)
Ultrasound	80 (7%)
Contraceptive use in the month the pregnancy occurred	
Yes	745 (66%)
Condom	243 (22%)
Combined oral-contraceptive pills	378 (14%)
Withdrawal	136 (12%)
Emergency Contraception	121 (11%)
Rhythm	72 (6%)
Patch	5 (<1%)

Shot (Depo-Provera)	4 (<1%)
Ring	4 (<1%)
IUD	3 (<1%)
Implant	1 (<1%)
Other	1 (<1%)
No	378 (34%)
Country of residence	
Brazil	481 (43%)
Ireland	347 (31%)
Thailand	121 (11%)
Poland	103 (9%)
Great Britain – Northern Ireland	41 (4%)
Chile	11 (1%)
Korea	4 (<1%)
Malta	4 (<1%)
Japan	4 (<1%)
Italy	3 (<1%)
Ecuador	1 (<1%)
Iceland	1 (<1%)
Oman	1 (<1%)
The Isle of Man	1 (<1%)
Peru	1 (<1%)
Philippines	1 (<1%)

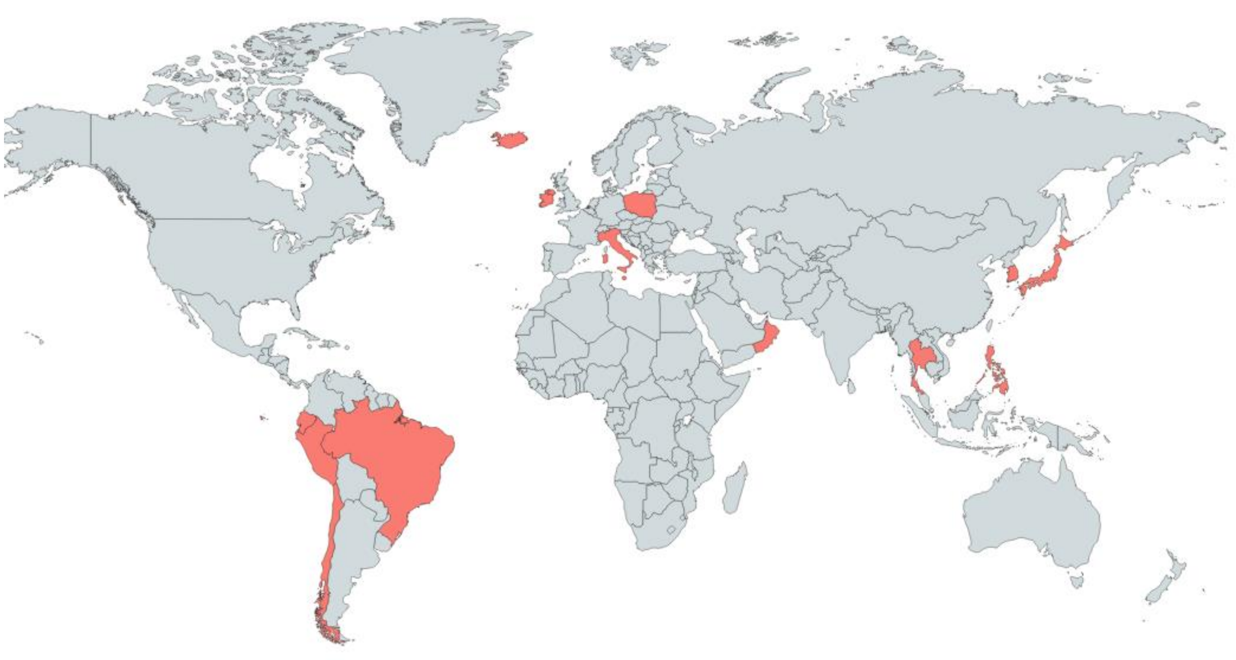

Figure 1: Country of residence of Women Help Women clients

Chapter 4: Article 2

I have drafted this manuscript as an original research article for submission to *Sexual and Reproductive Health Matters*. The manuscript adheres to the structural, formatting, and length requirements of this peer-reviewed journal.

How a mobile phone hotline service is reducing barriers to self-managed abortions in Venezuela: a qualitative study

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Abstract

Objectives
We aimed to document Venezuelan women's experiences with a safe abortion information hotline. Specifically, we aimed to understand better their preferences and experiences with self-managed medication abortion, the mechanisms through which women learned about the safe abortion hotline, and their reflections on the hotline's service.

Methods
In 2019, we conducted in-depth interviews with 12 people from across Venezuela who had used a safe abortion information hotline service to facilitate their self-managed medication abortion. We used NVivo 12 software to manage our data, which we analyzed for content and themes using deductive and inductive techniques.

Results
Participants were highly satisfied with this service delivery method and placed considerable value on the privacy and security afforded by the hotline, as well as the individualized care provided by the counsellors throughout the entire abortion process. Although the safe abortion information hotline provides information and support care, we found inconsistencies in women's acquisition of safe abortion medications in Venezuela, a dynamic that poses a barrier to successful abortion outcomes.

Conclusion
This study suggests that safe abortion information hotlines can serve a critical role in expanding access to safe abortion services for women living in legally restricted and/or low-resource circumstances. This service delivery model helps to reduce the harms from unsafe abortion and improve autonomy. Identifying ways for women to get access to quality verified medication abortion drugs appears warranted.

Keywords: Venezuela, Abortion, self-managed abortion, mHealth, Latin America, health service delivery, misoprostol, mifepristone, global health

1. Introduction

Venezuela, once Latin America's richest economy with the world's largest oil reserves, has been mired in a severe humanitarian crisis since 2014, forcing 5.4 million Venezuelans to flee the country (UNHCR, 2020). The humanitarian situation—characterized by its systemic violation of human rights and corruption—is the result of an economic and political crisis brought on by several factors: a crash in oil prices (which accounts for 95% of Venezuela's export earnings), US-imposed sanctions on the country's oil sector, strict currency controls, and hyperinflation (Albaladejo, 2018; Avenue et al., 2019; Fragile States Index, 2020). These factors have destroyed the production and importation of goods, resulting in widespread poverty, severe shortages of food, medicines, medical supplies, and other basic necessities (Albaladejo, 2018).

The destruction wrought by this crisis has extended to the Venezuela's federal institutions, and particularly its collapsed healthcare system (Albaladejo, 2018; Alexander, 2019). Notably, the effects of the crisis on sexual and reproductive health care are in a state of emergency (Turkewitz et al., 2020). Access to sexual health education, contraceptive services, and maternal and childcare has been severely affected. Many forms of contraception are impossible to obtain or prohibitively expensive: for example, a month's supply of oral contraceptive pills (OCPs) on the unregulated market can cost 14 times the minimum monthly income (Albaladejo, 2018)

Unsurprisingly, the unavailability of contraceptives has dramatically increased the number of unintended or unwanted pregnancies. Venezuela has one of the more restrictive abortion laws in Latin America: a woman who intentionally performs her own abortion or consents to its performance by another person can face up to two years imprisonment and the procedure is only

permissible if it is deemed to have been undertaken in order to save her life (Official Gazette of the Bolivarian Republic of Venezuela, 2000). As a result many women obtain clandestine abortions which are often unsafe and unregulated (Abortion in Latin America and the Caribbean, 2016; Abortion Worldwide 2017, 2018; Albaladejo, 2018); according to the latest available government data, Venezuela's maternal mortality rates increased by 65% between 2015 and 2016 (MPPS, 2016). The criminalization of abortion in Venezuela has also perpetuated an entrenched culture of stigma, discrimination, and prejudice against women who seek this service (Letourneau, 2016).

