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FAMILY PLANNING (A BURKE, SECTION EDITOR)

Telemedicine for Medication Abortion: The Time Is Now

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Abstract

Purpose of Review This review will provide an overview of the current restrictions to medication abortion in the USA, strategies for incorporating telemedicine into medical abortion care, and new evidence on the efficacy and safety of telemedicine as a means to provide medication abortions.

Recent Findings Newly published data from the TelAbortion study, the first direct-to-patient medication abortion service in the USA, shows that it is as safe, successful, and acceptable to patients as previous international data on similar care delivery systems. Other groups have continued to build upon the existing body of literature supporting the safety of telemedicine-facilitated medication abortion in other countries. All recent studies continue to support telemedicine as a desired method to increase abortion access in a variety of geographical settings.

Summary Medication abortion is a safe and common method to end unwanted pregnancy but is often inaccessible to patients remote from an abortion clinic. Telemedicine can be safely utilized for counseling, provision, and follow-up of medication abortion. However, its implementation is limited in the USA due to restrictive, medically unnecessary prescribing laws. Research indicates that telemedicine-based medication abortions have similar rates of completion as in-person medication abortions, with equivalent complication rates. Patients choose telemedicine for medication abortion for a variety of reasons, including privacy, accessibility, and personal preference, but generally report high rates of satisfaction with the method. These data argue for the expansion of telemedicine for medication abortion, expanding the availability of safe abortion with fewer logistical burdens to patients seeking care.

Keywords Telemedicine · Medication abortion · Self-managed abortion · Mifepristone · Abortion access

Introduction

Although the abortion rate is the lowest since the 1973 legalization, abortion remains common in the USA. Approximately one in four women will have an abortion during their lifetime [1]. However, access to abortion care is unequal in the USA. Over 90% of counties have no abortion provider, as most providers are concentrated in larger cities [2]. This creates areas of "abortion deserts," or cities with no abortion provider for 100 miles, especially in the south and mid-west [3]. International trends demonstrate that access to safe abortion care is critical, as unsafe abortions account for 23,000 annual deaths worldwide [4].

Medication abortions with mifepristone and misoprostol account for 39% of abortions in the USA and have steadily risen since the Food and Drug Administration (FDA)-approved mifepristone in 2000 [5]. As approximately 90% of US abortions occur in the first trimester, medication abortion is an ideal way to expand access as it is safe and effective through 10 weeks of gestation [6]. Medication abortion does not require surgical training or equipment to be immediately available for abortion provision. This allows for mid-level or non-surgical providers to provide abortion care [7].

A recent report from the National Academy of Sciences (NAS) demonstrated that legal abortion in the USA is safe and effective. This report identified four research gaps associated with the provision of high-quality abortion care, including the federal limitation of mifepristone distribution [8]. One of the most significant federal barriers to the wide use of mifepristone for medical abortion is the FDA's Risk

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Evaluation and Mitigation Strategy (REMS) imposed on mifepristone, which restricts its prescription and dispensation to certified providers in clinics, medical offices, and hospitals [9•]. REMS programs are required to ensure that benefits outweigh the risks of certain medications with significant safety concerns. However, the vast array of data endorsing the safety of mifepristone presents a sharp contrast to the 56 other drugs with REMS programs, which are typically biologics, controlled substances, or medications that are known to cause organ failure. State-specific policies have used FDA protocols to make it more difficult for women to access medication abortion or mandate the use of less effective regimens for their abortion care [10]. For this reason, the Mifeprex REMS Study Group and multiple professional organizations support the removal of the REMS for mifepristone [9•].

In addition to the restrictions on mifepristone use as a result of the REMS, approximately 300 legislative abortion restrictions were passed between 2011 and 2016, accounting for a third of all restrictions since the federal legalization of abortion in 1973 [11]. Some of these restrictions include 24–72 h waiting periods and targeted regulation of abortion provider (TRAP) laws, requiring that women receive in-person physician counseling prior to abortion and dictating the design of physical spaces where abortions are performed. Eighteen states specifically require that a physician physically be present in the room with a patient having a medication abortion, essentially prohibiting many types of telemedicine [5].

