


Acceptability of no-test medical abortion provided via telemedicine: analysis of patient-reported outcomes

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ABSTRACT

Introduction The English government approved both stages of early medical abortion (EMA), using mifepristone and misoprostol under 10 weeks' gestation, for at-home use on 30 March 2020. MSI Reproductive Choices UK (MSUK), one of the largest providers of abortion services in England, launched a no-test telemedicine EMA pathway on 6 April 2020. The objectives of this study were to report key patient-reported outcome measures and to assess whether our sample was representative of the whole population receiving no-test telemedicine EMA.

Methods A sample of all MSUK's telemedicine EMA patients between April and August 2020 were invited to opt in to a follow-up call to answer clinical and satisfaction questions. A total of 1243 (13.7% of all telemedicine EMAs) were successfully followed-up, on average within 5 days post-procedure.

Results Patients reported high confidence in telemedicine EMA and high satisfaction with the convenience, privacy and ease of managing their abortion at home. The sample responding were broadly equivalent to the whole population receiving telemedicine. No patient reported that they were unable to consult privately. The majority (1035, 83%) of patients reported preferring the telemedicine pathway, with 824 (66%) indicating that they would choose telemedicine again if COVID-19 were no longer an issue.

Conclusions Telemedicine EMA is a valued, private, convenient and more accessible option that is highly acceptable for patients seeking an abortion, especially those for whom in-clinic visits are logistically or emotionally challenging. Evidence that this pathway would be a first choice again in future for most patients supports the case to make telemedicine EMA permanent.

INTRODUCTION

Over the last 20 years medical methods of abortion have contributed an increasing

Key messages

- Patients receiving routine follow-up calls reported high confidence in no-test telemedicine abortion and high satisfaction with the privacy, convenience and ease of this pathway.
- Two-thirds of no-test telemedicine abortion patients reported they would choose this pathway again in future, demonstrating that it should remain available after the COVID-19 pandemic.

share of total abortions in England and Wales, up to 73% in 2019.¹ The process consists of two stages of medication (mifepristone and misoprostol), ideally taken 24–48 hours apart, with expulsion of pregnancy usually occurring at home.² Follow-up is by self-assessment with a low-sensitivity pregnancy test (1000 IU) after 3 weeks to determine success of the abortion, with instructions to report back to the abortion provider if there are any ongoing issues or a positive test.²

Until 2018, both stages of early medical abortion (EMA) had to be administered in a government-approved clinic or hospital, despite evidence that this made access difficult for some patients (eg, those in deprived and rural areas, those who have work and childcare commitments, and those with stigma or privacy concerns).³ From late 2018, the English government permitted misoprostol for self-administration at home, but mifepristone still had to be administered in approved clinics/hospitals even though there is no medical rationale for this.⁴

In response to the COVID-19 pandemic there were a range of responses across Europe.⁵ After the UK went into national lockdown to manage the outbreak of COVID-19 in March 2020, professional



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bodies produced national guidelines that included the use of telemedicine to ensure abortion care could be continued safely in the pandemic.⁶ On 30 March 2020, the English government announced temporary approval of home use of both stages of EMA, meaning that fully remote care using telemedicine could be implemented.⁷

MSI Reproductive Choices UK (MSUK), which delivers 30% of abortions performed in England and Wales, launched a telemedicine EMA pathway on 6 April 2020.⁸ In the new pathway, eligibility for EMA is assessed during the patient's initial call with a health advisor (a call handler without clinical qualifications). Patients are screened using safeguarding and clinical eligibility questions based on national guidelines and decision aid^{6,9} and they are booked for an in-depth telephone consultation with a nurse. If they can proceed and consent to telemedicine, patients are then given the choice to receive their EMA medication via the post or to pick it up with minimal contact from one of over 60 MSUK clinics across England. All MSUK patients, including those using the telemedicine EMA service, have access to support from a 24-hour after-care line and comprehensive online information.¹⁰

This article presents an analysis of post-procedure satisfaction data from telemedicine EMA patients to understand their experiences with this new pathway and their preferences for care.

