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Assessing feasibility and acceptability of increasing access to sexual and reproductive health and rights through pharmacy outlets and community health volunteers: lessons from pilot study in Kenya

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Abstract

Background Both unintended pregnancy and unsafe abortion are major public health problems in Kenya. The World Health Organization recommends the use of medication abortion to stop unwanted pregnancies. However, the extent of provision and uptake of medication abortion through private pharmacies in Kenya is not well known. This study assessed the feasibility and acceptability of utilizing pharmacy outlets and community health volunteers to increase women's and girls' access to information, medication abortion and other sexual and reproductive health services and rights.

Methods The study utilized a single arm (intervention only) pre-test and post-test design that involved implementing a set of interventions and comparing the baseline and endline indicators using simple frequencies considering the number of respondents involved in the study. The study, referred to as *Tembe Mkononi* project, was conducted from 1st February 2021 to 31st December 2022, in Homa Bay County. Data collection involved baseline and endline interviews with 10 pharmacy staff (drawn from 9 pharmacy outlets) and 20 community health volunteers while program data was extracted from pharmacy sales records.

Results A total of 527 clients obtained medication abortion drugs from the 9 participating pharmacy outlets between April and December 2022. There was a steady increase in the number of clients served from 15 clients in April 2022 to 112 clients in December 2022. Out of the 527 clients, 523 of them obtained family planning methods. All the pharmacy staff and community health volunteers expressed satisfaction and positive attitude towards the services provided to clients.

Conclusion Results of the study show that the provision of medication abortion and other sexual and reproductive health services such as contraceptives to women and girls through private pharmacy outlets was feasible and acceptable. Building the capacity of community health volunteers to create awareness, strengthen referral and follow-up activities increased demand and uptake of sexual and reproductive health services including medication abortion

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over the project period. Overall, the interventions implemented in a rural county in Western Kenya have potential in addressing the problem of unsafe abortion which is one of the leading causes of maternal morbidity and mortality in Kenya and other developing countries.

Keywords Sexual and reproductive health and rights, Medication abortion, Pharmacy, Community health volunteer, Homa Bay County

Introduction

Background

Unsafe abortion is a major public health problem globally. According to the World Health Organization 2020 Factsheet, 73.3 million induced abortions occurred worldwide each year between 2015 and 2019 [1]. The Factsheet indicates that 3 out of 10 (29%) pregnancies, and 6 out of 10 (61%) unintended pregnancies, ended in an induced abortion. Among these, 1 out of 3 were carried out in the least safe or dangerous conditions, and 3 out of 4 abortions that occurred in Africa and Latin America were unsafe. The risk of dying from an unsafe abortion was highest in Africa, and each year 4.7% - 13.2% of maternal deaths can be attributed to unsafe abortion.

Recent evidence from work conducted by Guttmacher Institute shows that sub-Saharan Africa (SSA) has the highest unintended pregnancy rate and the highest estimated proportion of unsafe abortions in the world. It is estimated that unsafe abortion is responsible for approximately 7% of maternal mortality in the region. According to Bankole A *et al* (2020), as of 2019, SSA had the highest annual case-fatality rate of any world region, at roughly 185 deaths per 100,000 abortions. These deaths are preventable and point to an urgent need for comprehensive and quality abortion and post-abortion care to prevent more women from dying from severe consequences of unsafe abortion [2].

In Kenya, abortion is restricted by law. However, the Constitution of Kenya permits abortion only if a trained health provider deems it necessary for emergency treatment, to save the life/health of the mother, or when permitted by any other written law [3]. Due to lack of clear understanding of this constitutional provision, women and girls with unintended pregnancies often resort to unsafe abortion. As such, 35% of maternal deaths in Kenya are attributable to unsafe abortion [4, 5]. Over 2,600 women die annually in Kenya from complications of unsafe abortion and over a third of the women admitted with abortion complications were in the second trimester of pregnancy when risks of severe complications and mortality are substantially higher[4]. Several studies have shown that abortion is one of the most common acute gynecological ailment with its complications accounting for the longest hospital stay [6, 7]. Yet, one-half of unmarried women and more than 4 in 10 of married women in Kenya who are pregnant report their current pregnancies as mistimed or unintended [8, 9]. Unintended pregnancy is a major contributor to girls leaving school, with an estimated 13,000 girls dropping out of school every year in Kenya [10]. According to Undie, C. *et al* (2015), in Homa Bay County of Kenya, in 70% of cases of adolescent girls aged 13–19 years not attending school the cause is an unintended pregnancy. These girls have limited access to sexual and reproductive health information and services and face stigma at health facilities.