With these challenges at the federal and state level, women are increasingly turning to the Internet for self-management of abortion. A Google-conducted global study performed over a 32-day period received 210,000 views and 9800 clicks from people using search terms related to abortion and abortion medications. Of the 1235 women who completed the associated survey, over 70% were searching for information because they were pregnant and did not want to be. Also, 11% of these women had previously attempted self-use of medication abortion [12]. The website maintained by Ibis Reproductive Health, www.medicationabortion.com, had an increase in traffic from 82,000 users in 2005 to 421,000 users in 2009 [13]. However, though women obtain information about and sometimes medications for abortion online, they express feelings of anxiety and safety concerns related to the lack of medical guidance when using non-medical and non-interactive websites [14]. In contrast, telemedicine—using telecommunications and computer technology as a substitute for a face-to-face healthcare provider encounters—is highly acceptable, safe, and effective for patients seeking medical abortion [15]. This may present a strategy to combat inequitable access to safe abortion care in the USA and internationally.

Types of Telemedicine Available for Medication Abortion

Currently, a patient who desires a medication abortion in the USA must present to a clinic, receive counseling on options and risks/benefits of the procedure, receive mifepristone in the clinic, take their medications as prescribed, and follow up to ensure abortion completion. However, depending on their state of residence, many patients must also comply with mandatory waiting periods and required in-person counseling, increasing the time and total cost of the procedure (i.e., arranging childcare, taking time off work, and travel costs). These barriers suggest a role for telemedicine in improving access to medication abortion, and multiple studies have demonstrated the success of incorporating telemedicine into various aspects of abortion care. Approaches fall into three categories: (1) providing part of the medical abortion process remotely, (2) clinic-based telemedicine abortion care, and (3) direct-to-patient telemedicine abortion care.

When used as an adjunct to a clinic-based medical abortion encounter, telemedicine can replace in-person pre- or post-abortion visits, thereby minimizing the number of trips a patient must make to receive care. In response to the implementation of a 72-h mandatory waiting period between a counseling visit and abortion procedure, Planned Parenthood (PP) of Utah introduced a video conferencing option as a way to complete the mandatory information visit [16, 17]. Many studies have described post-abortion follow-up via telephone [18]. Recently, telemedicine was described for abortion follow-up in South Africa, using text messaging and a low-sensitivity urine pregnancy test to ensure abortion completion [19].

Telemedicine can also facilitate access to clinic-based medical abortion in areas where abortion clinics may not have full-time in-facility abortion providers. Since 2008, PP facilities in in IA, AK, and HI have successfully utilized models where patients and providers interact via live video conference in a clinic setting for counseling, consent, and mifepristone administration [20–22]. This approach allows providers to meet requirements for clinic-based dispensation and administration of mifepristone while expanding their reach into locations where medical abortion may previously have been inaccessible.

Groups like Women on the Web (WoW) have provided evidence of the safety and functionality of direct-to-patient telemedicine medication abortion services in other countries where abortion is illegal or unavailable. It is estimated that they have provided over 75,000 safe abortions since their creation [14, 23–27, 28••]. Patients utilize an online survey or video counseling to assess their eligibility for medical abortion and subsequently receive medications by mail. No such data existed in the USA due to federal restrictions on mifepristone prescribing until the commencement of the TelAbortion Project, which received an exception to dispense mifepristone via mail through the Food and Drug

Administration (FDA)'s Investigational New Drug application [29]. The project was trialed in six study states—NY, HI, OR, ME, and WA—with favorable results consistent with existing international literature [30••].