Medication abortion with mifepristone and misoprostol or with misoprostol-only create an avenue for reducing maternal mortality and morbidity, which is a global priority (World Health Organization, 2018). In Venezuela, women are self-managing medication abortions with the support of safe abortion hotlines (Drovetta, 2015, Faldasr, 2019, Dzuba et al., 2013). Existing literature indicates that safe abortion hotlines are a highly effective harm reduction strategy, as they can facilitate the effective self-management of medication abortion according to the woman's gestational age and help prevent abortion-related death and disability (Drovetta, 2015, Dzuba et al., 2013). Safe information abortion hotlines promote access to safe abortion care, offering women information and support by telephone on how to terminate a pregnancy using available medications. Safe abortion care guidelines published by the World Health Organization indicate that lay health workers can effectively facilitate women's self-management of medication abortion (World Health Organization, 2015).

In Venezuela, Feminists in Free and Direct Action for Safe Abortion in Revolution (FALDAS-R, or Feministas en Acción Libre y Directa por el Aborto Seguro en Revolución) is an advocacy organization established in 2011. FALDAS-R implements the Information Network for Safe Abortion Hotline, which provides women with abortion counselling, information on how to self-induce a medication abortion using misoprostol with or without mifepristone, and post-abortion care that is rooted in World Health Organization-published, evidence-based guidelines. The hotline provides safe abortion information through phone calls, SMS, audio messages, and WhatsApp. To minimize legal risks, the organization does not provide the medication(s). Thus women must self-source the medication abortion drugs.

To date, limited research exists on women's experiences in Venezuela with safe information abortion hotlines, the mechanisms through which women learn about the safe abortion hotline, and how women obtain abortion medications in Venezuela. This study aims to address an important gap in understanding women's self-sourced, self-managed medication abortion experiences and the role that a safe abortion hotline plays in facilitating that process in an environment with severe legal restrictions and an unstable economic and political backdrop.

2. Methods

Between July and November 2019, we conducted in-depth, semi-structured interviews with women who had used Venezuela's Information Network for Safe Abortion Hotline to self-manage a medication abortion.

2.1 Recruitment

A member of FALDAS-R conducted participant recruitment. Women who contacted FALDAS-R seeking abortion information and later completed an abortion were asked if they were interested in participating in this study. To be eligible, participants must have used the hotline to self-manage an abortion with the combined regimen of mifepristone and misoprostol or misoprostol-alone after January 2014; be sufficiently fluent in Spanish or English to answer interview questions; and have access to a telephone or Internet connection to speak with us over Skype or Whatsapp. After verifying their eligibility, LM contacted all women who expressed interest in participating in an interview through Skype or WhatsApp to schedule a mutually convenient time to talk.

2.2 Data collection

LM, a trilingual Venezuelan-Canadian master's student in the Interdisciplinary Health Sciences program at the University of Ottawa, led data collection. She received training from AMF, a medical anthropologist and medical doctor with over 20 years of experience conducting abortion-related research. LM conducted 12 semi-structured, in-depth interviews (11 interviews in Spanish and one in English) between July and November 2019. All interviews took place over the telephone (via Whatsapp) or Skype. We provided participants with an electronic version of the consent form and obtained oral consent to audio-record interviews, which lasted between 60 and 90 minutes. AMF provided guidance throughout the data collection phase. Because all of the participants self-identified as women, we refer to them as women throughout this manuscript.

LM followed an interview guide consisting of 24 open-ended questions, including suggestions for probing. The domains of inquiry focused on the participant's background and sources of

emotional and social support and her reproductive health history with a focus on contraception, pregnancy, and abortion. LM then inquired about the participant's abortion experience, beginning with an exploration of the unintended pregnancy, the abortion-decision making process, and the steps involved in locating a safe abortion hotline and the medication(s). We then discussed the details of the participant's abortion experience(s), including what it was like to get and take the medication, and their reflections on the overall process. We ended the interview by asking participants to describe their experiences using the FALDAS-R Hotline to guide them through the self-managed medication abortion process and sought their opinions on how the service could be improved in Venezuela.

LM took notes during the interviews and formally memoed immediately afterward regarding personal thoughts, future directions, and the ways her positionalities could be influencing the researcher-participant interaction. We gave all participants a USD 20 honorarium for their participation in our study.

2.3 Data analysis

All participants consented to audio-recording and LM transcribed the interviews and translated them to English (as necessary). We employed an iterative analytic approach and began data analysis during the data collection phase. We conducted interviews until we reached thematic saturation at which time, we stopped recruiting participants. LM served as the principal coder and created an initial codebook using *a priori* codes based on the study aims and interview guide. We then defined and added new codes as we progressed through the analytic process. We

used NVivo 12 to manage our data, which we analyzed for content and themes using deductive and inductive techniques.

2.4 Ethics

This study received approval from the University of Ottawa's Social Sciences Research Ethics Board. In this manuscript, we present key themes and use illustrative quotes to support our findings. Throughout this article, we have removed or masked all personally identifying information and assigned pseudonyms to participants.

3. Results

3.1 Participant characteristics

Our 12 participants came from the Capital District (n=7) and four Venezuelan states (n=5). Our participants discussed their medication abortion experiences with support from the FALDAS-R hotline that occurred between 2014 and 2019. Participants reported self-managing an abortion at between 5 and 12-weeks' gestation with either mifepristone and misoprostol or misoprostol-alone. Our participants ranged from age 19 to 32 at the time of their interview, with an average age of 25.3. The majority of participants were completing, or had completed, at least a bachelor's degree (See Table 1).

3.2 The outcomes of the self-managed abortion varied and depended on the protocol used

The Safe Abortion Hotline screens women for contraindications and asks women to confirm their gestational age through an ultrasound to determine whether they are a candidate for a medication abortion and to determine the appropriate misoprostol dosage. Nine participants

confirmed their pregnancy with one method (ultrasound, urine pregnancy test, or blood pregnancy test) while three used two or more methods.

The clinical outcome following the self-managed abortion varied among participants depending on where the medication(s) or information were obtained. For instance, one participant had an incomplete abortion after following an incorrect misoprostol-alone regimen, which she found on an abortion blog on the Internet. After contacting the Safe Abortion Hotline that provided her with information on the correct regimen, and obtaining additional doses of misoprostol, she was able to successfully complete the abortion. Another participant, who bought 12 "misoprostol" pills from a page on Facebook, stated that the procedure was not successful as she did not experience any of hallmark symptoms associated with a medication abortion. She then had to travel two hours out of state to obtain a surgical abortion (curettage). A third participant, who also bought 12 misoprostol pills after finding a seller on an Internet blog, had an incomplete abortion after following the correct regimen provided by the Safe Abortion Hotline. After seeking medical attention from two doctors, one of the doctors agreed perform an aspiration procedure without any anesthesia for USD100, draining both her and her partner's life savings. The aspiration abortion, although performed under unsanitary conditions and with nonsterile instruments, was successful.

Most participants (n=7) that had acquired the gold standard regimen of 200 mg mifepristone and 800 mcg misoprostol through an international non-governmental organization that provides safe access to medication abortion at a sliding fee scale, had successful abortions with no complications. The remaining two participants who purchased twelve 200 mcg tablets of

misoprostol on Twitter and Mercado Libre (Latin America's e-commerce giant), respectively, also had successful abortions after following the Safe Abortion Hotline's recommended protocol.