METHODS

Data collection

At their consultation, telemedicine EMA patients were invited to opt-in to a follow-up call post-procedure with a care assistant (who had no other involvement in the patient's care and usually has no clinical qualifications). Due to pressure on resources during COVID-19, follow-up slots were limited and patients were invited until the available allocation had been filled. During the follow-up call, patients were asked a set of multiple choice and open-ended questions about their service, and responses were recorded in a secure digital database by the care assistants. The questions were based on existing standard service evaluation surveys, with additional questions specifically developed to assess telemedicine. The feedback call script is reproduced in online supplemental figure 1.

Outcomes and analysis

Feedback data were merged with nine medical and demographic background characteristic variables from a clinical dataset using unique patient IDs but with other identifying details removed, and all data were cleaned in STATA-16 in preparation for analysis. Comments from the free-text fields which accompanied some questions were analysed to understand patient responses (online supplemental figure 1). These were analysed thematically to pull out key words,

issues or phrases that were most common within each response subgroup.

Sample validity

To understand the magnitude of possible sampling bias, patient profiles between the follow-up sample and the overall telemedicine EMA population were compared using equality-of-proportion tests (table 1). To understand the impact of possible sampling bias on results, all results were disaggregated by the same nine background characteristic groups and tested for significance using chi-squared tests or t-tests, with all differences reported in detail in the online supplemental data table; significant differences are discussed in the article text.

Patient and public involvement

The independent ethics review committee of MSUK reviewed and approved the study protocol. Patients were not involved in the design of this study.

RESULTS

Overall, 9049 unique patients received telemedicine EMA from MSUK between 6 April and 31 August 2020. Telemedicine EMA services accounted for 44.0% of all medical abortions MSUK provided in this period. A total of 2704 (29.9%) women were booked a follow-up call in this period and 1243 (13.7%) calls were completed. On average, 8.0 days (95% CI 7.94 to 8.11, SD 2.34) elapsed between the patient's initial telemedicine EMA consultation and their follow-up call. Allowing at least 72 hours for receipt and use of medication, this means that, on average, patients were followed-up within 5 days of the abortion. Table 2 presents all the quantitative results.

The sample did not differ from the whole population by more than $\pm 5\%$ on any background characteristic, except in three criteria: patients from the South East region and patients picking up telemedicine medication were underrepresented in the sample, while patients receiving medication via post were overrepresented.

Quality of consultation

During the consultation, 1185 (95.3%) patients felt able to talk privately without problems but 57 (4.6%) patients had to take action (eg to get childcare, go to the car). No patients reported that they were unable to talk privately. This did not vary by subgroup except that patients aged 25–29 and 35–39 years, or with previous live births or miscarriage, were all more likely to report having to take action to talk privately.

Almost all (1234, 99.3%) the women felt they had the opportunity to ask questions during their consultation, and this did not vary by subgroup. Many patients preferred having the consultation over the telephone as it removed the stress of visiting a clinic and fear of judgement.

Table 1 Equality-of-proportions test between the follow-up sample and total telemedicine early medical abortion population

