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Self-diagnosing the end of pregnancy after medication abortion

Whitney Arey[a], Klaira Lerma[a] and Kari White[a,b,c]

[a]Population Research Center, University of Texas at Austin, Austin, TX, USA; [b]Department of Sociology, The University of Texas at Austin, Austin, TX, USA; [c]Steve Hicks School of Social Work, The University of Texas at Austin, Austin, TX, USA

ABSTRACT

This qualitative study conducted between November 2020 and March 2021 in the US state of Mississippi examines the experiences of 25 people who obtained medication abortion at the state's only abortion facility. We conducted in-depth interviews with participants after their abortions until concept saturation was reached, and then analysed the content using inductive and deductive analysis. We assessed how people use embodied knowledge about their individual physical experiences such as pregnancy symptoms, a missed period, bleeding, and visual examinations of pregnancy tissue to identify the beginning and end of pregnancy. We compared this to how people use biomedical knowledge such as pregnancy tests, ultrasounds, and clinical examinations to confirm their self-diagnoses. We found that most people felt confident that they could identify the beginning and end of pregnancy through embodied knowledge, especially when combined with the use of home pregnancy tests that confirmed their symptoms, experiences, and visual evidence. All participants concerned about symptoms sought follow-up care at a medical facility, whereas people who felt confident of the successful end of the pregnancy did so less often. These findings have implications for settings of restricted abortion access that have limited options for follow-up care after medication abortion.

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Medication abortion; embodied knowledge; biomedical knowledge; self-diagnosis; self-managed

Introduction

Medication abortion is a safe and effective means of abortion care (National Academies of Sciences, Engineering, and and Medicine 2018; ACOG 2020). In 2020, medication abortion accounted for over half of all clinician-provided abortions in the USA for the first time (Jones, Kirstein, and Philbin 2022). In the USA, the Food and Drug Administration-approved (FDA) regimen for medication abortion involves taking mifepristone, followed 24 to 48 h later by misoprostol (Jones and Boostra 2016). Prior to the removal of an in-person dispensing requirement in December 2021, provision of the medications has typically taken place at an abortion-providing facility after a

CONTACT Whitney Arey whitney.arey@austin.utexas.edu

clinician has evaluated eligibility for medication abortion, frequently including an ultrasound assessment to determine gestational duration. Most people take mifepristone at the facility, but take the misoprostol after leaving the facility and complete their abortion at home (or elsewhere) 24–48 h later.

A growing body of research has established that much of the medication abortion process can occur with limited (bio)medical assessment to determine that the abortion was complete (Gomperts et al. 2008; Wainwright et al. 2016; McReynolds-Pérez 2017; Aiken et al. 2018; Madera et al. 2022; Anger and Raymond 2023). Because the regimen is so effective, people often do not need to have an in-person follow-up evaluation and can complete a remote assessment by phone or telemedicine (Aiken, Starling, and Gomperts 2021; Iyengar et al. 2016; Grossman et al. 2004; Mandira et al. 2015; Upadhyay, Schroeder, and Roberts 2020). Additionally, medication abortion can be safely administered with few (if any) physical examinations to those who are less than 11 wek of gestation (Aiken, Romanova, et al. 2022). People are able to accurately determine their gestational duration, permitting the safe independent use of abortion pills (Ralph et al. 2022). Following the onset of the COVID-19 pandemic, remote provision of medication abortion through telemedicine was FDA-approved and allowed based on state law; however, many states still banned the use of telehealth abortion care.

Clinician-provided abortion care has become more difficult to obtain following the 2022 US Supreme Court decision overturning *Roe v. Wade*, which allowed states to determine the legality of abortion at any gestational duration. As of the time of writing, 14 states have prohibited the provision of nearly all abortions or severely restricted when abortion can be obtained (Nash and Guarnieri 2023). People who need abortion care and live in ban states have to travel to other US states where abortion remains legal if they have the resources, or they may choose to self-manage their abortion through medications that they purchase online (Grossman, Perritt, and Grady 2022). Although people self-managed their abortion using medications purchased online prior to the Supreme Court's decision, new evidence indicates that requests for medications have increased since the decision (Aiken, Starling, et al. 2022; Jones, Kirstein, and Philbin 2022). A 2022 study of pills obtained from a large online provider found that self-managed medication abortion using mifepristone and misoprostol is safe and effective (Aiken, Romanova, et al. 2022).

Despite the well-established safety and effectiveness of the regimen, whether provided by a clinician or for self-managed abortion, some people may need follow-up care or will want reassurance that their abortion is complete. Services to confirm that one is no longer pregnant may be more difficult to secure in states that have banned abortion, or where someone lives far from legal abortion care. People who are unable or afraid to seek follow-up care in contexts where abortion is illegal may rely on embodied knowledge, or a person's own knowledge of their bodily experiences, to make these assessments for themselves.

In this study, we interviewed people who obtained medication abortion at Mississippi's only abortion facility between November 2020 and March 2021.[1] We explored how participants used both embodied knowledge and biomedical knowledge to identify that they had become pregnant and to identify that they were no longer pregnant after completing the medication abortion. Through people's embodied

experiences we highlight what kinds of knowledge people use to successfully identify and subsequently end their pregnancies at home. This has implications for the shifting context in which people use medication abortion, such as returning home after obtaining facility-based care in a state where abortion is legal or self-managing their abortion with medications outside of clinical settings.