3.3 Women's decisions to have an abortion were tied to the political and economic situation in Venezuela

The most commonly cited reasons for wanting to terminate the pregnancy were the country's dire economic situation and the resulting financial hardship and lack of access to basic necessities, inadequate conditions in the country for raising children and because a pregnancy would interfere with their professional and academic development. Many participants described disparities in health care access due to the economic situation in Venezuela. Participants accessed sexual and reproductive health care services at public and private clinics and at the Civil Association of Family Planning (PLAFAM) – a non-governmental sexual and reproductive health provider. Participants described month-long wait times and shortages of medical supplies in public healthcare clinics, as well as prohibitive prices to access more adequate care at private sector clinics. To access PLAFAM, which provides sexual and reproductive health services at affordable prices, some participants described lining up as early as 5:00 am to be one of the 40 patients they serviced that day. Similarly, participants identified the economic situation as the reason they were unable to obtain contraceptives.

3.4 Accessing the medication abortion pills can be a complicated process

Upon learning they were pregnant, most participants conducted an Internet search on ways to obtain an abortion, often searching for "abortion in Venezuela" or "how to get an abortion" in an online search engine. These searches led them to the FALDAS-R Internet blog, which provided

information on how to self-manage a medication abortion, as well as the Safe Abortion Hotline number. Some participants learned about FALDAS-R through friends and family; in one case, a gynecologist provided a participant with the hotline number.

All participants described calling or texting FALDAS-R and receiving detailed, step-by-step information on the medication abortion process with misoprostol-alone, and/or a referral for mifepristone and misoprostol. This information included instructions on what to do in the days leading up to the procedure, the medication abortion procedure's intended effects, when to seek medical attention, and how to provide self-care during and after the abortion, including getting an ultrasound to confirm the abortion was successful.

In most cases, FALDAS referred participants to a non-governmental organization that provides safe access to mifepristone and misoprostol, as well as detailed information on the regimen. Participants that were able to obtain the medication through this global non-governmental organization described their experience acquiring it as "fast" and "efficient". They filled out an online consultation form, and if they met the requirements, they were asked to provide small contribution in the form of food or money in exchange for the medication. If this was not possible, the medication was provided for free. The medication was exchanged within a day to a week at a central location that was easily accessible by public transportation.

Participants who did not acquire the medications from the affiliated non-governmental organization described spending days, and sometimes weeks, searching for Cytotec (misoprostol) through unregulated market vendors on social media networks (Facebook, Instagram, Twitter),

or on the Internet, where the quality of the medication is not guaranteed. These participants described feeling “scared” and “paranoid” when locating vendors online due to fear of prosecution.

Participants also described how the misoprostol pills were being sold on the unregulated market at prohibitive prices in US dollars. This posed a substantial barrier to accessing the pills.

> Then we started searching all the social networks, Instagram, the Internet. We called a lot of people. A lot of sellers showed up. They were selling the pills in [US] dollars. We got thousands of prices. Sometimes, just one pill, just one was five dollars, this was a very expensive, expensive, expensive thing. There were super high prices. (Emilia, age 27)

Misoprostol pills on the unregulated market were often sold individually, with significant variations in price. Fernanda (age 19) paid USD154 for 12 pills: “Each tablet, each pill, cost me twelve dollars and since I needed twelve, it was [USD144].” Aracelis (age 19) paid USD72 for 12 misoprostol pills and said the purchase of these pills was “a very major [financial] blow for me”. Consistent with the opinions of other participants, Aracelis acknowledged that the cost of the misoprostol pills is inaccessible to most:

> This is mostly not talking about my experience, but I guess others… I was able to do this because I had $72 [US dollars] in my bank account to spare, that’s not something everyone here can say. I know that if I didn’t have that, I don’t know what I would’ve done. So normally nobody could afford the misoprostol, which should be a normal medication that you can find.

One participant who had located a vendor online and transferred funds, was defrauded:

> Uhh, I looked on the Internet. I found someone on Twitter. And I contacted her. I stopped paying the last installment of my university tuition fees so I could pay for the pills, in other words, they were very expensive, and I still bought them because I had already decided that was what I wanted and I had to do it quickly, so after that, that person never responded again, so, they scammed me, they never sent me the pills… never anything. They disappeared completely. They

> conned me. So, I was left without the pills and without paying for university and with a pregnancy I didn't want. (Alejandra, age 21)

3.5 The quality of information provided by the Safe Abortion Hotline influenced decision-making

Participants noted that while researching online for information on abortion, the FALDAS-R page provided the most comprehensive information on self-managed abortion, which led them to contact the hotline. One participant remarked that they appeared to be a "serious" organization.

> There were a lot of webpages, like of feminist support pages, among [them] was FALDAS-R, which was like the one that provided the most information and also had a phone number, which for me was very important, because I like the fact that I can talk more than have things explained to me.

Participants described that the procedure was explained in a clear, easy to understand format and the blog provided infographics on the misoprostol-only procedure.

> And then I started reading, and I saw that it [FALDAS-R] was a blog that explains [the medication abortion process] very well, it's very easy to understand.

Further, participants valued the delivery of information based on evidence-based methods:

> It gives you a lot, a lot of confidence, because all the information that is distributed through the hotline, is information from the World Health Organization. And every time it's supported by science and facts. And that's something that gives you a lot of confidence, knowing that you are talking to people who are handling safe information, who are not speculating and who really care about women's health.

The information provided participants with a sense of security and a way to dispel myths and misinformation they had been provided by health-care providers, friends, or online sources.

3.6 Interpersonal care provided by the Safe Abortion Hotline was a crucial part of participants' abortion experience

> [The support from FALDAS-R] was super reassuring. I was really feeling like I was the only person who was going through that and that it was all very wrong and that I was doing something wrong, and when I called FALDAS-R I was speaking to someone who, the first thing they said to me was not prejudiced, but supportive. So that calmed me a lot...like you're not alone and that message of not being alone was very important to me. For me it was very important, especially because of the support, that you're talking to someone who knows what you're going through. (Viviana, age 22)

Given Venezuela's deep-seated sociocultural taboos toward abortion, the majority of participants expressed their appreciation for the hotline's judgement-free interpersonal care, as this service delivery method provided them with a way to access information and counselling support in a private and safe manner, bypassing judgement from family, friends, and health-care providers.

> I felt like I was extremely supported. Besides, I understand that they are doing this…on their own, without charge, without any monetary interest. The response [from FALDAS-R] was immediate, it was quick. If they said, for example, "We will call you today at such a time", they followed through. They were totally responsible. They never judged me. They tried to give me all the instructions. Let's just say that they gave me as much time as I needed without any rush. (Emilia, age 27)

Participants consistently stated they trusted the information provided by the hotline and highly valued the real-time emotional support it provided. The counsellors created a safe space for open patient-counselor relationships, providing individualized evidence-based abortion information before, during, and after the abortion process including information on how to navigate the legal system. Participants valued that hotline counselors made themselves available to respond to any and all questions and concerns throughout the abortion process and stated that they never felt alone throughout an otherwise isolating experience.

> So, I called and through the hotline, I was given all the necessary information and in addition to the safe, reliable information, also a lot of support and what we could call emotional support. So that made everything a lot easier, because even though my partner and I were totally in agreement on this, on everything that was going to happen, we were also very nervous because you read a lot of things, you hear a lot of things and you get a lot of insecurities, a lot of doubts, a lot of fears. And the support of the hotline was fundamental in being able to carry out this process in the least traumatic way as possible, with company, with security. Sometimes it makes you feel that you are not lost. And, above all, you know that you can call at any time, at any time, and that they will be there, that they will answer your questions. And that is a fact. It is a fundamental fact in order to make the situation the least conflictive for yourself as possible. (Ana, age 28)

One participant, Aracelis, likened the hotline support to receiving advice from a friend: "They were very delicate with me and I felt like a friend was giving me the advice. It was really personal and really nice." Participants described being grateful for the hotline's services and reported that the hotline brought them "calmness" and "security".