While self-managed medical abortions using medications purchased on the Internet without physician oversight do not meet the definition for telemedicine, this is an increasingly common practice among patients without access to abortion providers. A recent study done in the USA purchased medications from 18 online sites and evaluated the quality and contents of the medications received [31]. Mifepristone usually contained the correct amount of medication as marketed, but misoprostol was found to vary widely in concentrations of the medications, ranging between 18 and 100% of the expected amount. The average time to receive the medications was between 3 and 21 days from order placement, a delay that could potentially preclude patients from successfully completing a medical abortion.

Telemedicine for Medication Abortion Outcomes: Success, Safety and Acceptability

Medication abortion performed by telemedicine is successful, safe, and acceptable to women. A recent systematic review including data from 13 telemedicine studies showed high rates of completion with low rates of serious complications [28••]. Of the 13 studies, seven studies included data from WoW, four studies from PP of IA and AK, one study from Willow Women's Clinic in Vancouver, and one study from the Tabbot Foundation in Sydney, Australia. Nine studies had data on continuing pregnancies ranging from 0 to 1.9%. Four of the included studies had 0–0.7% of patients requiring a blood transfusion and 0.07–2.8% requiring hospital admission [28••]. These complication rates are consistent with previously reported literature of complications from in-person medication abortion care [32]. Satisfaction for patients using telemedicine for medication abortion care less than 10 weeks gestation was 64–100%, with dissatisfaction rates ranging from 0.2 to 2.3% [28••]. Almost all women (90–98%) were willing to recommend telemedicine for abortion care. In the studies that qualitatively reviewed telemedicine acceptability, common themes included limited travel time, shorter wait times for abortion care, and ability to access options for medication abortion at earlier gestational ages.

As previously discussed, telemedicine for medication abortion is available in the USA on a limited basis. Clinic-based telemedicine for medication abortion has been available since 2008 in IA through PP of the Heartland, expanding to include AK, ID, NV, and WA [22] [33]. In the first 7 years in IA, almost 9000 women received medication abortion with no increase in adverse events compared with in-person care (0.18% versus 0.32%, $p = 0.07$) [22]. Adverse events were defined as hospital admission, surgery outside of uterine aspiration, blood transfusion, death, or treatment in the ED that included intravenous fluids or oral medications. The authors did not report on the percentages of ongoing pregnancies as this is considered a known complication of medication abortion. This study also surveyed surrounding emergency departments in an attempt to capture visits not recorded by PP, finding no difference in ED visits with treatment in telemedicine patients compared with in-person patients (0.15% versus 0.21%, $p = 0.31$). Once telemedicine services were available in IA, patients had increased odds of accessing both medication abortion and abortions at earlier gestational ages [34].

More recent data evaluated the expanded Planned Parenthood telemedicine program in AK, ID, NV, and WA [33]. These data are similarly reassuring, with patients who underwent telemedicine-facilitated medication abortion reporting lower rates of continuing pregnancies than those who received in-person care (0.45% versus 1.77%, aOR 0.23, 95% CI 0.14–0.39). While there was almost a 25% loss to follow-up, a sensitivity analysis assuming rates of continuing pregnancies from reported literature showed failure rates similar to previously reported data. There were no significant differences in adverse events between the telemedicine and in-person groups, and the rates were comparable with the previously published literature of in-person abortion [33].

Although WoW has been providing direct-to-patient telemedicine for many years internationally, the first data of this type of service delivery in the USA has just been published with the TelAbortion project [30••]. After meeting medical screening criteria, including an ultrasound and blood typing, 248 women received study medications containing mifepristone and misoprostol within an average of 9 days. Twenty-three percent of women were lost to follow-up, meaning that their abortion outcomes could not be ascertained. Of subjects with available outcome data, 94% completed their abortion without the need for any additional intervention. Only two women (1%) had serious adverse events: one had a seizure and one required a blood transfusion. Of 80% women reported that they were very satisfied with their abortion experience, 86% of women reported they would have a telemedicine abortion again, and 96% said they would recommend their experience to a friend [30••].

