

Evidence on self-managed abortion in India: Overview of findings, identification of gaps, and recommendations for future research

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ABSTRACT

15.6 million abortions occurred in India in 2015, and 73% of these were medication abortions (MA) performed outside of health facilities, usually without a prescription. Very few studies document the experiences of those accessing medication abortion pills outside of health settings, without clinical supervision, and without a prescription (self-managed abortion). We outline key findings from published and grey literature that document experiences with self-managed abortion for the MA user and other stakeholders including partner, family members, community health workers such as Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs), pharmacists, and local providers. Findings were categorized using an adapted user journey framework into the following stages: pregnancy detection, knowledge about MA, decision making around pregnancy outcome and abortion method, purchase of MA and information transfer, user experience, and post-abortion needs. We identify gaps in the literature and provide recommendations on areas for future research. Understanding the abortion journeys of self-managed abortion users will help inform interventions and policies that can ensure that those seeking abortion have access to the information and support they deserve.

Keywords: Sexual and Reproductive Health and Rights, Qualitative data/methods/approaches

INTRODUCTION

India passed the Medical Termination of Pregnancy (MTP) Act in 1971, which allowed abortions in cases of preservation of the pregnant persons' physical or mental health, in response to fetal health problems or anomalies, when the pregnancy is the caused due to rape, or when the pregnancy happens within the context of a marriage and contraceptive failure was involved (1).

Access to abortion was further expanded in India in the early 2000s via the approval of medication abortion (MA) and the expanded availability of the combined medication abortion regimen using Misoprostol and Mifepristone (combipack) to terminate pregnancies (2).

Despite these advances, universal access to safe, legal, affordable facility-based abortion services in India remains elusive (2–4). Abortions in India can be performed only in registered facilities by obstetrician-gynecologists or by doctors with bachelors in medicine or surgery who are trained and certified (5). Medication abortion pills can be purchased only with a prescription from a certified provider who works at or has referral linkages to approved facilities (5). Given that the demand for abortion in the country exceeds the capacity of the number of trained, certified, and willing providers abortion providers (6), a number of studies have shown that chemist and pharmacists are the main source of access to MA and abortion information, and some may sell MA to users with or without a prescription (7–10).

The most recent estimates suggest that 15.6 million abortions occurred in India in 2015, and that 73% of these abortions took place outside of health facilities, using MA (11). While the rate of complications following induced abortions is 15.7 treatments per each 1,000 women of reproductive age, it is estimated that half of these cases of post-abortion complications are

treatments for women who had incomplete abortions resulting from MA use, many of whom may not have needed treatment to complete the abortion (9).

While increasing evidence suggests that many people in India commonly rely on abortions with medications obtained outside of the formal health sector (4,12), there is limited research exploring the pathways to out-of-clinic MA (10). Even less is known about MA users' self-managed abortion experiences and their abortion journey, including factors that influence decisions throughout the process, who is involved, what information is obtained and how it is shared, what users' experiences are like, and reasons for seeking post-abortion care among those who self-manage their abortion. For this paper, we define self-managed MA (SMA) as any attempt to terminate a pregnancy using MA pills without support from a registered medical provider, outside of health facilities and without a prescription.

Published studies exploring SMA use in India are limited, and most existing studies rely on respondents recruited through health facilities. This bias in recruitment may result in an over-representation in the literature of the experiences of MA users who visit health facilities seeking abortion care at some point during their abortion process. Even less is known, however, about the experiences of MA users who self-manage their abortion without clinical guidance, the largest share of abortion users in the country.

The aim of this rapid evidence synthesis is to expand our understanding of self-managed abortion in India by summarizing existing published and gray literature that provides insight from a number of relevant stakeholders (MA user, partner, family members, pharmacists, formal

providers and community health workers) into different stages of the self-managed abortion journey.