3.7 *Participants were overwhelmingly satisfied with the FALDAS-R abortion hotline service*

Overall, almost all of the participants described being highly satisfied with the services provided by the hotline and that they "would, without a doubt, recommend the service to a friend". Participants stated that they felt "grateful" for having found the hotline. Participants noted that they were satisfied with being able to perform the medication abortion procedure in the comfort of their own home in a "private" and "less invasive" manner with the support of the hotline.

> Well, I feel very satisfied because one cannot imagine that here in Venezuela, where these types of procedures are illegal, there are these types of associations that make you feel calm, that make you feel that it is a safe procedure, that nothing is going to happen to you, that you are going to be fine. So, I really feel very satisfied because I feel that without them (FALDAS-R) I would have been left with what everything everybody told me…that I was going to die. So I am super satisfied and grateful really. (Fernanda, age 19)

4 Discussion

Women in Venezuela face substantial barriers to accessing medication abortion care. While the FALDAS-R Safe Abortion Hotline fills an important gap in providing information on how to self-manage a medication abortion, as well as vital emotional support throughout the process, widespread access to abortion medications remains a barrier to terminating an unwanted pregnancy in Venezuela. There is a wealth of evidence that indicates that women are able self-manage their abortions at home (Moseson et al., 2020; Swica et al., 2013; Grossman et al., 2011). However, as noted in our results, access to abortion medications is inconsistent. Ensuring a consistent supply chain of the gold standard regimen of mifepristone and misoprostol as well as misoprostol-alone through partnerships with non-governmental organizations, including humanitarian aid organizations already operating in Venezuela, is an essential first step toward streamlining the process for obtaining abortion medications and, as a consequence, improving health outcomes.

Safe abortion information hotlines are an innovation that improve women's abortion experiences. This service delivery method's effectiveness is more pronounced in legally restricted contexts, where women face prejudice, discrimination, obstetric maltreatment, and criminal prosecution for seeking abortions. Our study addresses women's preferences when self-managing a medication abortion, as well as how women self-source the abortion medications. As noted in our results, women overwhelmingly approved of this service delivery method and placed a high value on both the privacy and security of using the hotline, as well as the personal and individualized care provided by the counselors throughout the entire process. By leveraging already available mobile technologies and applications to reach women seeking abortion information, hotlines appear to have the potential to reduce barriers to care.

Additionally, our findings address a gap in the literature documenting client perceptions of the quality of interpersonal interactions around abortion care in low-income settings (Darney et al., 2018). Confidential and judgement-free care, coupled with the availability of hotline staff via texts, calls, and audio messages throughout the abortion process was consistently noted as an important factor in our participants' satisfaction with the medication abortion process.

4.1 Limitations

As this is a qualitative study with a relatively small sample size, it is not meant to be representative or generalizable. Rather, this study aimed to provide an in-depth exploration of participants' experiences, beliefs, and behaviors. As this study is based on self-reported data, recall bias could have introduced potential inaccuracies. Finally, LM's positionality as a Venezuelan-Canadian woman and her educational background influenced the researcher-participant encounter. We attempted to understand these influences through debriefings, team meetings and memoing, an approach that we believe enhanced the credibility and trustworthiness of the study. Further, this study focused on people who used misoprostol-only or mifepristone and misoprostol, and it does not capture the experience of those who wanted to have a medication abortion but were unable to surmount barriers to access. Future qualitative research would benefit from capturing the perspectives of these voices.

4.2 Conclusion

While there are no official statistics on the abortion rate in Venezuela, it is evident that women choose to terminate their pregnancies illegally and outside of the formal public or private

healthcare systems. This study suggests that safe abortion information hotlines are a critical care provider for women who are living in a legally restricted and low-resource environment and that these services reduce the risk of unsafe abortion and enhance autonomy. Establishing partnerships with NGOs to ensure the availability of high quality and affordable medication abortion pills is a critical next step in supporting the expansion of safe abortion care.

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Table 1: Demographic characteristics of in-depth interview participants at the time of interview (N=12)

Category		n (%)
Age	15-25	5 (42%)
	26-35	7 (58%)
	Mean Age	25
Marital status	Single	4 (33%)
	In a relationship	5 (42%)
	Married	2 (17%)
	Widowed	1 (8%)
Currently employed	**Yes**	**9 (75%)**
	Full time	1 (8%)
	Part time	8 (67%)
	No	**3 (25%)**
Education level	High school graduate	1 (8%)
	Current undergraduate university student	10 (83%)
	Post-graduate degree	1 (8%)
Residence (State in Venezuela)	Sucre	1 (8%)
	Mérida	1 (8%)
	Carabobo	2 (17%)
	Capital District	7 (58%)
	Miranda	1 (8%)

Figure 1. Misoprostol-only infographic courtesy of the FALDAS-R Information Network for Safe Abortion Hotline

Figure 2. FALDAS-R Information Network for Safe Abortion Hotline numbers

Chapter 5: Article 3

I have drafted this manuscript as an original research article for submission to *Contraception*. The manuscript adheres to the structural, formatting, and length requirements of this peer-reviewed journal.

Facilitating self-managed medication abortion in Venezuela through a mobile phone-based hotline: Results from a qualitative study with feminist activists

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Abstract

Objectives: FALDAS-R is a feminist advocacy organization operating a safe abortion information hotline in Venezuela. FALDAS-R delivers information to women seeking to self-manage a medication abortion outside of the formal healthcare system through SMS, Whatsapp, and telephone calls. This qualitative study aimed to understand FALDAS-R representatives' perspectives on service provision, barriers to service provision and utilization, and ways the hotline and abortion services in Venezuela could be improved.

Study design: In 2019, we conducted 10 semi-structured interviews with feminist activists who provide safe abortion information through the FALDAS-R hotline. We analyzed interviews for content and themes using inductive and deductive techniques.

Results: Abortion is severely legally restricted in Venezuela and women have few available resources. Participants said the hotline's services go beyond medical guidance to provide real-time emotional support at every stage of the medication abortion process. Our interviewees said the greatest challenge to service provision is the lack of quality-verified abortion medications and the restrictive social and legal environment. Further, participants reported that Venezuela's decaying infrastructure and intermittent Internet access reduced the hotline's communication capacity.

Discussion: The FALDAS-R mobile phone hotline provides high quality abortion information and support to Venezuelan women seeking to self-manage their medication abortions. Our findings suggest that its feminist accompaniment model fills a significant gap in Venezuelan health services and advances women's reproductive health, rights, and autonomy.

Implications: Understanding the successes and barriers of a safe abortion information hotline in a country in crisis is critical for improving access to safe abortion care.

Keywords: Abortion; accompaniment, Latin America, medication abortion, telehealth, telemedicine, Venezuela

Facilitating self-managed medication abortion in Venezuela through a mobile phone-based hotline: Results from a qualitative study with feminist activists

1. Introduction

The advent of medication abortion using misoprostol-only with or without mifepristone has transformed abortion care, empowering women to control their abortions outside of traditional healthcare systems through a self-managed process, resulting in decreased maternal mortality and abortion-related complications [1,2,3,4]. Although data on the incidence of self-managed medication abortion worldwide is scarce, recent estimates suggest that approximately 45% of global abortions between 2010 and 2014 took place outside of a health facility [5]; in some settings, the proportion may be closer to 70 or 80% [5]. It is clear that self-managed medication abortion is on the rise.