While WoW does not service women in the USA, the group has collected evidence that women in the USA are seeking services for medication abortion. The WoW website had over 6000 requests from US residents in a recent 10-month study period [35•]. They stratified requests as originating from regions that were supportive of or hostile to abortion legislation, finding that while 70% of women made requests from states with hostile abortion policies, over 20% of requests came from states considered to be supportive of abortion. Over half of the women, regardless of location of request, reported that they were seeking medication abortion online for

a combination of both barriers to care and personal preference. More women reported barriers (30%) than preference (7%) as their reasoning for choosing self-managed medication abortion, unrelated to region where they lived.

Logistical Barriers to Abortion Care and New Horizons for Improving Access

Patients seeking medical abortion through telemedicine face multiple barriers to obtaining in-person care. In the TelAbortion study, the women who enrolled would have had to travel long distances to the study site, likely precluding or delaying their abortions. Of those enrolled from the US mainland, 52% of participants lived greater than or equal to 50 mi. from their study site, and 29% lived greater than or equal to 150 mi. away. For those women enrolled from HI, greater than 60% of participants lived on an island without an abortion clinic [30••].

For women in the USA requesting medication abortion through WoW, the most common reasons for service requests were barriers related to cost of a clinic abortion, need to keep their abortion secret, inability to miss work or school, and distance to a clinic [35••]. Women who lived in states considered to be hostile to abortion policy were statistically more likely to face barriers related to cost (71.1% versus 62.9%, $p < 0.001$), further distances to the nearest abortion clinic (29.0% versus 21.0%, $p < 0.001$), and legislative restrictions such as waiting periods (18.1% versus 14.1%, $p < 0.001$) compared with women requesting services from states that were more supportive of abortion legislation [11, 35••]. For women who requested services for personal preferences such as privacy, autonomy, and empowerment, there were no differences related to state. In this study, women from hostile abortion policy states have higher numbers of children, were more likely to view their families as complete, and live further from abortion clinics where family planning services are also likely offered. This may suggest disparities in not only abortion services but also comprehensive contraception care for women living in these regions. This is further supported by the highest density of requests coming from Mississippi, a state with only one abortion clinic as well as extremely high rates of unintended pregnancy [36].

New evidence suggests that women under 8 weeks do not need prophylaxis for Rh sensitization, which would further eliminate appointments and shorten the time that women are under evaluation for medication abortion eligibility [37]. Ultrasound prior to medication abortion is also not an absolute requirement [38]. These two evidence-based recommendations could decrease time from initial telemedicine screening to medication ingestion and potentially remove the need for any in-person medical visits prior to a medication abortion.

Conclusion

Despite multiple studies supporting the feasibility, acceptability, safety, and efficacy of telemedicine for medication abortion, availability of these modalities remain restricted in the USA. These restrictions are multifactorial, as federal and state policies as well as financial barriers present challenges to wide implementation of telemedicine for medical abortion. Removing FDA restrictions on the prescription of mifepristone and revising state policies prohibiting remote methods for abortion care are two concrete strategies to increase access to telemedicine.

The 2018 report of the National Academies of Science, Engineering, and Medicine on the Safety and Quality of Abortion Care in the USA identified six dimensions of healthcare quality (safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity) [8]. Broad implementation of telemedicine has the potential to improve all of these dimensions. For example, many clinics have wait times for in-person pregnancy evaluations and may not have the ability to perform same-day abortions, requiring patients to make multiple appointments. This necessitates missing work, travel expenses, and arranging for childcare, which can be insurmountable barriers especially for low-income patients. With the expansion of telemedicine, geographic and logistical disparities in abortion care could be improved through shorter wait times, essentially no travel, and improved privacy for patients who feel stigmatized for seeking abortion care.

Data suggests that people with unwanted pregnancies are increasingly turning to remote methods to manage their abortion care. Telemedicine for medical abortion provides a safe, effective, acceptable, and desirable way to deliver patient-centered, high-quality abortion services.

Compliance with Ethical Standards

Conflict of Interest All the authors declare that they have no conflict of interest.

Human and Animal Rights This article does not contain any studies with human or animal subjects performed by any of the authors.

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