Embodied and biomedical knowledge about pregnancy

Embodied knowledge in the context of pregnancy has been defined as a form of subjective knowledge about a person's own bodily changes and experiences (Browner and Press 1996; Davis-Floyd and Sargent 1997). Embodied knowledge in pregnancy is often contrasted with authoritative knowledge (e.g. biomedical knowledge). With the growth of biomedicine, pregnancy has been increasingly medicalised, and biomedicine has become the dominant form of knowledge about reproduction and pregnancy (Jordan 1983; Davis-Floyd and Sargent 1997). Studies of embodied and authoritative knowledge, prominent with the growth of the US women's health movement in the 1970s, found that embodied knowledge is often devalued as a less legitimate form of knowledge, when compared to biomedical knowledge about reproduction (Davis-Floyd 1994; Rothman 1989; Georges 1996; Westfall and Benoit 2008).

However, research on the use of biomedical technologies, such as ultrasound images, prenatal testing, and birth plans, has shown how people use embodied knowledge in pregnancy decision-making and evaluation of risk (Browner and Press 1996; Morgan 2009; Etchegary et al. 2008; Clancy, Boardman, and Rees 2022). For example, research on prenatal genetic testing has shown that people make decisions about continuing pregnancy and personal risk after receiving biomedical diagnoses based on their embodied and lived experiences of the pregnancy (Lippman 1999; Lorentzen 2008; Gammeltoft 2007). This reliance on embodied, physical experiences to make sense of biomedical information is important to our discussion of self-diagnosing the beginning and end of pregnancy.

Brigette Jordan's (1977) pioneering research on self-diagnosis of pregnancy showed how people used embodied knowledge to diagnose their own pregnancies before receiving confirmation in biomedical settings. She found that the experience of pregnancy symptoms was a primary way of self-diagnosing pregnancy, and that people knew they were pregnant before going to the doctor to 'do something about it' (Jordan 1977). This might be a confirmation of pregnancy through a urine or blood test, ultrasound, or otherwise enrolling in biomedical treatment to continue or end the pregnancy. Likewise, Elaine Gerber's (2002) research in France on the use of mifepristone before 7 wk of pregnancy found that seeing expelled pregnancy tissue created new embodied ways of knowing about the foetus,[2] or 'eggs' as her study participants described the pregnancy tissue. This differed from biomedical ways of knowing and seeing the pregnancy, which were constructed primarily from ultrasound images. Gerber's (2002) research focused on how seeing pregnancy tissue first-hand allows individuals to look inside their own bodies, and challenges preconceived, biomedical images of what constitutes early pregnancy through personal experiences. In this paper, we use insights from both Jordan and Gerber's work to examine the

interplay of embodied and biomedical knowledge in self-diagnosis at the beginning and end of pregnancy.

Study setting

Mississippi has a shortage of obstetrician-gynaecologists providing reproductive healthcare, and this shortage is even more pronounced for abortion care (Rayburn et al. 2012; White et al. 2022). At the time of the study, Mississippi had only one abortion facility, which provided both medication and in-clinic procedural abortions. In addition to traveling long distances to receive care (White et al. 2022), people obtaining abortion care had to make multiple trips to the facility because of state abortion restrictions that required a 24-h waiting period after state-mandated counselling and prohibited telemedicine for abortion counselling and provision (Guttmacher Institute 2021).

Methods

This analysis uses data from in-depth interviews conducted with Mississippi abortion patients who had participated in a survey about their experiences seeking reproductive healthcare, including abortion, during the COVID-19 pandemic. We asked participants who completed the self-administered online survey if they would be interested in taking part in an in-depth phone interview about their abortion experience. Patients were eligible to participate in interviews if they were 18–45 years of age, Mississippi residents, able to complete study procedures in English, did not desire to be pregnant in the next two years, and had an abortion by the time they completed the survey. After participants completed the survey, we contacted those who indicated interest in completing a phone interview.

Between November 2020 and March 2021, we conducted in-depth interviews with eligible participants. Interviews lasted between 45 and 60 min and were recorded with participant's consent. Participants received a $30 USD gift card for completing the in-depth interview. The interview guide was developed from previous research and published studies (Baum et al. 2016; Lerma, McBrayer, and White 2021; White et al. 2016; Carroll and White 2020; White et al. 2020). The interviews included questions about participants' reproductive history, experiences accessing reproductive healthcare in Mississippi, how they discovered they were pregnant, their experiences accessing abortion care and barriers to access, the information they received during abortion counselling, their experience with medication abortion, reasons for making or not making any follow-up visits, and how confident they were that the medication abortion had worked to end the pregnancy. After each interview, the interviewer wrote summaries. Audio recordings of the interviews were transcribed, de-identified and reviewed by another researcher for accuracy. We continued interviews until concept saturation was reached, which was assessed through regular reviews of the interview summaries and transcriptions. The institutional review board at The University of Texas at Austin approved all study procedures.

We reviewed the interview transcripts and summaries to develop a codebook, using both deductive approaches, based on the questions asked of participants, and

inductive approaches, based on themes that emerged through close reading of the interview transcripts and summaries. The researchers independently coded each transcript and the coding team ($n = 3$) met regularly to discuss and resolve discrepancies in the coding. NVivo 12 (QSR International, Burlington, MA) was used for all qualitative analyses. Embodied knowledge, while not originally the focus of the study, emerged as a primary theme during data analysis.

Results

Of the 40 participants who indicated that they wished to participate in the interview component of the study, 25 scheduled and completed an interview. Of the remaining 15 participants, five changed their minds about participating and 10 could not be contacted after three attempts. All self-identified as women and their median age was 28 years old (range 21–38 years). The majority of participants identified as non-Hispanic/Latina/x Black, heterosexual, had at least one child, and approximately one-third had previously had an abortion. All participants had a medication abortion at 10 weeks of gestation or less (Table 1).