One option for self-managing medication abortion outside of the formal health care system involves engagement with safe abortion information hotlines that are implemented by feminist advocacy organizations [1,2,6,7]. These abortion hotlines have become crucial service providers for women facing legal and cultural challenges in accessing safe abortion care. Many hotlines adopt a harm reduction model by supporting women in legally restricted settings [6,7]. Indeed, at least 31 safe information abortion hotlines exist in 26 countries across the world [1]. Safe abortion information hotlines are run by feminist activists, trained counsellors, medical professionals, researchers, and volunteers [6]. Although there is variation between hotlines, most provide information based on guidelines published by the World Health Organization, which indicate that a range of providers in primary care and community-based settings can be trained to

provide guidance on medication abortion [8]. These organizations avail themselves of a range of technologies and support access to safe abortion care by phone, email, websites, mobile-based phone applications, and social media platforms [1].

In Latin America, where the Catholic church exercises considerable cultural influence, there are widespread legal restrictions on abortion; as such, safe abortion information hotlines across the region are providing an essential service and filling a gap in the formal healthcare system [6,9]. In Venezuela, abortion laws are among the most restrictive in the world: abortion is illegal except to save the life of a pregnant women and is punishable with up to two years in prison [10]. In addition, the country's current humanitarian, political, and economic crisis has placed further stress on Venezuelan women seeking abortion care [11]. Although statistics on abortions in Venezuela are limited, according to Venezuela's Public Health Ministry 10% of the nation's maternal mortality is attributed to unsafe abortion [12]. In a country where the economy and the health system have crumbled, basic infrastructure has deteriorated, and contraception is unavailable, women are seeking abortion services at an increasingly high rate [11].

The leading abortion telemedicine service in Venezuela is FALDAS-R (Feminists in Free and Direct Action for Sexual and Reproductive Autonomy), an independent feminist organization that runs a safe abortion information hotline. Between 2018-2019, FALDAS-R reported a 40% rise in calls from women seeking medication abortion guidance [13]. They have two hotline numbers and received an average of 3 calls per day, for a total of 1,148 calls in 2019 [13].

Following the model of already established safe abortion information hotlines in Latin America, FALDAS-R implemented a support hotline in 2011. This service provides Venezuelan women with abortion options and procedures counselling, information on how to self-manage a medication abortion, and post-abortion counselling [6]. During their initial contact with women, hotline counselors screen them for contraindications, provide information about optimal dosages based on gestation, and offer context on the medication abortion landscape in Venezuela. Once women have obtained the medication(s), they call back and the counsellors detail the correct way to manage the medication regimen, explain the common symptoms that may occur, and provide information about conditions warranting follow-up and how to seek medical attention in a manner that decreases legal risk. The hotline provides information and services remotely via phone calls, SMS, audio messages, and WhatsApp. FALDAS-R is active on social media and also runs a website, where it shares information on medication abortion, advocates for reproductive rights, and sheds light on women's rights injustices in the country.

The hotline is founded on the belief that Venezuelan women have a right to access to information, as per the nation's constitution and international human rights treaties. It is important to note that FALDAS-R does not provide women with the abortion medications; women seeking abortion care must obtain the medication(s) on their own (and do some sometimes act on FALDAS-R's referrals to non-governmental organizations operating in the country). FALDAS-R is an organization founded on feminist principles that value a woman's right to complete sexual and reproductive autonomy and health; equally, the organization exists to undertake political advocacy for the decriminalization of abortion in Venezuela. As part of FALDAS-R's mission, the organization works to raise public awareness on unsafe abortion and

the experiences of survivors of gender-based violence (GBV) through linkages with partner organizations.

While evidence exists about abortion hotlines outside of formal healthcare system, to date there is extremely limited literature on this type of service in Venezuela. Given this paucity of information, our study aims to understand key informants' perspectives on service provision, barriers to service provision and utilization, and ways the hotline and abortion services in Venezuela in general could be improved.

2. Methods

Between April and May 2019, LM a trilingual Venezuelan-Canadian Master's student in the Interdisciplinary Health Sciences program at the University of Ottawa, conducted 10 semi-structured interviews with feminist activists working with FALDAS-R. All are trained medication abortion counselors and provide credible abortion information and support through the safe abortion information hotline. Because the participants self-identified as women, we refer to them as women throughout this manuscript.

A member of the FALDAS-R organization purposively recruited members of the organization who were interested in participating in this study. Using a semi-structured interview guide and after receiving comprehensive training from AMF, a global sexual and reproductive health researcher and medical doctor with more than 20 years of experience in abortion-related research, LM conducted all 10 interviews with members of the FALDAS-R organization in Spanish. On average, the interviews lasted 60 minutes. Interviews took place during a mutually

convenient time over Skype or Whatsapp. After obtaining oral consent from participants, we audio-recorded all but one interview and later transcribed and translated (to English) all interviews verbatim. We also took notes during and formally memoed after each interview. We offered all participants an equivalent of a USD 20 honorarium in gratitude for their time.

2.1 Analysis

We analyzed the data iteratively such that data analysis began during data collection. We analyzed our transcripts, notes, and memos for content and themes using a priori codes and categories based on the research questions, study objectives, and knowledge of the literature. We then used inductive techniques to add emerging codes and categories as we studied the data [14]. LM created an initial codebook and served as the principal coder. We managed our data using NVivo 12. Meetings between LM and AMF guided our interpretation, and any differences were resolved through discussion.

2.2 Ethics

This study received ethics approval from the University of Ottawa Research Ethics board. In this manuscript, we present key themes and use illustrative quotes to support our findings. In this manuscript, we have removed or masked all personally identifying information and assigned pseudonyms to participants.

3. Results

3.1 Women-centered care and accompaniment serves as the foundation of the hotline's model of care

The FALDAS-R hotline counselors said the hotline's abortion support goes beyond just providing women the correct dosage of the abortion medications needed to terminate their pregnancies, as the counsellors also deliver compassionate, non-judgmental care and accompaniment throughout the entire process. The counsellors noted that many women who call the support hotline express feelings of fear, isolation, guilt, and internalized stigma as a result of the criminalization of abortion. As such, the hotline counselors make themselves available to answer any concerns women have prior to, during, and after the abortion. As one participant explained:

> In that moment, women are very nervous, they are very vulnerable, they are afraid, they have a series of questions about life, about religion, and they look to you as a support so that you can be that helping hand. Sometimes they don't tell [anyone] about it, they only have you, who is taking care of them.

Further, the hotline provides a safe space for women to share their stories and seek guidance without feeling judged. One hotline counselor explained:

> We provide information that is very rigorous in medical terms, but it is also a telephone service where there is a lot of listening. When we attend to the women, we are mostly listening to them and providing support to women who decide to terminate their pregnancies, because most of them are very nervous. They find safety, even if it is through the telephone service.

Another hotline counsellor stated that accompanying women is critical to the care they provide, and that she values checking up on them during the abortion: "It is part of the militancy. It is a way of accompanying other women; I like to know how they are doing, if they have any concerns, if everything has gone well." The concept of empathy in providing support through the hotline was also discussed by another counsellor:

> It [the hotline] creates a different kind of connection and bond. So, I think it's a very human issue. I think that is the positive thing about being there. It is about connection, because it is not enough for you to tell her how to use a medicine correctly, but you have to treat another woman who may be going through a situation that you have experienced or that you may experience. So, you have to recognize them as a human being, as you are.