Parameter	Telemedicine EMA population April–August 2020 (n=9049) n (%)	Telemedicine EMA follow-up sample April–August 2020 (n=1243) n (%)	Percentage point difference	Equality-of-proportions test p value
Age group (years)				
<20	615 (6.8)	67 (5.4)	−1.4	0.024*
20–29	4008 (44.3)	512 (41.2)	−3.1	0.014*
30–39	3678 (40.7)	516 (41.5)	+0.8	0.268
40+	721 (8.0)	121 (9.7)	+1.7	0.011*
Unknown	27 (0.3)	27 (2.2)	+1.9	<0.001**
Ethnicity				
White British/White other	5968 (66.0)	787 (63.3)	−2.7	0.025*
Mixed/multiple ethnicities	453 (5.0)	69 (5.6)	+0.6	0.191
Black/African/Caribbean/Black British	950 (10.5)	158 (12.7)	+2.2	0.006**
Asian/Asian British	733 (8.1)	93 (7.5)	−0.6	0.212
Other ethnic group (not specified)	166 (1.8)	26 (2.1)	+0.3	0.246
Unknown ethnicity	779 (8.6)	110 (8.9)	+0.3	0.382
Marital status				
Single	2971 (32.8)	387 (31.1)	−1.7	0.102
Partnered	3178 (35.1)	415 (33.4)	−1.7	0.100
Married/civil partnership	1614 (17.8)	242 (19.5)	+1.7	0.067
Separated/widowed/divorced	228 (2.5)	40 (3.2)	+0.7	0.058
Unknown marital status	1058 (11.7)	159 (12.8)	+1.1	0.113
Home region				
East England	3 (0.03)	0 (0.0)	−0.0	0.271
East Midlands	46 (0.5)	4 (0.3)	−0.2	0.176
East of England	1008 (11.1)	194 (15.6)	+4.5	<0.001**
Greater London	4197 (46.4)	625 (50.3)	+3.9	0.003**
North East	582 (6.4)	38 (3.1)	−3.4	<0.001**
North West	1581 (17.5)	205 (16.5)	−1.0	0.182
South East	966 (10.7)	67 (5.4)	−5.3	<0.001**
South West	560 (6.2)	76 (6.1)	−0.8	0.456
West Midlands	77 (0.9)	7 (0.6)	−0.3	0.135
Region unknown	29 (0.3)	27 (2.2)	+1.9	<0.001**
Postal vs pick-up				
Postal only	5381 (59.5)	816 (65.6)	6.2	<0.001**
Pick-up only	3476 (38.4)	380 (30.6)	−7.8	<0.001**
Unknown or combination (ie, repeats)	192 (2.1)	47 (3.8)	+0.1	<0.001**
Previous abortions				
At least one previous abortion	4380 (48.4)	599 (48.2)	−0.2	0.441
Previous live births				
At least one previous live birth	5654 (62.5)	809 (65.1)	+2.6	0.029*
Previous miscarriage				
At least one previous miscarriage	2026 (22.4)	303 (24.4)	+2.0	0.047*
Previous caesarean section				
At least one previous caesarean section	1364 (15.1)	209 (16.8)	+1.7	0.043*
Total	9049 (100)	1243 (100)		

Percentage point difference: values greater than ± 5 points are indicated in bold type.

Equality-of-proportions test: *significant $p < 0.05$, **very significant $p < 0.01$.

EMA, early medical abortion.