Primary themes discussed in the results are: embodied experiences of the beginning of pregnancy; confirmation of pregnancy through biomedical knowledge; embodied experiences of the end of pregnancy; and confirming the end of pregnancy for people who were uncertain of success through biomedical knowledge and in-clinic follow-up.

Table 1. Demographic characteristics of participants who obtained medication abortion ($n = 25$).

Age, median years (range)	28 (21-38)
Identified gender as woman/female	25 (100)
Reported a previous birth	21 (84)
Reported a previous abortion	8 (32)
Sexuality	
Straight	24 (96)
Bisexual	1 (4)
Relationship status	
Single, not in a relationship	12 (48)
Married	4 (16)
In a relationship but not living together	4 (16)
In a relationship and living together	3 (12)
Separated or divorced	2 (8)
Self-reported race/ethnicity	
Black/African American, Non-Hispanic/Latinx	19 (76)
White, Non-Hispanic/Latinx	3 (12)
White, Hispanic/Latinx	2 (8)
More than one race	1 (4)
Education	
High school diploma (or equivalent) or less	6 (24)
Some university or college, Associates degree or technical school	11 (44)
Bachelor's degree	5 (20)
Graduate school	3 (12)
Indicators of economic need	
Low-income (<194% Federal Poverty Level)	18 (72)
Household use of governmental assistance programs	15 (60)
Insurance status	
Private Insurance	13 (52)
Public Insurance	8 (32)
No Insurance	4 (16)

Embodied experiences of the beginning of pregnancy: missed period and pregnancy symptoms

Almost all participants described that missing their period or the onset of pregnancy symptoms, such as morning sickness, sore breasts, and tiredness, were the first indications that they might be pregnant. Although these were equally common forms of embodied knowledge, the embodied experiences of a missed period or pregnancy symptoms occurred in a different order for each individual and were often described in conjunction with one another. For example, a 22-year-old who had never been pregnant before said:

> My period hadn't come on. I really didn't have any symptoms, other than tiredness. Typically, I am tired anyway, but it was just like extra amount of tired. I'm not that regular, but most of the time if my cycle lasts a little longer than usual, it may have been maybe five days [late]. But this time it had been eight- or nine-days past.

Embodied experiences differed based on people's pregnancy histories. Participants who had previously been pregnant often described having the same pregnancy symptoms as before, a clear indication that they were pregnant. One 30-year-old mother of two said: 'Well, my stomach kept cramping, I was getting nauseous, and I could smell things real good. I just know the feeling because I've had it three times in the past. So, I knew exactly what it was.' Another 34-year-old mother of two described feeling sure that she was pregnant after her period was late saying,

> I'm really regular with my period. I was like, 'Now, something is wrong.' On my two pregnancies, the ones that I got before, it was just exactly the same. Just started with the same symptoms and everything. I started to feel the same and I was like, 'Oh no. There's something wrong.' I was right. I know myself.

The four participants who had not been pregnant before also described experiencing symptoms or feeling that 'something wasn't right,' but did not always associate these symptoms with pregnancy. A 23-year-old who had never been pregnant described her embodied experience of pregnancy saying:

> One day, I realised that I'm sleeping a lot. [I thought] 'Oh well, I'm just tired,' and then one morning, I felt cold, cold all over. I just felt like 'ew.' I don't know what was going on. I brushed my teeth. When I brushed my teeth, I vomited. That has never happened for me before. I was so uncomfortable with my hair, combing it. I was like, 'you know what, maybe just take this [pregnancy] test to ease my mind.' I don't even have the slightest thought in my mind that it's going to come back with two lines on it (positive result).

Additionally, some participants described the onset of symptoms occurring over a period of days or several weeks, as they increasingly experienced more intense or multiple symptoms or their period still did not start, leading them to think they might be pregnant and to decide to take a home pregnancy test. One 36-year-old mother of two said:

> I was super grumpy and irritable. Anything [my kids would] do would just irritate me. Smells would make me sick, stuff that I love smelled horrible to me. I was really cranky and irritable. I was like, 'Well, I guess my periods are coming out early.' Then it didn't

> come out and I'm like 'Well maybe it's coming on late, maybe I'm working out too much.' Didn't come on… It was actually on a Saturday, I said 'You know what, I'm going to Dollar Tree, and I'm going to need a pregnancy test. I'm going to take one real quick, pee in the cup, and see what happens.'

Another 21-year-old mother described how she came to think she might be pregnant and confirmed this using home pregnancy tests:

> At first, I didn't think I was [pregnant]. I'm like, 'I'm probably just on [an] irregular cycle, so I'm probably not going to get another one for another two months.' But then I started to feel funny, and I was like, 'Hold on, something's not right.' I don't know if you believe in dreams and stuff like that, but I was dreaming about fish and stereotypical dreams that are kinda like, 'Hey, you might be pregnant.' Then I took a test, and it came out positive.

Confirming the pregnancy through biomedical knowledge: home pregnancy tests or a visit to the doctor

Nearly all participants confirmed their pregnancy through biomedical knowledge, and only two made appointments at an abortion facility solely based on their embodied knowledge that they were pregnant, without a method of biomedical confirmation beforehand. The primary way that people confirmed their pregnancy through biomedical knowledge was through the use of home pregnancy tests. Eighteen participants took at least one home pregnancy test to confirm the pregnancy, which when combined with their embodied knowledge, provided them with a high degree of certainty that they were indeed pregnant.