METHODOLOGY

Our review was conceived of as a rapid mixed-methods evidence synthesis. The term mixed-methods review or synthesis describes review approaches that combine qualitative, quantitative and/or mixed methods studies (13), while a rapid review is a systematic knowledge synthesis approach for producing evidence in a short timeframe (14,15). Given that we are concerned in this paper with gaining an understanding of the SMA user journey as opposed to assessing and aggregating the published evidence about SMA in India, the synthesis of both qualitative and quantitative evidence was deemed crucial. We based our synthesis on an iterative process that involved a shift away from the highly structured approach of the standard systematic review. We describe the steps taken in our rapid synthesis below.

Inclusion and exclusion criteria

Studies were included irrespective of the study design or rigor of research methodology used; the term/s used to describe SMA; and publication status (published/grey literature). We used the following inclusion criteria:

1. Studies covering SMA in India, including: a) studies that focused explicitly on SMA; and b) studies focusing on MA or abortion in general but that referred to SMA as part of the findings;
2. Studies exploring SMA in India from the perspectives of MA user, MA user's partner/spouse, MA user's family, facility-based providers, community health workers (CHW) such as Anganwadi Worker, Auxiliary Nurse-Midwife (ANM) or Accredited

Social Health Activist (ASHA), and/or pharmacists/chemists or those working in pharmacies;

3. Studies produced in English between 2008 and 2020 (since combipack was approved for use in India in 2008) (16).

The following types of studies were excluded:

1. Studies exploring knowledge of or attitudes towards MA in the general population;
2. Estimations of the incidence of SMA or post-abortion complications; and
3. Clinic-based studies exploring the acceptability and/or efficacy of at-home MA among abortion seekers.

Study identification and selection

The identification and selection of relevant studies was a continuous and iterative process. We identified relevant literature in three ways:

- 1) We used purposive searching to identify key studies based on the research team's experience and knowledge on the topic.
- 2) We requested organizations working on abortion in India to share relevant literature about MA produced by them.
- 3) We carried out an electronic search on PubMed that included combinations of the following free-text terms: India; abortion; medication abortion; medical abortion; self-managed; abortion decision-making; self-induced abortion; pharmacists; health care providers; community health workers.

- 4) We also searched the references of one systematic review identified through our search strategy (12) to capture any studies that may not have been identified by the previously mentioned strategies.

Data extraction and synthesis

Data extraction was carried out by individual researchers. Data was extracted from each selected study using a predefined excel form designed to capture key details of each of the studies. No quality assessment was carried out as part of our review.

Findings relating to SMA were summarized for each study. Then, our approach to synthesis involved using an existing conceptual framework adopted to organize the findings from the included evidence. We adopted and adapted the framework developed by Coast et al. on trajectories to obtaining abortion-related care according to which, women's trajectories in abortion care need to be understood as abortion-specific experiences that are situated within individual and macro contexts (17). We adapted this framework to represent different stages in the SMA user journey and the relevant findings from the studies included in our review were mapped against this framework. The user journey stages (or trajectories to obtaining abortion-related care) that we adapted based on this framework include (17):

- *Detection/Recognition of pregnancy*: This is the beginning of the trajectory of abortion-care, and describes experiences relating to awareness of the pregnancy, including timing of pregnancy recognition, and access to resources.
- *Perspective/perception and knowledge about MA (general information available)*: This stage describes general information and perceptions about MA available in the

community, as well as barriers that people may experience when trying to access MA information.

- *Decision making around pregnancy outcome and abortion method:* This stage is concerned with how and why people opt to have an abortion, and why they may choose MA, or SMA specifically.
- *Purchase of MA & Information transfer:* We capture in this stage experiences relating to the procurement of MA and any information exchange between the source providing MA and the person purchasing it, once the decision to seek an MA or SMA has been made.
- *User experience (the abortion process):* This stage captures the experiences of the MA user, and other persons involved, during the abortion process. The abortion process also includes the user preparedness before the consumption of MA and any information and support needs relating to side-effects and potential complications.
- *Post-use action:* The last stage captures experiences or needs in terms of post-abortion care such as post-abortion counselling or contraception.

We developed a narrative summary to describe key findings relating to each stage of the user-journey, together with an evidence gap map¹ that allowed us to identify key gaps and themes that remain unaddressed by existing evidence.