The World Health Organization (WHO) recommends the use of medication abortion (Mifepristone and Misoprostol) as a safe and effective method of stopping unwanted pregnancies [2]. The two drugs are registered in Kenya for various indications including treatment of incomplete abortion and miscarriage, treatment and prevention of post-partum haemorrhage (PPH), treatment of missed abortion in first trimester, treatment of intrauterine foetal death and cervical ripening [11]. However, a large proportion of women and girls are not aware of medication abortion (MA) products and where to access these services. Similarly, the extent of provision and uptake of MA drugs in private pharmacies in Kenya is not well known. A study conducted among private pharmacies in three major urban centers in Kenya found that 32% of the pharmacies stocked MA drugs while mystery clients who were sent to the pharmacies as part of the study to assess the quality of care provided were offered the drugs in 54% of the encounters at the outlets [12, 13].

Research problem

Based on the foregoing background, the following problems were identified, namely, high rate of unintended pregnancy among women and girls; high rate of unsafe abortion among women and girls; limited access to sexual and reproductive health information, products and services; and high prevalence of stigma associated with pregnancy termination. In recent years, pharmacy outlets have become the first point of contact for women and girls seeking pregnancy termination services. In addition, CHVs are known to offer information, support and referral for reproductive and maternal health issues at community level including advice on pregnancy

termination. However, the feasibility and acceptability of utilizing pharmacy outlets and CHVs to increase access and utilization of MA services has not been documented. The study, therefore, sought to address these problems by equipping pharmacy staff and CHVs with appropriate knowledge and counseling skills to assist women and girls with unintended pregnancy to access MA and contraception services.

Research goal and objectives

The overall **goal** of the project was to reduce unsafe abortion among women and girls in Kenya by increasing access to medication abortion information, products and services. The **objectives** of the study were to i) Assess the feasibility of increasing access to medication abortion information and products for women and girls through pharmacy-based provision; ii) Test the feasibility of using community health volunteers and local peer networks to increase demand for and referral to medication abortion information, products and services; and iii) Assess the acceptability of pharmacy-based and community-based approaches in increasing uptake and utilization of medication abortion products by women and girls with unintended pregnancy in the context of choice in which clients have reproductive and contraceptive autonomy (they determine where and when to receive the service and the nature of services given to them).

Conceptual framework

The study team developed a conceptual framework to guide the implementation of the study and assist in clarifying the relationship between the problem, intervention strategies or inputs and expected outcomes (Fig. 1).

Though the conceptual framework highlights many indicators, for the purpose of this paper, we report on a few key indicators. These are: number of pharmacy staff and CHVs with knowledge on screening of MA clients, number of pharmacy staff and CHVs with correct information on MA for sharing with clients, and number of pharmacy staff and CHVs who followed up post-MA clients. Other indicators are number of CHVs able to provide counseling and information to clients, number of community dialogue forums organized by CHVs to discuss SRHR, number of pharmacy staff and CHVs with non-judgmental attitude towards MA clients, and number of pharmacy staff and CHVs who are satisfied with MA service provision. On the other hand, the indicators for records review are number of MA clients served by participating pharmacy outlets and number of post-MA clients who received family planning methods.