However, home pregnancy test results did not provide sufficient confirmation for a few participants, who used as many as six or seven tests. These participants described getting ambiguous test results, were early in pregnancy, or did not initially believe the result or wanted to be more certain. A 35-year-old mother of four said: 'I first took a home test. The first one was unclear and the second one read positive, so I wasn't too sure. I just went to the women's health clinic there to get a test and to weigh my options.' Another 27-year-old mother of two said:

> I was due for my cycle, and it seemed like it was coming on, and then it was like nothing. So, I went and got a few over-the-counter tests from the store. I had quite a few. I think I had maybe one negative, one was positive, so I wasn't quite sure. I got a few more, and then it said positive. I just made an appointment with [the obstetrician-gynaecologist] to go through the process of confirming it. I started to have the morning sickness that I had with my other kids. And so that was kind of like, 'Okay, yes. More than likely this is what it is. I definitely need to make an appointment and go get checked out.'

Of the five participants who confirmed their pregnancy at a healthcare facility without taking home pregnancy tests, three described confirming their embodied knowledge of the pregnancy with a pregnancy test and/or ultrasound at the facility. As one 34-year-old mother said, 'I found out through my doctor. She confirmed it. I already knew I was pregnant, [with] the signs and symptoms that I was having. But just to be on the safe side, I went to her and confirmed it.' The other two participants did not perceive any physical symptoms of pregnancy and found out they were

pregnant through pregnancy tests at their doctor's office. One of these was a 27-year-old mother who found out she was pregnant at the hospital where she sought care for symptoms that she attributed to COVID-19. She said: 'I was actually really sick when I woke up one morning. I was super sick, I was running with fever, I couldn't move or anything. I thought I had COVID. I went to the hospital, and they actually told me that I was dehydrated, and I was pregnant. That's how I found out. I had no idea this time, I didn't have a clue.' The other participant, who was 31-year-old and had never been pregnant before, found out from a routine pregnancy test at a visit to refill her hormonal birth control prescription. She was 'numb' when the nurse told her she was pregnant, as she was still taking her birth control and was not experiencing any symptoms.

Embodied experiences of the end of pregnancy: tissue examination and resolution of pregnancy symptoms

Participants' experiences of confirming the end of the pregnancy after medication abortion were similar to how they identified that they were pregnant. Participants primarily discussed the physical experience of passing the pregnancy, examining the pregnancy tissue or bleeding, and noticing the end of their pregnancy symptoms as embodied ways of determining the end of the pregnancy. Seventeen participants described visual confirmations of the end of the pregnancy, such as seeing blood or tissue, and 12 described the end of their pregnancy symptoms as ways of knowing that the abortion had been successful; eight described having both of these experiences together.

The 17 participants who cited visible evidence as a way of confirming the abortion had worked, described what they saw as 'heavy bleeding,' 'clots,' 'the gestational sac,' 'the foetus,' 'detached egg,' or 'the baby' after taking the misoprostol at home. Participants who saw pregnancy tissue expressed a high degree of certainty that the medications had worked. For participants who had a previous abortion, seeing the same visual evidence they experienced during their previous abortion was a clear indication that their current abortion had been successful. As one 25-year-old mother, who had previously had both a procedural and medication abortion, described: 'First because I saw the foetus come out with a lot of the, that little stuff that comes out – I was bleeding so I knew. The same thing that happened last time with the pill happened this time. So, I was sure.'

This was also true for participants who had not had an abortion before. A 22-year-old with no previous pregnancies said of the abortion: 'I was 110% sure. I saw the egg detached from the uterine wall and go into the toilet, so I was very sure.' Another 35-year-old who had never been pregnant before described the experience:

> I really didn't know what to expect. I took the pills, and within 30 minutes cramps started. Stomach pain started. It was just like, 'whoa.' The pain that I felt in my stomach, I was like, 'Oh, that's like a clot.' I just went to the restroom to just pass this clot along, and it just felt like a golf ball was trying to push out this pinball. It was a feeling I've never felt. I'm curious and I have the tray that goes in the toilet, so I used that to catch the blood and drip and see what was going on, and sure enough, it was some little whole sac thing. It was weird looking. It was very interesting to see. It was just mucousy looking and red and like a big mushball.

The end-of-pregnancy symptoms were another primary way that participants felt confident that the pregnancy had ended. A 21-year-old mother who had not had an abortion before compared how she felt after taking the medications to how she identified the pregnancy through embodied knowledge, saying, 'I knew it was working, I felt it. It's like how you have a hint like, "Hey, I know I'm pregnant." It's like, "Hey, I know I'm not pregnant anymore." That's how I felt.' The cessation of pregnancy symptoms, combined with seeing the blood and tissue, helped people feel confident that the abortion was successful. Another 23-year-old mother who had not had an abortion before described:

> That was kind of what took my worries away. I'm like, 'Okay, well, I don't feel sick, or tired no more. I don't feel as sleepy.' I didn't feel like that anymore, so I was like, 'Okay, well, maybe it did work,' because I was having big blood clots every time I used the bathroom.

Participants' descriptions of the counselling they received about what to expect for a successful abortion often included language that reflected embodied knowledge. One 31-year-old who had not been pregnant before described the information provided at the facility, saying:

> She actually handed us a little pamphlet and explained that there was going to be some discomfort. She went from how we're supposed to take it, what we might experience, what to look for, what to pay attention to. If X, Y, and Z happens, call the clinic first before you go to the doctor, and then the aftermath that you're going to be bleeding for, anywhere from a week to four weeks, and you'll start feeling better. You'll be able to tell that you're not pregnant anymore after everything.