Table 2 Descriptive results of key outcomes

Quality of consultation	n (%) of sample reporting ability to talk privately during consultation						
	Yes, definitely, I could talk privately		Yes, somewhat, but I had to take action		Not sure, I had to be careful		
	1185 (95.3%)		57 (4.6%)		1 (0.1%)		
	n (%) of sample reporting opportunity to ask questions during consultation						
Yes, had opportunity to ask questions		No opportunity to ask questions					
1234 (99.3%)		9 (0.7%)					
Accessing medication	n (%) of sample reporting receiving their medications by post or pick-up from a clinic						
	Postal		Pick-up		Unknown or combination		
	846 (68.1%)		391 (31.5%)		6 (0.5%)		
	n (%) of postal sample reporting concerns about receiving medications by post						
Yes, had concerns		No concerns		Missing response			
71 (8.4%)		746 (88.2%)		29 (3.4%)			
Managing the process at home	n (%) of sample reporting they had enough information to take the medications themselves						
	Yes, definitely		Yes, somewhat		No, not enough information		
	1148 (92.4%)		68 (5.5%)		27 (2.2%)		
	n (%) of sample reporting concerns about the safety of taking medications themselves						
	Yes, had concerns		No concerns				
	157 (12.6%)		1086 (87.4%)				
	n (%) of sample reporting being able to manage their pain during EMA effectively						
	Yes, managed effectively		Yes, somewhat effectively		Not sure		Did not manage effectively
1093 (87.9%)		103 (8.3%)		4 (0.3%)		43 (3.5%)	
Overall satisfaction and preferences	n (%) of sample rating their experience of telemedicine EMA						
	Very good	Good	Neither good nor poor		Poor	Very poor	Don't know
	1047 (84.2%)	173 (13.9%)	10 (0.8%)		5 (0.4%)	2 (0.2%)	6 (0.5%)
	n (%) of sample reporting they would have preferred face-to-face care for this abortion						
	Would have preferred face-to-face		Would not have preferred face-to-face		Not sure		
	201 (16.2%)		1035 (83.3%)		7 (0.6%)		
	n (%) of sample reporting their preference for abortion care pathways in the future						
Would prefer face-to-face in future		Would prefer telephone in future		Would prefer video link in future	Don't know/it depends in future		
275 (22.1%)		763 (61.4%)		61 (4.9%)	144 (11.6%)		

EMA, early medical abortion.

Accessing medication

Almost one-third (391, 31.5%) of telemedicine EMA patients chose to pick up their medication from a clinic, with 846 (68.1%) choosing postal delivery. Of those receiving medications by post, the majority (746, 88.2%) said they had no concerns about doing so, and this did not differ significantly by any subgroup.

Most patients choosing postal delivery said they chose this option because it was easier, more private and more convenient with work, childcare and family life, because they lived too far from an MSUK clinic, or because they did not drive. Over a quarter (226, 26.7%) chose postal delivery due to COVID-19 and 24

(2.8%) explicitly mentioned self-isolating or shielding at the time of their EMA.

Of those picking up medication from a clinic, most chose this method because they wanted or needed to start the process more quickly, because they lived near a clinic so it was convenient, and/or because they had privacy or logistical concerns about receiving the medications via post, such as other members of the household intercepting the package, concerns about postal delays with COVID-19 or the medication going to an address at which they were not currently living. Those with at least one previous live birth were more

likely to request postal delivery compared with those with no children ($p < 0.001$).

Managing the process at home

The majority (1148, 92.4%) of women reported that they “definitely” had enough information to take the medications by themselves and 68 (5.5%) reported “somewhat”. This did not differ by subgroup except patients aged under 20 years and those aged 35–39 years were more likely to say that they “definitely” had enough information. Free-text comments among those who wanted more information show that they specifically wanted information on dosage, method of ingestion, and the level of pain and bleeding to expect, particularly with the misoprostol. Many women were reassured after speaking with the nurse or using the aftercare line or website.

Most (1086, 87.4%) women had no concerns about the safety of taking the medication by themselves. This did not vary significantly by subgroup except that patients who had at least one previous live birth and patients who were White British/White other were *less* likely to report concerns. Of the 157 (12.6%) women who did have concerns, free-text comments revealed that this was mainly general anxiety around EMA – if it would work, what level of bleeding and pain to expect, and how they would cope if they experienced complications – with concerns often alleviated through further telephone support.

Most reported being able to manage pain either “effectively” (1093, 87.9%) or “somewhat effectively” (103, 8.3%) during their EMA. This did not differ by subgroup except that patients who had never had an abortion or live birth before were more likely to report managing only “somewhat effectively”.

Lastly, 1064 (86%) women felt confident they had passed the pregnancy, although the feedback was collected before the recommended follow-up of a low sensitivity pregnancy test after 3 weeks. Those who were not confident or not sure were on average more likely to report little or no bleeding (31, 18.3% compared with 25, 2.4% among those who were confident, $p < 0.001$) and lower pain scores (5.7 pain score out of 10 among those who were not confident or unsure, compared with a score of 6.2 among those who were confident, $p = 0.006$). Less confident patients were more likely to request a nurse call-back compared to those who were confident (77, 43.0% vs 125, 11.8%, $p < 0.001$).