¹ An evidence gap map consists in a visual overview of available studies providing evidence around key areas of a research or policy domain. Snilstveit B, Vojtkova, Martina, Bhavsar A, Gaarder M. *Evidence Gap Maps : A Tool for Promoting Evidence-Informed Policy and Prioritizing Future Research*. [Internet]. Washington, DC.: The World Bank; 2013. (Policy Research Working Paper). Report No.: 6725. Available from: <https://openknowledge.worldbank.org/handle/10986/16941>.

RESULTS

We synthesized evidence described in 12 documents² (7,10,18–27). Seven documents had an explicit focus on SMA (7,10,19–22,26): four of these documents explored the perspectives of MA users (10,21,22,26), two the perspectives of partners and other relatives (10,21), and four included the views of community health workers or pharmacists (7,19–21). The remaining five documents explored abortion care experiences in India more broadly, but referenced, included, or examined the phenomenon of SMA (18,23–25,27); within these five studies, three explored the experiences of MA users (18,24,25), and two explored views of community health workers and pharmacists (23,27). None of the 12 documents reported findings from facility-based providers. Four studies were based in Uttar Pradesh (7,10,22,25), four in Madhya Pradesh (18,22,24,27), two in Bihar (21,26), two in Assam (19,20) and one each in Jharkhand (26), Rajasthan (25), and Karnataka (23). Please refer to Table I for details on each of the reviewed documents.

Evidence about the self-managed MA user-journey in India

Table II presents the user-journey evidence gap map developed from the findings of the documents reviewed. Taken together, the 12 documents provide some information pertaining to each of the stages of the user-journey (*detection of pregnancy; perspective/perception and knowledge of MA; decision making around pregnancy outcome and abortion method; purchase of MA and information transfer; user experience; and post-abortion needs*). Compared to the other stages in the SMA user journey, majority of the reviewed evidence provided insights around the stages of purchase of MA and information transfer between the source providing MA

² We are referring here to documents as opposed to studies since it is possible that some of the reviewed documents describe results that are part of the same study.

and the person purchasing it (7,10,18–23,25,27), which means that this user journey stage is well represented in the literature. We provide a preliminary synthesis of key findings by stage below.

Stage: Detection/recognition of pregnancy

Only two studies discussed experiences/views related to recognition of the pregnancy (22,23). MA and self-managed MA users seemed to recognize pregnancy after a missed period, or when experiencing pregnancy-related symptoms (22). After experiencing the symptoms, pregnancy confirmation may occur with support from CHWs such as ASHAs who are equipped with pregnancy tests (23). One study suggested that prior knowledge of MA provided comfort to SMA users in knowing that an easy termination option was available (22).

No literature exists on emotions related to pregnancy recognition among SMA or MA users, whether users wished they had recognized their pregnancy earlier (or not), and the role of pregnancy detection in decision-making around self-managing one's abortion- ie., if pregnancy detection is the starting point for users to make a decision around self-managing their abortion or does the decision-making process start earlier, such as before or after intercourse.

Stage: Perception and knowledge about MA (general information available)

Findings from seven documents described the general context in terms of perceptions, knowledge and stigma around MA in the community and within specific stakeholders (7,10,19,20,22,23,27). Some MA users tended to keep their abortion as a secret to avoid facing stigma from stakeholders such as partners, in-laws, local providers, pharmacists, and CHWs (22). Stigma also dictated where (going to a known pharmacist/pharmacist outside of one's community) and how (for instance, approaching pharmacists when there were no other customers) users purchased pills from pharmacies (10). Some MA users themselves viewed

abortion as acceptable only in cases of health concerns or for socioeconomic reasons, or when a woman had completed her ideal family, usually envisioned as having 2 or 3 children (22). CHWs viewed abortion as sinful and expressed stigma for abortion used as a method for birth spacing or as family planning. CHWs and pharmacists perceived MA as having negative consequences to a woman's health, and hence actively discouraged clients from choosing MA (23). However, for MA users who self-managed their abortions, the need to interrupt the pregnancy is more urgent than the perceived stigma from people in their community, therefore, fear of judgement does not stop women from reaching out friends or other women to talk about past experiences using MA (19,22).