This idea that people would 'be able to tell' or 'feel' that they were no longer pregnant was echoed in other participants' responses about the information they had received from the facility staff, and often corresponded to notions of feeling 'empty' or 'not full.' A 22-year-old who had not been pregnant before said:

> The doctor put in simple words. She said, 'When you take your second set of pills you will feel a lot less pregnant than you have felt.' In my mind I did not know what she meant because honestly, when I found I was pregnant, I couldn't believe it because I didn't have really any symptoms other than I'm tired all the time. But when I passed the pregnancy, I understood what she meant. Because after it, I felt hungry. You know how your stomach, not a rumble, but it just feels empty because you ate nothing. That's how I felt, which was really odd to me. But that's what she said, and she was correct.

Another 38-year-old mother described this feeling that she was not pregnant anymore, saying:

> I knew that I wasn't anymore because I had been swelling more extremely than my other pregnancies… After I took the pill and everything, maybe like a week later, I stopped swelling. So that kind of was confirmation for me. All those other little changes I noticed went away.

Confirming the end of pregnancy through biomedical knowledge: pregnancy tests, clinical follow-up, and certainty about the end of pregnancy

At their abortion visit, participants said facility staff told them that they should return for a follow-up appointment two weeks after the medication abortion, or they could

take a home pregnancy test four weeks later to confirm they had a complete abortion. Additionally, patients were told to call the clinic to see about seeking emergency care if they were experiencing concerning symptoms such as severe cramps, soaking more than two period pads in one hour, nausea, diarrhoea, vomiting, dizziness, fever, or chills that last more than 24 h.

Only seven participants attended their scheduled follow-up visit at the facility, and most did so 'just to make sure' there were no problems following their abortion. A 33-year-old mother described attending the follow-up visit even though she was certain the pregnancy had ended and had a negative pregnancy test: 'I felt like it did work and I also took a home pregnancy test before I went to the follow-up. I also looked and found that I had passed all the tissues, and I identified that the largest one most likely was the foetus.' Another 35-year-old mother described seeing a 'sac,' but attended the follow-up because she was unsure if her experiences were normal:

> I just kept feeling things. I just kept bleeding and I kept finding things just dripping away at my body. Different clots would come out. I wasn't for sure. I was like, 'No, this didn't work. It didn't work. We got to do some more. Oh, my goodness.' I was freaking out. Then, when I got [to the follow-up], she was like, 'Nope, you're fine. Nope, that is normal. Nope, you're okay.' They confirmed it, so it was done.

Many participants who did not attend the follow-up visit described at least one barrier to returning for care, such as limitations on transportation, childcare and taking time off of work. These participants frequently described feeling confident about the end of the pregnancy based on the combination of embodied knowledge and negative home pregnancy test results. A 35-year-old mother, who was unable to take a day off from work to attend her follow-up appointment, felt assured she was no longer pregnant, saying: 'I was feeling normal again, not having any symptoms at all. Then I just took the test three weeks later after the abortion and it was negative. That's it, I was just thinking I wasn't pregnant anymore.' A few participants who were unable to attend the follow-up visit called the facility two to four weeks after taking home pregnancy tests to get verbal confirmation from facility staff that they successfully ended the pregnancy. One 23-year-old mother was worried and unsure whether the medication had worked because of her continued positive pregnancy tests: 'I called [the clinic], and I was like, "Well, it's still showing up positive." She was like, "Well, you're supposed to be looking for a faint line. It's going to be positive. It's going to be like that for a while. Just look for a faint line."'

Three participants visited another healthcare facility closer to home, such as an obstetrician-gynaecologist or health department, and three sought care at an emergency department. These patients described having physical experiences that were different than what they expected or had concerning symptoms, did not experience a reduction of their pregnancy symptoms after medication abortion, or had continued positive pregnancy tests multiple weeks after the abortion. A 27-year-old mother described being worried that the medication abortion had not worked, because she did not bleed or pass clots as much as expected. She went to the emergency room to confirm the end of the pregnancy:

> I was still popping positive pregnancy test for a good 7–8 weeks after the fact. I had no insurance; I couldn't just go to the doctor and do anything about it. So, I finally had to go to the ER and tell them that I had a miscarriage because that's what they said that you could do if you need to go there. Then they did like an ultrasound and stuff to see if the baby was in there and it wasn't. That's how I got my verification.

Although all participants completed the medication abortion regimen, a few received additional medical interventions after experiencing concerning symptoms such as continued bleeding or not seeing pregnancy tissue. A 29-year-old participant, who had a previous medication abortion, sought treatment at the emergency room based on her embodied symptoms and not seeing the same visual evidence as she had previously:

> I had cramping immediately when I took the pills, within the four hours that they tell you that that should occur, but I never had any blood… Days later, I started to spot. Well, my cramping was intense and so I was like, 'I know I haven't passed anything; I know what this should look like.'

The emergency department determined that she had an ectopic pregnancy, for which she received care.

Discussion

The use of embodied knowledge relating to pregnancy and abortion have been addressed separately in the literature (Jordan 1977; Gerber 2002). The study weaves together embodied knowledge about pregnancy and abortion by focusing on the arc of pregnancy recognition and resolution during medication abortion. We showed that people initially use embodied knowledge to self-diagnose the beginning and end of their pregnancies, such as the onset or disappearance of pregnancy symptoms and recognition of a missed period or passage of pregnancy tissue. Despite the majority of participants feeling confident in their embodied knowledge about pregnancy, they often used medical technologies, especially home pregnancy tests, for confirmation. This may connect to the history of the medicalisation of pregnancy, where biomedical knowledge has been elevated as more authoritative than individual knowledge of embodied experiences (Davis-Floyd and Sargent 1997). Home pregnancy tests are also more accessible options for biomedical confirmation as they are available over-the-counter and do not require making or waiting for an in-person appointment.