Overall satisfaction and perspectives on telemedicine EMA

Overall, 1220 (98.1%) women rated their experience as good/very good and only seven (0.6%) patients reported their experience as poor/very poor. Overall, this did not differ by subgroup except age group, where patients aged 25–29 and 30–34 years were marginally less likely to report a good/very good experience (564,

97.6%, in both groups vs 625, 99.7% average, for the other age groups, $p = 0.005$).

The majority (1035, 83.3%) of patients said they *would not* have preferred to have seen a doctor or nurse in-person with this abortion, as the telemedicine pathway suited them; 208 (16.7%) *would have* preferred a face-to-face pathway for this abortion or were not sure. This did not differ between subgroups, except among those who were Black/African/Caribbean/Black British or had unknown ethnicity – these individuals were more likely to report they would have preferred a face-to-face pathway, or that they were not sure. The patients who would have preferred face-to-face care mainly cited a desire for the emotional and practical reassurance of an interpersonal interaction.

When asked about future abortion preferences post-COVID-19, 275 (22.1%) would prefer face-to-face care, again mainly for personal contact and reassurance. Those voicing preference for face-to-face care for their current abortion were also more likely to report wanting face-to-face care in the future. 144 (11.6%) were unsure on future choice, saying it would be dependent on circumstances (such as gestational age or living arrangements) or that they wanted to avoid another abortion. This did not differ by subgroups, except age, where patients aged under 20 years were much less likely to respond “I don’t know/it depends” and more likely to decisively report wanting a face-to-face abortion in the future compared with the other age groups.

Two-thirds (824, 66.3%) of patients reported a preference for a future telemedicine EMA if there were no COVID-19 restrictions, 763 (61.4%) by telephone and 61 (4.9%) by video link, describing it as more comfortable, private, convenient, quicker and easier.

Hundreds of free-text comments revealed just how much patients valued having the option to complete their abortion in their own homes and on their own terms, and how much easier it was to talk freely when not in a face-to-face scenario (box 1).

DISCUSSION

Prior to the pandemic, telemedicine had already been recommended by national guidelines to improve access to abortion care,² but during COVID-19 it has been essential to maintain services while minimising viral transmission. Telemedicine EMA has overcome many of the barriers associated with in-clinic abortion care³ and has provided a valued option for tens of thousands of women to manage their abortion in their own homes and on their own terms.¹¹ It improves access to abortion care, and is especially useful for those who juggle work and childcare responsibilities, have privacy concerns, who live far from clinics or are otherwise vulnerable.² Patients in this follow-up sample reported confidence in the telemedicine EMA process and had high levels of satisfaction with the convenience, privacy and ease of being able to complete their abortion at home. Our

Box 1 Grouped extracts from free-text responses

Quality of consultation

"...easier to speak over the phone, and [(they)] did not feel judged."

"By phone is more convenient and more relaxed, [abortion] is a decision that isn't easy and an in-clinic appointment may make the situation feel worse."

Accessing medication

"Client is [a] single mum and with current situation with COVID-19, [it was] more convenient and safer to take medicine at home."

"Client was isolating at the time of treatment – but if she wasn't isolating, she [still] would have taken postal because of [the] privacy at home."

"[Client] didn't want to wait longer for post to come, [they] wanted to do complete treatment before going back to work."

"Client lives near the clinic and thought it would be quicker."

"[Client is] at university [and] didn't want [the medication] to be sent to [their] home address."

Managing the process at home

"Client found instructions a bit confusing but had support...used video on MSI website about process to explain."

"Client was a bit confused about whether to take the final dose of misoprostol but called the nurse who explained the process."

"[Client] had concerns on bleeding – but then read information sheet and [was] reassured."