Studies also demonstrated that pharmacists have limited knowledge about calculating gestational age; correct dosage and timing for misoprostol-only and combined regimens; expected side effects and symptoms that may indicate a need for additional care; and post-abortion contraception options (7,20,23,27). CHWs also tended to consider providing guidance on self-managing one's abortion as conflicting to their role/expectations (ie. to direct people to seek care in the public health system) (23). Missing from the evidence is understanding around if and how SMA is perceived differently from MA by different stakeholders.

Stage: Decision to abort and method of abortion

Eight documents discussed evidence relating to this stage (10,18,19,22–26). Studies show that these decisions are usually taken together with the partner (10,19,25), with the partner, in many cases, suggesting the use of MA (18,19), while in other few cases the user takes these decisions alone (10,18,22,25). Other stakeholders involved in this decision could be friends, close relatives who have undergone a SMA, CHWs, pharmacists, unlicensed doctors (10,18,19). Although

small in numbers, some women report undergoing abortion under pressure from family members (10,25).

MA users chose MA over surgical methods because it was less expensive, and less invasive, and did not require exposing their body for a physical examination (10,19,22). MA is also chosen because of the discreteness and confidentiality associated with the method, which may help users avoid pressure or interference in the decision making process from people such as relatives or community members (19,22). Of note, there is evidence that some users may attempt to self-manage their abortion using Ayurvedic or homeopathic methods prior to selecting and ultimately utilizing MA, suggesting that MA may not always be a user's first choice, but is instead the next considered option when other methods fail (25,26).

Given that stakeholders do not always share complete and accurate information about different abortion methods, it is necessary to understand how users evaluate the different methods available to them for termination, when and how they decide to self-manage their abortion, and what factors influence their decision-making.

Stage: Purchase of MA & information transfer

Ten out of the 12 included studies documented experiences around the process of purchase of MA and the information shared during this transaction (7,10,18–23,25,27). Most important, studies providing evidence around this stage included the perspectives of several stakeholders, including the MA users (10,18,21,22,25), partners (10,21), CHW (19,21,23) and pharmacists (7,20,21,23,27).

According to the evidence, MA pills are procured from pharmacies or through informal providers such as ASHAs or unlicensed providers (10,19,21). Some couples may first visit a medical provider for assistance, who will usually be a private practitioner, but won't procure the pills from the doctor, since the prices of pills sold by medical doctors in general tend to be high, thus some MA users may prefer to go directly to a pharmacy to buy the pills and ask for information there (10,22). The evidence confirms that procurement of pills and MA information is done mostly by the partner, who then shares the information with the MA user (10,19–22). For those MA users who have little support from their partners, this will be the only stage when the partner gets involved in the abortion journey (22). Some MA users procure the pills by themselves especially if they feel comfortable doing so (22).

Once a client arrives at the counter and requests MA, pharmacists usually ask some questions such as timing of last menstrual period, but do not always ask for a prescription. Several factors limit the quality of information received by the MA user (or the partner) at the time of purchase of pills. Some pharmacists share only partially correct information about MA with the MA users or their partners because of lack of knowledge as described earlier. However, a few documents indicated that while pharmacists may have correct knowledge on misoprostol and mifepristone protocol and potential side effects of MA, they do not always share complete information with clients (7,20,27). Some pharmacists in one study expressed concern that by sharing information on potential side effects they may discourage clients from not buying MA pills (7). In addition to these gaps in the information provided by pharmacists, loss of information can occur when partners share the information provided with the MA user (7,10,19,21,22). Also, some MA users

may have low or no literacy and may need more help understanding written/printed instructions (21,22).

What is missing from the literature is an understanding of how decisions are made about who procures the pill and where to procure it from, the experience of interaction with the chemist/pharmacist from the perspective of the person procuring the medications, the level of information exchange between partner and MA user, as well as the impact of pharmacists' attitudes towards abortion on decision-making and expectations around abortion experience.

Stage: User experience (the abortion process)

Seven documents discussed evidence related to the MA user experience during the abortion process, including experiences right before and after taking the pills (10,18,21,22,24–26). The evidence reflects mostly the narratives from the point of view of the MA user. Broad knowledge about the abortion process focuses on experiences after taking MA and particularly experiences of care-seeking in clinics following MA use (18,24,26), which may make complications from SMA appear to be more common than they actually are.