Our findings support recommendations to make the in-person follow-up appointment optional for people who have obtained clinician-provided medication abortion, as many people are able to determine on their own that they are no longer pregnant (Upadhyay, Koenig, and Meckstroth 2021; McReynolds-Pérez 2017; Raymond et al. 2019; Tschann et al. 2021; Anger and Raymond 2023). Almost all study participants who were experiencing continued pregnancy symptoms or symptoms that caused them to feel uncertain of the success of their abortion sought care from a healthcare provider, including all of those who experienced symptoms that ultimately required clinical interventions. Medication abortion is not always successful, and some people will need access to in-clinic care options (Aiken et al. 2017; Harris and Grossman

2020). Our results indicate that people will be able to determine this for themselves based on their embodied experiences.

However, now that abortion care is more difficult to access for many pregnant people in the USA, those who are able to travel to states where facility-based care remains legal may be concerned about seeking follow-up care after they return home and uncertain whether they would face legal repercussions (Grossman, Perritt, and Grady 2022). Hotlines and guidance on what to report when seeking facility-based care could offer the support and reassurance that people may need (Baum et al. 2020). For those who self-manage their abortion, a practice that may be increasing following the implementation of abortion provision bans after the overturn of *Roe v. Wade* (Aiken, Starling, et al. 2022), our findings suggest that most people will be able to accurately rely on their physical experiences to determine their need for care at the beginning and end of pregnancy. However, not everyone will be able to rely on embodied experiences to identify their pregnancy, particularly those who experience few (if any) pregnancy symptoms, leading them to identify their pregnancy later (Foster, Gould, and Biggs 2021). Access to in-person, facility-based care remains essential for people to confirm or identify their pregnancy, end of pregnancy, or receive treatment for concerning symptoms.

Limitations of this study include the fact that it was conducted in English and did not include the experiences of people who might have language barriers to understanding instructions for medication abortion. Although the study was not meant to be a representative sample, as it included only those who self-selected into interview participation, the demographic characteristics of this sample are broadly similar to all Mississippi abortion patients (Kortsmit et al. 2021). The sample was also entirely composed of women who identified their pregnancy and accessed abortion care before 10 weeks, did not desire a pregnancy in the next two years, and many participants had been pregnant before; therefore, members of the sample may have been more likely to recognise embodied pregnancy symptoms and seek care early. Access to abortion care has also changed since we conducted this study. Abortion care at the Jackson facility is no longer an option. People who travel for abortion and are not able to attend follow-up appointments out of state may be more likely to see care in the emergency department locally, but may not report they had a medication abortion due to fears of criminalisation (Grossman, Perritt, and Grady 2022). Future research should explore how increasingly restricted contexts of abortion access impact the reliance on embodied knowledge and use of abortion follow-up care.

Our research highlights the accuracy of embodied knowledge in self-diagnosing the beginning and end of pregnancy, and how people used biomedical technologies, such as home pregnancy tests and ultrasounds, to confirm their embodied experiences when needed. This allows most people to safely use medication abortion with limited clinician involvement. However, those who are not able to rely on their embodied experiences, who desire clinical confirmation or who need treatment should be able to access facility-based care without fear of stigma and criminalisation.

Notes

1. Due to changes in abortion policy in Mississippi, this abortion facility closed in July 2022.

2. Although Gerber used the term 'foetus' to discuss the ways people experience and visualise pregnancy tissue, foetus as a medical term is not used until after the eighth week of pregnancy.

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ORCID

Whitney Arey http://orcid.org/0000-0002-6495-4570
Klaira Lerma http://orcid.org/0000-0002-3075-9814
Kari White http://orcid.org/0000-0001-6463-8626

References

Aiken, A. R. A., K. Broussard, D. Johnson, and E. Padron. 2018. "Motivations and Experiences of People Seeking Medication Abortion Online in the United States." *Perspectives on Sexual and Reproductive Health* 50 (4): 157–163.

Aiken, A. R. A., I. Digol, J. Trussell, and R. Gomperts. 2017. "Self Reported Outcomes and Adverse Events after Medical Abortion through Online Telemedicine: Population Based Study in the Republic of Ireland and Northern Ireland." *BMJ (Clinical Research ed.)* 357: J 2011. doi:10.1136/bmj.j2011

Aiken, A., R. A., E. P. Romanova, J. R. Morber, and R. Gomperts. 2022. "Safety and Effectiveness of Self-Managed Medication Abortion Provided Using Online Telemedicine in the United States: A Population-Based Study." *The Lancet Regional Health - Americas* 10: 100200. doi:10.1016/j.lana.2022.100200

Aiken, A. R. A., J. E. Starling, and R. Gomperts. 2021. "Factors Associated with Use of an Online Telemedicine Service to Access Self-Managed Medical Abortion in the U.S." *JAMA Network Open* 4 (5): e2111852.

Aiken, A., R. A. J. E., Starling Scott, J. G. and R. Gomperts. 2022. "Requests for Self-Managed Medication Abortion Provided Using Online Telemedicine in 30 US States Before and After the Dobbs v Jackson Women's Health Organization Decision." *JAMA* 328 (17): 1768–1770.

American College of Obstetricians and Gynecologists (ACOG). 2020. "Medication Abortion Up to 70 Days of Gestation. ACOG Practice Bulletin Number 225." *Obstetrics and Gynecology* 136: e31–e47.