3.2 Inequitable and inconsistent access to misoprostol affects abortion outcomes

A common view amongst the hotline counselors was that, despite the critical guidance and information on safe abortion they provide, a lack of access to quality-verified and affordable misoprostol means that no outcome can be guaranteed for Venezuelan women seeking abortion care. As the hotline does not provide medications due to legal risks, FALDAS-R is limited in the services it can provide. One counselor noted that prior to Venezuela's economic crisis, it was easier to access misoprostol (and mifepristone) through referrals to international partner organizations that offered the medications to women on a sliding fee scale. Participants also mentioned that access to misoprostol in the country is inequitable due to its high prices on the unregulated market and that accessibility varies based on geographical location:

> We don't provide the medicine, so the women are victims of speculation. Even if they have the information, they are victims of speculation in the price of the pills. Because the market takes advantage of the need of women to access the pills, to need them urgently, so they sell them at high prices, exorbitant prices.

FALDAS-R hotline counselors also described a rise in calls where women had paid an unregulated market vendor they found online and were defrauded, the quality of the misoprostol they found was false/counterfeit, and/or they were given the wrong regimen/dose by the vendor, making their medication abortion unsuccessful.

3.3 Lack of infrastructure poses a challenge for effective service delivery

When discussing barriers to service provision, participants consistently mentioned the impact of Venezuela's current economic crisis on the service:

> Venezuela is going through a severe economic blockade, it is difficult to access everything from contraceptives, to stable electricity and stable internet service. So that, of course, also affects the quality of the service we can provide and even more so affects the accessibility of this service.

The constant failures of electrical and telecommunications services have made it difficult to sustain the hotline's operations. This has been especially true in the state of Merida, in the western Andean region of the country, where FALDAS-R operates one of its headquarters (the other being in Caracas). As many of the hotline users find out about FALDAS-R by Google searching "abortion in Venezuela", this leaves a gap for those who may not have access to the Internet. To overcome the unstable communications infrastructure and increase accessibility for those who may not have access to reliable Internet or smartphone, the hotline also sends audio recordings via text or Whatsapp, distributes flyers, posts the hotline number in graffiti in poorer neighbourhoods provides and in-person workshops to bring awareness to the organization and the hotline's services.

3.4 Abortion stigma and criminalization in Venezuela motivate feminist activism

When discussing how abortion services in general could be improved in Venezuela, the FALDAS-R counsellors stated that more sexual education and awareness on abortion would improve conditions in Venezuela as an essential first step. Abortion stigma is pervasive, given the strong pronatalist sentiment in the country. As one FALDAS-R counsellor stated, the comprehensive social influence of Catholicism – and consequently, Catholic attitudes toward abortion – exercise an immeasurable influence on the public's attitude towards abortion in Venezuela:

> Part of it has to do with the fact that Venezuela is a fundamentally Catholic country and, well, the cultural stances on the matter go through that. This makes it very difficult to install this idea of abortion as an autonomous exercise of female sexuality.

This ultra-conservative position pre-empts the dissemination of reproductive education, restricts constructive social conversation and debate on the topic, and more tangibly, prevents abortion legal reform or decriminalization in Venezuela. Indeed, in discussions around how the hotline services could be expanded or improved, one common view among counselors was the desire to provide in-person accompaniment. However, the legal restrictions on abortion in the country make this unfeasible.

4. Discussion

This qualitative study presents the experiences of counselors who provide abortion support and medication abortion guidance through the FALDAS-R support hotline in Venezuela. It also highlights the barriers to service provision in a country currently mired in a complex humanitarian, political, and economic crisis. We note that decaying infrastructure, as a result of the overall instability, has caused disruptions in both service provision and service utilization of the safe abortion hotline. While they play a critical role in providing SRH education and abortion care, abortion telemedicine services such as support hotlines may face barriers in providing consistent service provision in low-resource settings where Internet or phone access is limited [6, 15, 16]. As such, further research should be undertaken to investigate other innovative methods for providing the service without requiring access to the internet. As demonstrated in this study, it is important to have a multi-modal communication strategy in the event channels are disrupted.

This study also suggests that the use of mobile phones, SMS, and Whatsapp messaging can be implemented effectively to provide SRH services in low resource settings. By using popular communication channels, SRH providers can expand their reach to provide care to those who would not normally be able to access it. Further, this study adds to the evidence-base that supports the de-medicalization of abortion [17, 18, 19]. Indeed, a safe medication abortion can be self-managed and accompanied by a trained counselor who provides information and women-centered support [4, 17, 18, 20, 21, 22]. This study also demonstrates that abortion accompaniment models are effective and important in legally restricted settings where women feel isolated, lack resources and education, and need a safe space to receive compassionate, non-judgmental guidance throughout the abortion process.

Our findings also highlight the need for greater access to quality-verified abortifacient drugs, as the quality of misoprostol found on the unregulated market in Venezuela cannot be guaranteed. International NGOs should collaborate with community organizations in Venezuela such as FALDAS-R to provide access to misoprostol as part of their humanitarian response efforts.

4.1 Limitations

As we conducted interviews in 2019, this study does not take into consideration the impact of the COVID-19 pandemic on service provision. Future research should explore the impacts of COVID-19 on the service delivery of safe abortion information hotlines. Additionally, this qualitative study focused solely on the experiences and perspectives on barriers to service provision and service utilization of the FALDAS-R hotline counsellors and did not examine

hotline data records. Further research should be undertaken to analyze hotline data records to gain an understanding on participant characteristics and frequency of calls over a 5-year period.

4.2 Conclusion

Given the highly politicized nature of abortion in Venezuela, the FALDAS-R phone-based hotline service plays a key role in improving abortion outcomes and fills a critical gap in women's sexual and reproductive health care. Our study shows that abortion hotlines can employ an abortion accompaniment model to advance women's health and autonomy. Supporting ways to ensure access to abortion medications through community partnerships appears warranted.

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Chapter 6: Discussion

6.1 Integration of results

Our findings contribute to a body of literature that supports the effectiveness and acceptability of abortion telemedicine services. These service modalities provide evidence-based medication abortion information, accompaniment throughout the process, and in some cases, direct access to the medication outside of the formal health care system. However, while abortion telemedicine services provide an essential service that helps women meet their basic human right to abortion, those in highly restricted, low resource, and/or humanitarian settings still face significant challenges in obtaining high-quality and affordable medication abortion drugs. As demonstrated through the Venezuelan study, access to mifepristone and misoprostol, considered the gold standard for medication abortion, is much less attainable because of the nation's restrictive social, political and economic circumstances and the fact that mifepristone is not approved in the country.

Under international human rights law (ICPD, 1994), "every individual has the right to decide freely and responsibly—without discrimination and violence—the number, spacing and timing of their children, and to have the information and means to do so, and the right to attain the highest standard of sexual and reproductive health". The abortion telemedicine services studied in this thesis are grounded in the principle of a woman's human right to information that enables the attainment of sexual and reproductive health.

The findings of this thesis contribute to the mounting evidence in support of medication abortion's de-medicalization. Indeed, the mandatory requirement of confirming a pregnancy using pre-treatment examinations, such as ultrasound or pelvic examinations, are unnecessary barriers to safe and effective medication abortion (Harper et al., 2002; Raymond et al., 2018,

2020). As shown in this study's results (which are consistent with existing literature), women can effectively self-manage their abortions through the support of abortion telemedicine services. With guidance from trained counselors, women can accurately estimate their gestational age, manage the abortion process, and confirm the outcome of the abortion without medical supervision (Moseson et al., 2020).