"[Client was] concerned about the amount of pain and what to expect – nurse gave advice about taking painkillers."

"[Client] was a bit apprehensive but felt more comfortable after nurse consultation – [re]assured about having 24/7 helpline."

Overall satisfaction and perspectives on telemedicine early medical abortion (EMA)

"Due to COVID-19 lockdown the telemedicine option was the best – [but] client would be more confident with [a] face-to-face interaction."

"This was [the client's] first pregnancy, it is reassuring to speak to someone over the phone, but face-to-face contact is more reassuring."

"[Client was] very happy with the service and treatment...really valued being able to have treatment in the comfort of her own home. Client stated she could cry – she is so happy!"

"[Client] really valued being able to take medications at home because had additional stress at work and felt the whole experience was made easier. Give women more choice."

"[Client felt it was] really nice to have that choice – [they felt that] as a woman we should have the right to make our own choices and it's harder to talk face-to-face than over the [phone]."

"After this experience, [the client] would choose this option again, private and comfortable in [her] own home. The nurse was very informative and reassuring."

"Everything was amazing, the support was amazing, [client said] 'I hope this carries on [as] it helps people like me with children'. The 24 hour helpline was so helpful. From start to finish...it has been amazing."

findings echo those from earlier, smaller studies that telemedicine is acceptable to most women,^{12–16} and also that from other UK studies.^{17 18}

It is particularly reassuring that not only were no significant privacy or coercion concerns reported at all, but many women highlighted that telemedicine offered them greater privacy than having to attend clinic.

Telemedicine is not a panacea, with one-fifth of patients indicating they would like any care in the future to include at least some face-to-face interaction. These differences may reflect specific concerns about aspects of the EMA process, or could simply indicate that some demographic groups were more likely to prefer the reassurance of a face-to-face interaction. The findings indicate the need to maintain face-to-face abortion care as a choice for patients, since not all are

eligible for or would choose a telemedicine consultation. These patients, and those who need surgical abortions, should not be disadvantaged or face worsened access to abortion care as a consequence of telemedicine provision. It is also essential that access to advice and support is available through online resources and 24-hour aftercare.

This study has limitations. On the positive side, the survey was administered within an average of 5 days of the abortion, among a discrete population whose recollection is likely to be good. The sample size achieved was large relative to most post-service surveys. However, the approach has weaknesses, primarily that it is a sample. MSUK nurses recruited the follow-up sample, introducing the possibility of selection bias. MSUK care assistants collected follow-up data, with potential for courtesy bias, although this was mitigated

by care assistants not being involved in other parts of patient care and following a predefined script. Assistants may not have transcribed responses verbatim.

It is reassuring that the patient profiles in the sample and whole population were reasonably well matched. Similarities on demographics and medical history between the sample and total population (and overall relative consistency of results between subgroups, particularly between postal and pick-up patients) offers reassurance that significant selection bias has been minimised. However, there were some significant differences between the sample and population and it is unknown whether these could have influenced results to under- or overrepresent overall satisfaction. There is a need for more research on whether telemedicine has more impact in populations that may face additional barriers to accessing services, such as those from ethnic minorities.

Overall, while the option of in-person care should continue to be freely available for those who need or prefer it for reassurance and support, telemedicine EMA is a valued, private, convenient and more accessible option for most patients seeking an abortion. This study shows that even without COVID-19 restrictions, telemedicine EMA would still be many patients' first choice of abortion pathway, and this finding (coupled with parallel findings on telemedicine safety and effectiveness¹⁹) makes the argument for continuing to offer this service after the COVID-19 pandemic compelling.

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Contributors CPE: data analysis, writing first draft and subsequent revisions, verification of data. Overall responsibility for data analysis and principal investigator. JL: initial concept, developing study protocol, writing first draft and subsequent revisions, co-ordination and liaison. Overall responsibility for conduct of study including data collection at MSUK. KC: data analysis, reviewing first draft and subsequent revisions, verification of data.

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