Many women self-managing their abortion have limited information about MA when trying to use the pills (10,21,24,26). This lack of accurate information on MA can lead to incorrect use of MA, which can result in an incomplete abortion. Additionally, a lack of information on MA, including a lack of information on what to expect, or when to seek care, may also lead to care seeking in clinics or other health facilities. Overall, this may result in subsequent care seeking in clinics or with private health care providers, where users are likely to receive a surgical abortion (25).

When SMA users experience what they perceive to be complications, they may seek support from a variety of informal sources before reaching out to a private practice, including returning to the pharmacist from whom they may have procured the pills or seeking support first from traditional providers, quack/village doctors, nurses, ASHAs or ANMs (10,18,21). The common symptoms among MA users who seek post-abortion care are bleeding, cramps, dizziness, nausea, vomiting, weakness, delayed menstrual cycle, and/or fever (10,18,25,26). Few women require hospitalization and most do not experience moderate/severe complications (25).

There is a need to understand the experiences of those that had a complete abortion using MA and did not seek care from a clinic, and the information and support needs when self-managing. In understanding the user journey of someone who is self-managing their abortion, it is also important to capture and understand the variety of reasons for care seeking or for not seeking care during one's abortion process.

Stage: Post-use action

Lastly, few documents captured post-abortion experiences or needs (10,19,20,22). Evidence in these documents suggest that a user's experience with MA influences views about contraception and future abortion care seeking (10, 22). Those who had an incomplete abortion following a SMA may be more likely to visit a registered medical provider in the future (10) while those who had no concerns are more likely to consider using MA again if needed (22).

After a MA, while there is awareness about using contraception, this awareness did not always translate into consistent or prolonged use of a modern contraceptive method. According to one document presenting the views of MA users who self-managed their abortion, those who self-

managed their abortion successfully may be less likely to start a contraceptive method post abortion, due to lack of information about methods or because they are confident about using MA for future abortion(s) (22). However, there is in general a lack of understanding of the needs and experiences with post-abortion counselling, including post-abortion contraception.

DISCUSSION

In this paper, we aimed at gaining an understanding of the self-managed MA user journey in India throughout the perspective of several stakeholders as addressed in existing research. Overall, evidence around MA in India is somewhat limited, but evidence around out-of-clinic MA use is even more. In a country where 73% of abortions in 2015 were self-managed abortions with MA (11), the limited evidence on the experiences of women with out-of-clinic MA is concerning.

Our rapid review demonstrates an urgent need for more studies covering the different stages of the SMA journey. Research is particularly needed that contribute to an understanding of when the decision-making around abortion starts; if pregnancy recognition is the starting point for users to make a decision around self-managing their abortion or if the decision-making process start earlier, such as before or after intercourse. More research is also needed around the last stage of the user journey, as there is in general a lack of understanding of the needs and experiences with post-abortion counselling, including post-abortion contraception. Primary research studies covering different stages into abortion care are particularly needed as this will allow building a comprehensive knowledge base of the journey through SMA.

Another gap pointed out by our evidence synthesis relates to the inclusion of perspectives from different stakeholders. Studies addressing the particular experiences and needs of those who were able to have a complete abortion without the need for clinical care are essential. Research should also document the experiences of those who face additional challenges in accessing the care they deserve – be it those from marginalized communities, such as those lower in the social hierarchy of caste, those practicing a minority religion, disabled, trans gender or gender expansive individuals, sex workers, migrants, and refugees. It is unclear how pregnant people approach abortion in the second trimester and whether there may be attempts to self-manage their abortion beyond the first trimester. Additionally, the perspectives of other stakeholders, such as partners, family members, CHWs, pharmacists, and local providers will be useful to understand the role that these stakeholders play in determining the SMA journey and the ensuing experience.