Anger, H., and E. G. Raymond. 2023. "Implications of Using Home Urine Pregnancy Tests vs. Facility-Based Tests for Assessment of Outcome Following Medication Abortion provided via Telemedicine." *Contraception*: 110055. doi:10.1016/j.contraception.2023.110055

Baum, S. E., A. Maria Ramirez, S. Larrea, S. Filippa, I. Egwuatu, J. Wydrzynska, M. Piasecka, S. Nmezi, and K. Jelinska. 2020. "It's Not a Seven-Headed Beast': Abortion Experience among Women That Received Support from Helplines for Medication Abortion in Restrictive Settings." *Health Care for Women International* 41 (10): 1128–1146.

Baum, S., K. White, K. Hopkins, J. E. Potter, and D. Grossman. 2016. "Women's Experience Obtaining Abortion Care in Texas after Implementation of Restrictive Abortion Laws: A Qualitative Study." *PloS One* 11 (10): e0165048.

Browner, C. H., and N. Press. 1996. "The Production of Authoritative Knowledge in American Prenatal Care." *Medical Anthropology Quarterly* 10 (2): 141–156. http://www.jstor.org/stable/649325

Carroll, E., and K. White. 2020. "Abortion Patients' Preferences for Care and Experiences Accessing Services in Louisiana." *Contraception: X* 2: 100016. doi:10.1016/j.conx.2019.100016

Clancy, G., F. Boardman, and S. Rees. 2022. "Exploring Trust in (Bio)Medical and Experiential Knowledge of Birth: The Perspectives of Pregnant Women, New Mothers and Maternity Care Providers." *Midwifery* 107 (April): 103272.

Davis-Floyd, R. 1994. "The Technocratic Body: American Childbirth as Cultural Expression." *Social Science & Medicine (1982)* 38 (8): 1125–1140.

Davis-Floyd, R., and C. F. Sargent. 1997. *Childbirth and Authoritative Knowledge: Cross-Cultural Perspectives*. Berkeley: University of California Press.

Etchegary, H., B. Potter, H. Howley, M. Cappelli, D. Coyle, I. Graham, M. Walker, and B. Wilson. 2008. "The Influence of Experiential Knowledge on Prenatal Screening and Testing Decisions." *Genetic Testing* 12 (1): 115–124.

Foster, D. G., H. Gould, and A. M. Biggs. 2021. "Timing of Pregnancy Discovery among Women Seeking Abortion." *Contraception* 104 (6): 642–647.

Gammeltoft, T. 2007. "Prenatal Diagnosis in Postwar Vietnam: Power, Subjectivity, and Citizenship." *American Anthropologist* 109 (1): 153–163.

Georges, E. 1996. "Fetal Ultrasound Imaging and the Production of Authoritative Knowledge in Greece." *Medical Anthropology Quarterly* 10 (2): 157–175.

Gerber, E. G. 2002. "Deconstructing Pregnancy: RU486, Seeing "Eggs," and the Ambiguity of Very Early Conceptions." *Medical Anthropology Quarterly* 16 (1): 92–108. http://www.jstor.org/stable/649522

Gomperts, R. J., K. Jelinska, S. Davies, K. Gemzell-Danielsson, and G. Kleiverda. 2008. "Using Telemedicine for Termination of Pregnancy with Mifepristone and Misoprostol in Settings Where There Is No Access to Safe Services." *BJOG: An International Journal of Obstetrics & Gynaecology* 115 (9): 1171–1178.

Grossman, D., C. Ellertson, D. A. Grimes, and D. Walker. 2004. "Routine Follow-up Visits after First-Trimester Induced Abortion." *Obstetrics & Gynecology* 103 (4): 738–745.

Grossman, D., J. Perritt, and D. Grady. 2022. "The Impending Crisis of Access to Safe Abortion Care in the US." *JAMA Internal Medicine* 182 (8): 793–795.

Guttmacher Institute. 2021. "State Facts about Abortion: Mississippi." Accessed 2 July 2021. https://www.guttmacher.org/fact-sheet/state-facts-about-abortion-mississippi

Harris, L. H., and D. Grossman. 2020. "Complications of Unsafe and Self-Managed Abortion." *The New England Journal of Medicine* 382 (11): 1029–1040.

Iyengar, K., M. K. Allvin, S. D. Iyengar, K. G. Danielsson, and B. Essén. 2016. "Who Wants to Go Repeatedly to the Hospital?' Perceptions and Experiences of Simplified Medical Abortion in Rajasthan, India." *Global Qualitative Nursing Research* 3: 2333393616683073. doi:10.1177/2333393616683073

Jones, R. K., M. Kirstein, and J. Philbin. 2022. "Abortion Incidence and Service Availability in the United States, 2020." *Perspectives on Sexual and Reproductive Health* 54 (4): 128–141.