As stated in the results of the Venezuelan study, real-time, non-judgmental, women-centered care is a shift from the traditional patient-provider relationship toward a de-medicalized approach. When accessing telemedicine services in legally restricted settings, women place a high value on the emotional support provided by abortion counsellors, as they can increase feelings of confidence and autonomy in their decision. In low-resource settings, the use of Whatsapp or text messaging on a mobile phone, which allows access to a real person to speak with, is highly valued by women. This is a simple, user-friendly interface that requires little or no technical expertise to operate and offers an important means of overcoming legal, social, and financial barriers to care. As shown in this thesis, dissemination of high-quality information via user-friendly social media platforms and websites enable women to self-manage their abortions. The rising use of mobile and wireless technologies to support sexual and reproductive health has the potential to transform service delivery worldwide.

Lastly, feminist grassroots organizations have a major role to play in mobilizing women and resources to advocate for the decriminalization of abortion in Latin America. As witnessed in Argentina in December 2020, women's rights activists are growing in power and have the ability to affect legislative change. As demonstrated in the Venezuela study, the FALDAS-R feminist advocacy organization has positioned itself as a champion for women's sexual and reproductive rights, and its efforts have the potential to affect change in the region. Our project

also suggests that abortion telemedicine services that operate outside of the formal healthcare system address an important need for care and may provide a model for implementation in formal health care systems.

6.2 Dissemination of findings and future work

To date, peer-reviewed literature on abortion in Venezuela is extremely limited in general, and much less exists on women's experiences with an abortion hotline outside of the formal health care system. This thesis contributes new and timely information regarding women's experiences with medication abortion guided by a local safe abortion hotline as well as barriers to service delivery, utilization, and ways the service could be expanded or improved.

The dissemination of our findings is critical to share knowledge with other researchers in the field and promote the adoption of our recommendations. In 2019, I gave both poster and oral presentations at local and international research conferences to disseminate research findings of the first component of this thesis: very early medication abortion provided through a global online telemedicine service. I gave an oral presentation at the Women's College Hospital: Women's Xchange: Applying Digital Perspectives to Women's Health Conference (Toronto, ON) and a poster presentation at the Society of Family Planning Annual Meeting (Los Angeles, CA). The articles contained herein will be submitted to peer-reviewed journals. I will also be creating an executive lay summary report of my findings to FALDAS-R. We will also share the report with other stakeholders (including Women Help Women) and will submit abstracts and proposals to upcoming relevant global health conferences to reach researchers working in Latin America.

In addition to these dissemination activities, in February 2021, I began collaborating with Vitala Global Foundation on a pilot study of an abortion and contraception telemedicine app (Aya Contigo) designed for Venezuelan women, as part of their existing Grand Challenges OPTions grant titled: "Novel mHealth solution for self-managed abortions for Venezuelan women". The objective of the Aya Contigo app will be to guide a woman through self-assessment of eligibility and success of the abortion, send automatic text messages to provide support, and include information for referral clinics as required. Given my existing abortion research experience in Venezuela, I was interviewed as a key stakeholder for the Aya Contigo pilot study, and the findings of this thesis directly informed the protocol refinement and risk mitigation planning for the app. Building upon the expertise I acquired through this thesis project, I will provide insights to improve app development, and conduct a mixed-methods pilot study of the app with Venezuelan women. I will also support research uptake by disseminating findings to key stakeholders (IPPF, UNFPA Venezuela, and Avesa among others), assist with analyzing research results and writing a manuscript for publication in a peer-reviewed journal.

My collaboration with Vitala Global Foundation will enable me to build upon the expertise I gained through this thesis project and directly apply its learnings to improve abortion outcomes for women in Venezuela, ultimately turning research into practice.

6.3 Recommendations

6.3.1 Recommendations for programming and interventions

Innovative programming solutions are needed to address the lack of comprehensive sexual and reproductive health care in Venezuela. The complex humanitarian and political crisis in the country has resulted in severe lack of availability of contraceptive methods and education to meet the needs of the population. This has led to an increase in adolescent pregnancy rates in

Venezuela (UNFPA, 2019). A program designed to address family planning education that includes abortion care appears warranted to dispel myths and underline the dangers of unsafe abortion practices. Culturally appropriate programs tailored for adolescents that provide contraceptive counselling and access to contraceptive methods is urgently needed. Educational programming should leverage use of social media to disseminate credible information appropriate for a variety of age groups.

Due to the complexity of the current humanitarian crisis in Venezuela, access to basic infrastructure including electricity and Internet services has deteriorated throughout the country. A mobile-based app intervention to increase uptake of contraception and abortion care that can operate *without* Internet connectivity should be implemented and evaluated in the country. Humanitarian interventions in the region should include providing access to mobile phones and mobilizing access to misoprostol in the region.

6.3.2 Recommendations for future research

More research is needed on the outcomes of very early medication abortion provided through other abortion telemedicine modalities. While the WHW study included users from 16 different regions, additional studies that have larger sample sizes and capture a more representative population for different regions and cities appears warranted. While it is often not feasible to conduct studies on abortion in legally restricted settings with control groups, a control group study in a region with liberal abortion laws that explores the safety, efficacy, and acceptability of very early medication abortion provided through telemedicine is needed.

Qualitative interviews with other providers of sexual and reproductive health services that fall outside of the formal healthcare system in Venezuela such as PLAFAM and

International Planned Parenthood Federation (IPPF) to better understand their activities and challenges in family planning services appears warranted. Given that there is extremely limited research on abortion and sexual reproductive health indicators in Venezuela, future research should focus on quantitative data from national and humanitarian organizations on maternal mortality rates, infant mortality rates, adolescent pregnancy rates, and women seeking abortion care to get a better understanding of the true SRH conditions in the country. Additionally, as many Venezuelan women and girls are migrating out of the country, both qualitative and quantitative research is needed regarding abortion needs in border regions providing refugee assistance. Research should also explore mobile phone penetration in Venezuela, and the ways to integrate telemedicine to care along the border and in most rural and remote regions in Venezuela. Further research on the effectiveness of mobile phone apps to provide abortion accompaniment in Venezuela and in Latin America in general appears warranted.

6.3.3 Recommendations for policy makers

As evidenced in this thesis, the effectiveness of self-managed medication abortion is high, and the incidence of complications is low. As such, requiring clinical tests are unnecessary when the patient has no known contraindications and is certain of their LMP. In light of this, policy makers should revisit the requirements for in person pre-abortion clinical tests such as ultrasounds or other tests for medication abortion procedures, especially in the current context where stay-at-home orders are in place due to the COVID-19 pandemic. Having a de-medicalized approach is highly effective and improve patient-centered care.

Latin America has seen some advancements with respect to the decriminalization of abortion in Uruguay, Mexico City and Cuba, Guyana, Puerto Rico and most recently in Argentina. While women were grateful to have been able to access abortion support in

Venezuela, many women expressed fear and isolation in trying to access care clandestinely and wished that they could access free and legal abortion care through the formal health care system. A review and amendment of current Venezuelan legislation to decriminalize abortion and eliminate punitive measures is urgently needed to prevent increasing maternal mortality rates as a result of unsafe abortions. The 1991 constitution instated by Chavez government included a guarantee to family planning services. However, little progress has been made. The Venezuelan government should urgently increase investments in social programs that provide comprehensive family planning and contraceptives as well as an increased health budget for sexual and reproductive health services that guarantees access to a variety of contraceptive methods and accurate counselling.