Lastly, since broad knowledge about the abortion process focuses on experiences of care-seeking in clinics following MA, complications from SMA may appear to be more common than they actually are. Furthermore, care seeking alone, or even receipt of surgical intervention, does not necessarily indicate a complication, as MA users may be seeking care for treatment of abortion symptoms, confirmation of completion, or concerns around the level of bleeding experienced. For some, care-seeking may be to address concerns about abortion completion or prolonged bleeding, in which case care seeking might be a “good” outcome regardless of whether the symptom would have resolved itself on its own without medical treatment. For others, care seeking may lead to more harm and may be something they are actively trying to avoid. Hence, a

new person-centered framework for conceptualizing abortion complications and care seeking after an abortion is needed.

Thus, there is a dire need for additional research in a variety of contexts that address the gaps identified in the existing literature to help inform the design and implementation of programs and policies that can support people undergoing abortion. Understanding the nuances of why, when, and how users make decisions related to abortion, self-managed abortion can help inform programs and policies that can enable users to have better access to information and support through their abortion journey.

A limitation of our synthesis is that our findings are not based on a comprehensive search of published literature. We purposively searched for literature that we were aware of, and could access. We acknowledge that our approach to search, selection and synthesis of studies lacks the reproducibility that traditional systematic review methods require, but as stated previously, it was not our intention to produce a comprehensive account and assessment of the published evidence, but rather, to interpret the evidence using an organizing framework and to highlight gaps in the knowledge base around SMA. Similarly, we did not assess the quality of the evidence. Given the limited available evidence and complexities when researching abortion in India, not all the documents reviewed were studies focusing on SMA, which could bias the findings. Nonetheless, all the studies, regardless of their focus on SMA or not, contributed with relevant findings to the different journey stages. To our knowledge, this is the first knowledge synthesis focused on SMA in India.

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Table I. Studies included. Evidence synthesis on Self-managed medication abortion in India, 2021

ID	Author	Year	Focused on self-managed MA?	Main stakeholders	Region(s)	Objective of the study	Methodology	Study design/methods	Sample size
7	Diamond-Smith, et al.	2019	Yes, the focus is on SMA but the term self-managed is not used; authors use "out of facility MA use"	Pharmacists	Uttar Pradesh	Aims to explore the knowledge and information given by pharmacists who sell MA, and explore barriers to providing high quality information and care	Mixed-methods	Quantitative survey of pharmacists, mystery clients, and in-depth qualitative interviews with pharmacists	283 pharmacists-survey, 111 mystery clients, 11 pharmacists-in-depth interviews
10	Srivastava, et al.	2019	Yes, the focus is on SMA but the term self-managed is not used; authors use "out of facility MA use"	MA users, partners of MA users	Uttar Pradesh	Trace the decision-making pathway(s) of women and men seeking MA services and to understand the gaps in knowledge and behavior	Qualitative	In-depth interviews with clinic users and pharmacy clients/users and/or their partners	20 users, 20 partners
18	Ipas Development Foundation	2019	No. The focus is complications from both induced and spontaneous abortions, but most people with induced abortions reported self-managing their abortions outside facility	Women presenting to study facilities with postabortion complications	Madhya Pradesh	Understand the pathways of accessing induced abortion and treatment of postabortion complications (PAC) and to describe the experiences of women seeking care for PAC	Mixed-methods; qualitative with quantitative case-history data	Prospective study, Qualitative. Women who presented to 10 facilities with PAC were recruited for In-depth interviews. Clinical history completed by providers	486 women with PAC (208 with induced abortion, 278 with spontaneous abortion)
19	Ipas Development Foundation	N.D.	Yes, the focus is on SMA	ANMs and ASHAs who had at least 2 years of work experience	Assam; area with high prevalence of postabortion complications	Explore the pathways of self use of MA through the lens of community health intermediaries	Qualitative	In-depth interviews with ASHA and ANM	30 community health intermediaries
20	Ipas Development Foundation	N.D.	Yes, the focus is on SMA	Pharmacists	Assam, 4 regions that included rural and urban areas (18 locations)	Understand drug availability, knowledge, skills, practices & attitudes of drug sellers to ensure support and care to women with unintended pregnancy	Quantitative	Cross-sectional study and mystery client survey	351 pharmacists, 91 mystery clients

Continuation of Table I.