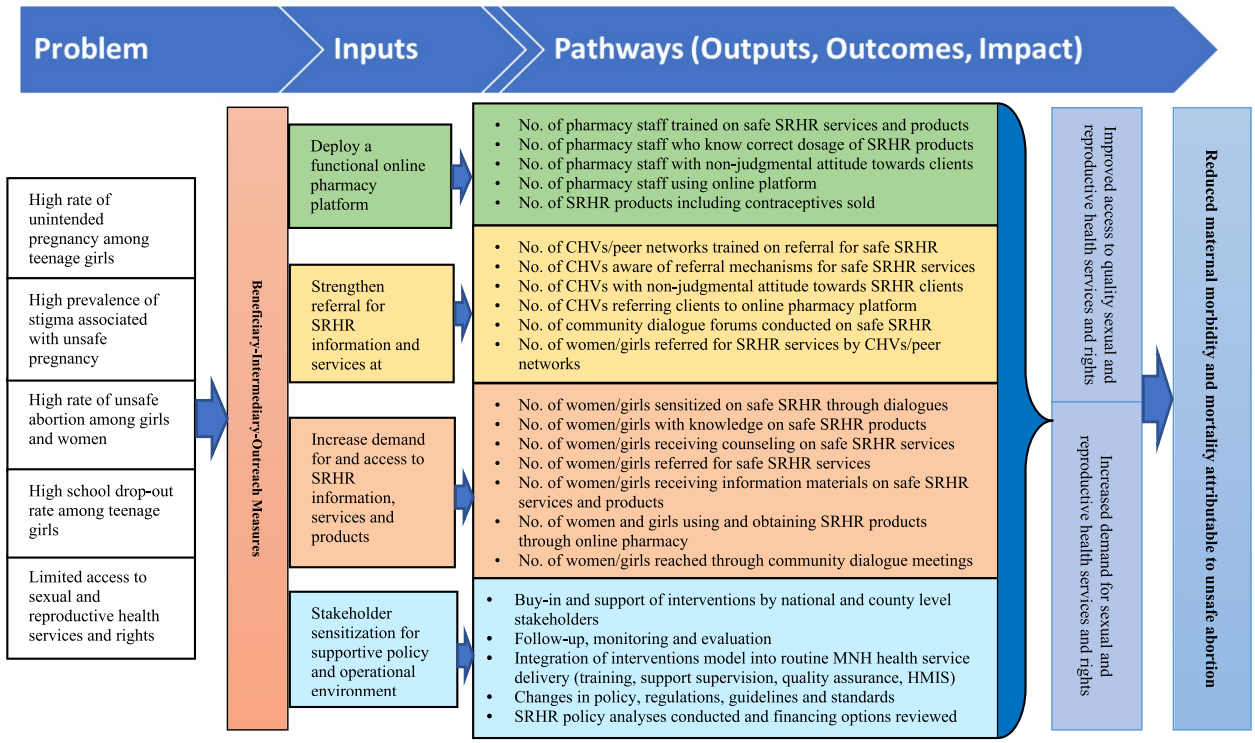

Fig. 1 Conceptual framework

Methods

Project design

In order to measure changes over time, the study used a single arm (intervention only) pre-test and post-test study design that involved comparing the baseline and endline indicators using simple frequencies. This was informed by the small number of eligible pharmacy outlets that were enrolled in the study. The overall approach entailed developing a proof of concept that combined provision of sexual and reproductive health and rights (SRHR) information and services including medication abortion to women and girls by using pharmacy outlets, community health volunteers (CHVs) and local youth peer providers' (YPP) networks. The study was conducted over a period of 23 months (from February 2021 to December 2022). The study entailed the following steps: (i) mapping of pharmacy outlets and CHVs in Homa Bay County, (ii) selection of target population (pharmacy staff and CHVs) based on the results of the mapping exercise, (iii) baseline data collection and analysis, (iv) implementation of interventions, (v) endline data collection and analysis, and (vi) dissemination of results and lessons learnt.

Mapping of potential study sites in Homa Bay County

With support from the Homa Bay County Health Management Team (CHMT) and Kenya Pharmaceutical Association Nyanza Region chapter, the project team conducted a mapping exercise in which all functional pharmacy outlets in the County were listed. The selection criteria included whether the outlet dispensed MA drugs and services, sold contraceptives, had more than 1 pharmacy staff, and whether the staff were willing to participate in the study.

Study site and population

On the basis of the mapping exercise, the study team selected Homa Bay Town Sub-County as the project site. The selection of the project site was based on the high number of functional pharmacy outlets in the Sub-county. A total of 9 pharmacy outlets, 10 pharmacy staff and 20 CHVs were selected randomly from community health units in the Sub-County. Initially each pharmacy outlet was to nominate 3 staff to participate in the study. However, upon consultation with pharmacy outlet owners, it was realized that each outlet had on average 1–2 staff, hence we scaled down the target to 1 pharmacy staff. One of the participating outlets contributed 2 staff members hence the revised target being 10 pharmacy staff. It is worth noting that no pharmacy outlet opted out of the study. Both pharmacy staff and CHVs were compensated at the rate of Kes 3,000 (USD 25) per month for participation in the study.

Intervention activities

Intervention activities were conducted with a view to addressing the barriers to accessing medication abortion information, products and services by women and girls in the project sites. Key intervention activities undertaken between April 2021 and November 2022 are outlined below.

National and county level consultations

Consultative and project inception meetings were held in March-April 2021 with Kisumu Medical and Educational Trust (KMET) who were the project's implementing partners. In May 2021, the project team held a consultative meeting with the leadership of the Division of Reproductive and Maternal Health (Ministry of Health) and the National Reproductive Health Network. County level meetings were held in June 2021 and comprised of representatives of the Kenya Pharmaceutical Association (KPA) Nyanza Region, Homa Bay CHMT and KMET.

Training of pharmacy staff, CHVs and YPPs

Participating pharmacy staff were trained for 5 days on counselling, determination of pregnancy gestation period, provision of information on pregnancy management, offering MA products and services including contraception, post-MA follow up, referral and values clarification and attitude transformation. CHVs and YPPs were trained for 3 days on sensitization and demand creation activities, identifying and counselling clients, referral and linkage of clients to pharmacy outlets, post MA follow-up, documentation and values clarification and attitude transformation.