As misoprostol is included on the WHO's Essential Medicines List, this medication should be readily available at hospitals and pharmacies. Steps to approve the accessibility of mifepristone in the country is needed to provide the gold regimen abortion medication.

6.3.4 Recommendations for service delivery

Given the increased need for abortion care in Venezuela, more capacity is needed at local, national, and international levels from women's rights and feminist organizations and advocates, humanitarian organizations, and national governments to support the operation of abortion telemedicine services in low resource and or legally restricted settings. This would allow for a wider reach of women who might need services. FALDAS-R should proceed with piloting a face-to-face abortion accompaniment service that provides additional emotional support, guidance and post-abortion counselling tailored to women's individual preferences and needs in an effort to increase women's confidence and autonomy during the process.

6.4 Strengths and limitations

Several limitations exist in both studies conducted. With regards to the Women Help Women project on early medication abortion, because misoprostol-alone is largely effective and because women who experience continued pregnancies are unlikely to stay in contact with Women Help Women, it was difficult to obtain comprehensive evaluation datasets that captures the abortion outcome. Additionally, as this was an analysis on self-reported data, the potential for recall bias should be noted. Only women who had access to Internet were included as part of this study. However, the results of the study are relevant for the improvement of abortion services facilitated by telemedicine services in contexts with restrictive abortion laws, since the dataset does represent the population that could access Internet-based telemedicine services.

Some limitations should be noted with respect to the Venezuela project. Due to financial and logistical constraints and the increasingly unsafe conditions in Venezuela, I was not able to physically travel there to conduct fieldwork as originally planned. Therefore, all interviews took place over the phone and through Skype. Due to poor connectivity problems in Venezuela, it was challenging to schedule and conduct interviews with participants and they often had to be rescheduled multiple times. Second, it was challenging to recruit 25-30 participants who have used the telemedicine service in Venezuela due to the legal status of abortion and stigma. However, we reached thematic saturation after 12 interviews with women.

As is true for qualitative research this study was not meant to be representative or generalizable. This study is not representative of the Latin American or Venezuelan populations, as this study specifically focused on women who contacted FALDAS-R for safe abortion information. As the majority of participants reported that they found the hotline services through an Internet search or through social media, there is a possibility that the women captured in this

study had better access to Internet than other women. However, as we used multiple data sources as part of the Venezuelan study (key informant interviews and in-depth interviews) to understand the phenomenon at hand, we were able to triangulate our findings.

Lastly, as I documented my positionalities at the outset of the project and reflexively engaged with those positionalities before, during and after the data collection process in memos. We believe this enhances the credibility and trustworthiness of the overall project.

6.5 Statement of contribution

Informed by similar projects undertaken by Dr. Foster and members of her research group, I conceptualized the study and designed the study instruments. I also collected and analyzed the data and led the development of all three manuscripts. I worked closely with Women Help Women and FALDAS-R to establish a mutually beneficial partnership, listening to their needs and answering questions. I received exceptional guidance from my thesis supervisor, Dr. Foster throughout all phases of the project. Specifically, Dr. Foster supported my study by providing oversight on designing a feasible study, identifying collaborators, providing feedback on the study instruments and manuscripts, and contributing to dissemination efforts. Moreover, I received 16 hours of interactive qualitative methods training organized by Dr. Foster, to develop the skills required to conduct the in-depth and key informant interviews and analyze the resulting data. Lastly, I had previous experience in conducting qualitative studies and analyzing descriptive statistics, having conducted the Alberta arm of the Canada Hospital Study as part of my undergraduate Honours project with Dr. Foster's research team. This experience gave me an overall strong understanding of qualitative research methods and context on sexual and reproductive health prior to leading this thesis project.

6.6 Positionality and reflexivity

Given the subjective nature of qualitative research and recognizing that the social interaction between interviewer and participant makes it difficult to hold a completely neutral objective stance while collecting and analyzing data, identifying positionality and reflexivity is a vital component of the research process. Reflexivity refers to the practice of conscious reflection on the many ways in which the researcher's various aspects of their identities influence their research, and the ways in which the research impacts them (Gair, 2012; Medved & Turner, 2011). Continuous self-awareness of how the social setting of the research itself, the wider social context, and social characteristics of the interviewer (personal experiences and differences in background, values, knowledge, and motivations for conducting the study) are important for understanding the research process and outcome.

Prior to doing this study, I had a thorough understanding of women's health, having conducted a one-year Honour's project with Dr. Foster's research group. My motivations for doing this study were due to the fact that I have witnessed firsthand the harms that restrictive abortion laws can have on women in legally restricted contexts and the rampant misinformation that exists on abortion, specifically in Venezuela. Another motivation I had for doing this study was rooted in my feminism and reproductive rights beliefs.

I outlined my positionalities prior to beginning data collection and wrote down all of my identities (religious beliefs, ethnicity, gender, education status, abortion beliefs, Canadian citizenship, sexual and reproductive health training) that could impact the way that I collect and interpret the data. During the data collection process, I found that while I had some similarities with my participants with respect to gender, culture, language and place of birth, I was conscious that I was "outsider" interviewing them from Canada and that a power imbalance could be

perceived. I also considered how my position as a Master's student might influence a power imbalance that ultimately led to an effect on the way participants answered interview questions. I believe however, that my Venezuelan background and ability to speak Spanish facilitated trust and rapport between myself and the interviewees as the interviews evidenced in the personal stories told and my openness when I was asked questions from participants about my life. I have maintained Venezuelan culture throughout my life, which allowed me to facilitate deeper connections with my participants as I understood specific nuances and colloquial language which was beneficial during the data collection and analysis.

The process of taking notes during and formally memoing after the interview process facilitated my reflection on the content of the interviews, explore my feelings to the information shared, recognize my subjectivities, and identify research themes.

6.7 Conclusions

While the findings of this thesis are specific to legally restricted and low resource settings, this study suggests that telemedicine can improve access to abortion care and fundamentally change its delivery worldwide. A wealth of evidence confirms that women will seek out abortions regardless of its legality.

When health systems fail to provide comprehensive sexual and reproductive health care, online and community-based services outside of the formal health care system become key providers of essential abortion services. They allow women to circumvent negative social influences like pronatalism and patriarchy, increase their reproductive autonomy and improve their health outcomes.

The findings of this thesis posit a strong case for medication abortion facilitated by telemedicine services. It has proven to be an effective, practical and patient-centered procedure

that can be self-managed at home when a woman is provided with medically accurate information and counselling by a range of providers or trained community worker. As demonstrated by the Venezuelan study, strong barriers exist to accessing misoprostol in crisis settings. As such, the global health community should mobilize and partner with community-based organizations to increase access to medication abortion care in similarly difficult circumstances worldwide. As digital acceleration continues, governments should integrate abortion telemedicine services as part of the sexual and reproductive health care services offered by their formal healthcare systems. Doing so will provide women with an additional method of care that allows for increased autonomy over their sexual and reproductive health.

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Appendix A: Research Ethics Board Approval Letter

File Number: 12-16-15 **Date (mm/dd/yyyy):** 02/13/2018

University of Ottawa
Office of Research Ethics and Integrity

Ethics Approval Notice

Social Sciences and Humanities REB

Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

First Name	Last Name	Affiliation	Role
Angel	Foster	Health Sciences / Others	Principal Investigator

File Number: 12-16-15

Type of Project: Professor

Title: Exploring women's experiences using medication abortion through telemedicine

Renewal Date (mm/dd/yyyy)	Expiry Date (mm/dd/yyyy)	Approval Type
12/19/2018	12/18/2019	Renewal

Special Conditions / Comments:
N/A

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