ID	Author	Year	Focused on self-managed MA?	Main stakeholders	Region(s)	Objective of the study	Methodology	Study design/methods	Sample size
21	Ipas Development Foundation / Quicksand	2019	Yes, the focus is on SMA	MA users and potential users, their partners and relatives, chemists, registered medical providers, and ASHAs	Bihar	Better understand and design for self-use of MA	Qualitative	In-depth interviews, group discussions, design probes, co-design/co-creation activities with experts in the field. Not clear how study population was recruited	Not specified
22	Purple Audacity Research & Innovation PVT LTD	2020	Yes, the focus is on SMA	Married women, 25 to 35 years old with 2 or more children, users and non-users of MA	Uttar Pradesh and Madhya Pradesh, urban	Map the user journey for self-use of MA; to understand the current positioning of self-use MA among the various contraception options available; and exploring understanding of the experience of self-use of MA	Qualitative	2-part study: simulation exercise followed by an ethnography exercise in the respondents' home	30 women ages 20 to 35 with 2 or more children (Phase 1), and 30-MA Users plus 12 Non-users (Phase 2)
23	Nandagiri	2019	No. Focuses on the role of community health workers as intermediaries in access to abortion care. Touches on the self-use experiences	ANMs, ASHAs, and pharmacist workers	Karnataka (villages in 2 districts)	Describe the abortion knowledge, attitudes, and roles of community health workers (CHW)	Mixed-methods	Quantitative survey followed by in-depth interviews with a subset of CHWs	118 CHWs-surveys and 21 CHWs-interviews
24	Banerjee & Anderson	2012	No. The focus is on unsafe abortion and pathways to post-abortion complications (PAC), but these pathways include SMA	Women presenting to health facilities with PAC	Madhya Pradesh	Understand the pathways through which unsafe abortion leads to PAC and to describe the experiences of women seeking care for PAC	Quantitative	Clinical registries review, semi-structured questionnaire for women who presented at hospitals	381 women with PAC complications (200 of which first attempted abortion at home)

Continuation of Table I.

ID	Author	Year	Focused on self-managed MA?	Main stakeholders	Region(s)	Objective of the study	Methodology	Study design/methods	Sample size
25	Zavier, et al.	2020	No. Focuses on abortion in general; but includes MA outside of the formal health sectors	Married young women (ages 18-24) who reported having an abortion sometime in the two years prior to the survey	Uttar Pradesh and Rajasthan (2 districts in each state), urban and rural areas	Examine the experiences of married young abortion seekers, including pre-abortion decision making, abortion seeking and experiences of the procedure, and post-abortion complications	Quantitative	Community-based survey with women aged 15-24 who were married, had a pregnancy/delivered a child in the past two years. This analysis focuses on the sample reporting an induced abortion in the past	166 women who had an abortion
26	Kumar, et al.	2013	Yes. Focuses on SMA but particularly at "failure" after a SMA (i.e. women who sought clinic based abortions were surveyed on whether they had self-attempted before presenting at the clinic)	MA users who reported self-managing their abortion in the past and present a clinic seeking MA after failure	Bihar and Jharkhand	To explore the experiences and profile of women whose efforts to obtain an abortion fail	Quantitative	Survey. Data is from a larger study evaluating the feasibility of provision of MA by nurses and Ayurveds. Women who reported having attempting to terminate their pregnancies before coming to a clinic were included in the analysis and compared to the general	3,394: 1,065 who self-managed and 2,329 who didn't)
27	Powell-Jackson, et al.	2015	No. Study is about pharmacists provision of MA information and interactions with clients, so some degree of self-use is implied	Pharmacists	Madhya Pradesh, urban and rural areas	Understand the scale and quality of the retail market for medical abortion, including the availability of medical abortion, pharmacist knowledge, and quality of information given to customers	Qualitative	Structured interviews with pharmacists, mystery client methodology using undercover patients who self-present as seeking drugs for induced abortion	591 pharmacists in 60 local markets for interviews, 369 pharmacists interactions with mystery clients

Table II. Evidence gap map of the SMA user journey.