Jones, R. K., and H. Boostra. 2016. "The Public Health Implications of the FDA's Update to The Medication Abortion Label." *Health Affairs Forefront*. Published June 30, 2016. Accessed July 22, 2022. https://www.healthaffairs.org/do/10.1377/forefront.20160630.055639/full/

Jordan, B. 1977. "Part One: The Self-Diagnosis of Early Pregnancy: An Investigation of Lay Competence." *Medical Anthropology* 1 (2): 1–38.
Jordan, B. 1983. *Birth in Four Cultures*. 3rd ed. Montréal: Eden Press.
Kortsmit, K., M. G. Mandel, J. A. Reeves, E. Clark, P. Pagano, A. Nguyen, E. E. Petersen, and M. K. Whiteman. 2021. "Abortion Surveillance—United States." *MMWR. Surveillance Summaries* 70 (9): 1–29.
Lerma, K., A. McBrayer, and K. White. 2021. "Abortion Patients' Challenges Accessing Care in Mississippi." Accessed 1 September 2021. https://sites.utexas.edu/msrepro/files/2021/09/Abortion-Patient-Challenges-brief-MRHAP.pdf
Lippman, A. 1999. "Embodied Knowledge and Making Sense of Prenatal Diagnosis." *Journal of Genetic Counseling* 8 (5): 255–274.
Lorentzen, J. M. 2008. "'I Know My Own Body': Power and Resistance in Women's Experiences of Medical Interactions." *Body & Society* 14 (3): 49–79.
Madera, M., D. M. Johnson, K. Broussard, L. A. Tello-Pérez, C. Ze-Noah, A. Baldwin, R. Gomperts, and A. R. A. Aiken. 2022. "Experiences Seeking, Sourcing, and Using Abortion Pills at Home in the United States through an Online Telemedicine Service." *SSM - Qualitative Research in Health* 2: 100075. doi:10.1016/j.ssmqr.2022.100075
Mandira, P., K. Iyengar, B. Essén, K. Gemzell-Danielsson, S. D. Iyengar, J. Bring, S. Soni, and M. Klingberg-Allvin. 2015. "Acceptability of Home-Assessment Post Medical Abortion and Medical Abortion in a Low-Resource Setting in Rajasthan, India. Secondary Outcome Analysis of a Non-Inferiority Randomized Controlled Trial." *PloS One* 10 (9): e0133354.
McReynolds-Pérez, J. 2017. "No Doctors Required: Lay Activist Expertise and Pharmaceutical Abortion in Argentina." *Signs: Journal of Women in Culture and Society* 42 (2): 349–375.
Morgan, L. 2009. *Icons of Life: A Cultural History of Human Embryos*. Berkeley: University of California Press.
Nash, E., and I. Guarnieri. 2023. "Six Months Post-Roe, 24 US States Have Banned Abortion or Are Likely to Do So: A Roundup." *Guttmacher Institute*. Accessed 22 July 2022. https://www.guttmacher.org/2023/01/six-months-post-roe-24-us-states-have-banned-abortion-or-are-likely-do-so-roundup
National Academies of Sciences, Engineering, and Medicine. 2018. *The Safety and Quality of Abortion Care in the United States*. Washington, DC: The National Academies Press.
Ralph, L. J., K. Ehrenreich, R. Barar, M. A. Biggs, N. Morris, K. Blanchard, N. Kapp, G. Moayedi, J. Perritt, E. G. Raymond, et al. 2022. "Accuracy of Self-assessment of Gestational Duration among People Seeking Abortion." *American Journal of Obstetrics and Gynecology* 226 (5): 710.e1–710.e21.
Rayburn, W. F., J. C. Klagholz, E. C. Elwell, and A. L. Strunk. 2012. "Maternal-Fetal Medicine Workforce in the United States." *American Journal of Perinatology* 29 (9): 741–746.
Raymond, E., E. Chong, B. Winikoff, I. Platais, M. Mary, T. Lotarevich, P. W. Castillo, B. Kaneshiro, M. Tschann, T. Fontanilla, et al. 2019. "TelAbortion: Evaluation of a Direct to Patient Telemedicine Abortion Service in the United States." *Contraception* 100 (3): 173–177.
Rothman, B. K. 1989. *Recreating Motherhood: Ideology and Technology in a Patriarchal Society*. New York: W.W. Norton and Company.
Tschann, M., E. S. Ly, S. Hilliard, and H. L. H. Lange. 2021. "Changes to Medication Abortion Clinical Practices in Response to the COVID-19 Pandemic." *Contraception* 104 (1): 77–81.
Upadhyay, U., L. R. Koenig, and K. R. Meckstroth. 2021. "Safety and Efficacy of Telehealth Medication Abortions in the US during the COVID-19 Pandemic." *JAMA Network Open* 4 (8): e2122320.
Upadhyay, U., R. S. Schroeder, and C. M. Roberts. 2020. "Adoption of No-test and Telehealth Medication Abortion Care among Independent Abortion Providers in Response to COVID-19." *Contraception: X* 2: 100049. doi:10.1016/j.conx.2020.100049
Wainwright, M., C. J. Colvin, A. Swartz, and N. Leon. 2016. "Self-Management of Medical Abortion: A Qualitative Evidence Synthesis." *Reproductive Health Matters* 24 (47): 155–167.
Westfall, R., and C. Benoit. 2008. "Interpreting Compliance and Resistance to Medical Dominance in Women's Accounts of Their Pregnancies." *Sociological Research Online* 13 (3): 62–77.

White, K., V. deMartelly, D. Grossman, and J. M. Turan. 2016. "Experiences Accessing Abortion Care in Alabama among Women Traveling for Services." *Women's Health Issues* 26 (3): 298–304.
White, K., K. J. Portz, S. Whitfield, and S. Nathan. 2020. "Women's Postabortion Contraceptive Preferences and Access to Family Planning Services in Mississippi." *Women's Health Issues* 30 (3): 176–183.
White, K., G. Sierra, T. S. Evans, and C. M. Roberts. 2022. "Abortion at 12 or More Weeks' Gestation and Travel for Later Abortion Care among Mississippi Residents." *Contraception* 108: 19–24. doi:10.1016/j.contraception.2021.11.003