	Detection /Recognition of pregnancy	Perspective /knowledge about MA	Decision to abort and method of abortion	Purchase of MA & information transfer	User experience (abortion process)	Post-use action
Perspectives of:						
MA users	22	10, 22	10, 18, 22, 24, 25, 26	10, 18, 21, 22, 25	18, 10, 21, 22, 24, 25, 26	10, 22
MA user's partners		10	10	10, 21	10, 21	10
MA user's family				21	21	
Facility-based providers						
Community health workers	23	19, 23	19, 23	19, 21, 23	21	19
Pharmacists		7, 20, 23, 27	23	7, 20, 21, 23, 27	21	20

* Documents 10, 21, and 23 include different stakeholders and therefore we included the ID of the document in all the rows of stakeholders included in the study

Documents in bold are studies focused on SMA

Appendix 1: List of included documents

Document # 7. Diamond-Smith N, Percher J, Saxena M, Dwivedi P, Srivastava A. Knowledge, provision of information and barriers to high quality medication abortion provision by pharmacists in Uttar Pradesh, India. BMC Health Serv Res [Internet]. 2019 Dec [cited 2020 Aug 30];19(1):476. Available from:

<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-019-4318-4>

Document # 10. Srivastava A, Saxena M, Percher J, Diamond-Smith N. Pathways to seeking medication abortion care: A qualitative research in Uttar Pradesh, India. Withers MH, editor. PLoS ONE [Internet]. 2019 May 13 [cited 2020 May 4];14(5):e0216738. Available from: <http://dx.plos.org/10.1371/journal.pone.0216738>

Document # 18. Ipas Development Foundation. Types, Severity & Pathways of Postabortion Complications: A Clinic-Based Study in Madhya Pradesh. Ipas Development Foundation; 2019.

Document # 19. Ipas Development Foundation. Demystifying the Pathways of Self Use of Medical Abortion: Perspective of Community Health Intermediaries. Ipas Development Foundation; N.D.

Document # 20. Ipas Development Foundation. Pharmacy Provision of Medical Abortion: Knowledge, Skills, Practices, & Attitudes of Drug Sellers in Assam, India. Ipas Development Foundation; N.D.

Document # 21. Ipas Development Foundation, Quicksand. Using HCD to Improve Women's Experience of Self-use of Medical Abortion. Ipas Development Foundation, Quicksand; 2019.

Document # 22. Purple Audacity Research & Innovation Private Limited. Demystifying Subjective Experiences and Depth of Knowledge with Regards to Self-Use of Medical Abortion. Purple Audacity Research & Innovation Private Limited; 2020.

Document # 23. Nandagiri R. “Like a mother-daughter relationship”: Community health intermediaries’ knowledge of and attitudes to abortion in Karnataka, India. *Social Science & Medicine* [Internet]. 2019 Oct [cited 2020 May 4];239:112525. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0277953619305192>

Document # 24. Banerjee SK, Andersen K. Exploring the pathways of unsafe abortion in Madhya Pradesh, India. *Global Public Health* [Internet]. 2012 Sep [cited 2021 Nov 16];7(8):882–96. Available from: <http://www.tandfonline.com/doi/abs/10.1080/17441692.2012.702777>

Document # 25. Zavier AJF, Santhya KG, Jejeebhoy SJ. Abortion among married young women: findings from a community-based study in Rajasthan and Uttar Pradesh, India. *J Biosoc Sci* [Internet]. 2020 Sep [cited 2021 Mar 24];52(5):650–63. Available from: https://www.cambridge.org/core/product/identifier/S0021932019000701/type/journal_article

Document # 26. Kumar R, Zavier AJF, Kalyanwala S, Jejeebhoy SJ. Unsuccessful prior attempts to terminate pregnancy among women seeking first trimester abortion at registered facilities in Bihar and Jharkhand, India. *J Biosoc Sci*. 2013 Mar;45(2):205–15.

Document # 27. Powell-Jackson T, Acharya R, Filippi V, Ronsmans C. Delivering Medical Abortion at Scale: A Study of the Retail Market for Medical Abortion in Madhya Pradesh, India. *PLoS ONE*. 2015 Mar 30;10(3):e0120637.