Deployment of online pharmacy platform

A tool in Open Data Kit (ODK) was programmed to collect, store and report data on online sales of MA products and contraceptives by the pharmacy outlets. Information from the online sales data included client's age, gestation period, MA services and drugs offered, and family planning (FP) methods provided. A 24-hour hotline was established to give clients information and referral to the nearest pharmacy outlet. The hotline was run by KMET staff and its operations are on-going. All pharmacy staff in the outlets were trained on utilization of the online platform. Figure 2 presents a summary of the flow of services through the online platform.

Strengthening of referral activities

The project in collaboration with the Ministry of Health linked 20 trained Community Health Volunteers

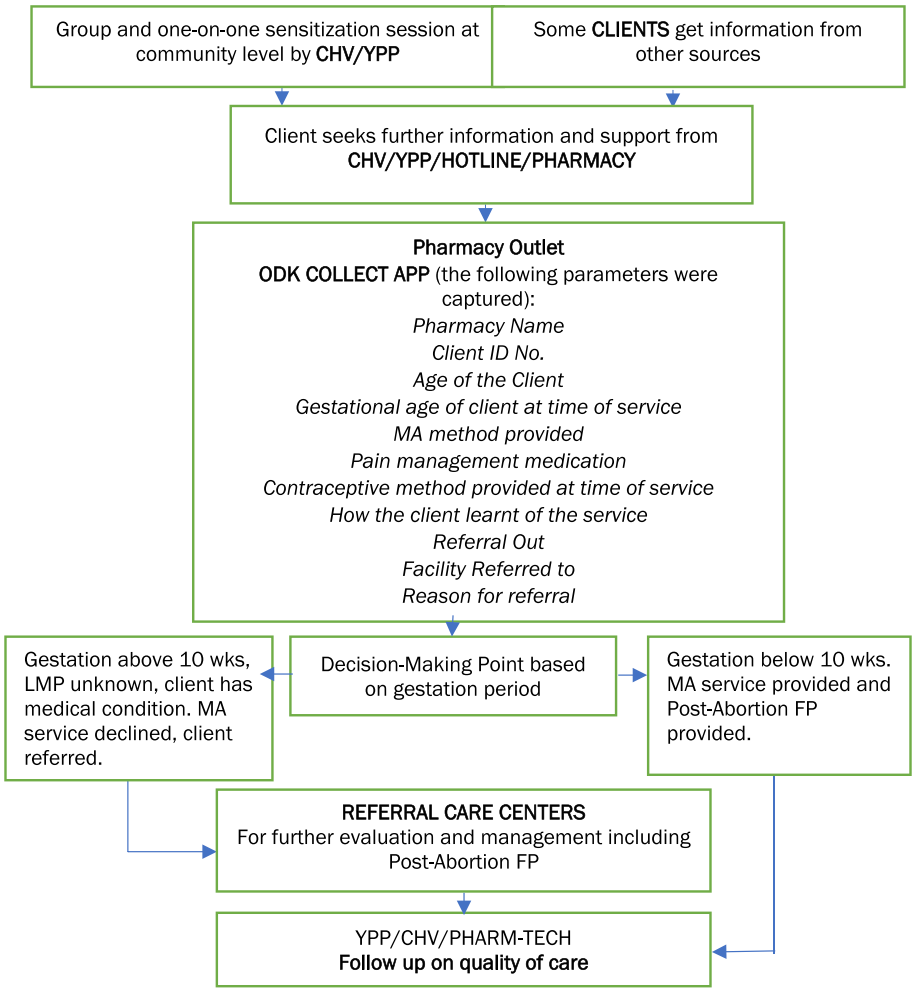

Fig. 2 Online pharmacy service flow-chart

(CHVs) to 9 participating pharmacy outlets with the help of 4 Community Health Assistants (CHAs). A group of 15 youth peer providers (YPPs) were also deployed by the Ministry of Health to reach out, counsel, and refer adolescent girls 19 years and below who required SRHR services. The linked CHVs and YPPs referred adolescent girls and women seeking SRHR services to the pharmacy outlets from their respective communities. Whenever pharmacy staff received clients referred from CHVs, they counselled and advised the clients on available contraceptive methods to use after undergoing MA. After providing the MA and FP services, pharmacy providers gave their contacts and that of the CHVs to the clients so that the clients could call in case they experienced any complications. Figure 3 summarizes the typical journey through which girls seeking SRHR information, services and products went through in order to access services.

Demand creation activities

Demand creation for SRHR information, services and products involved advocacy with the County Health Management Team (CHMT) and community health committees within units linked to selected pharmacy outlets and Community Health Assistants (CHAs). In order to create awareness on SRHR services, CHVs and YPPs conducted community dialogue meetings in villages, undertook routine home visits, and disseminated information pamphlets on where and how to access MA products and services.

Monitoring and support supervision

Monitoring visits by the project team to participating pharmacy outlets were conducted monthly for data verification and audit as well as vendor support on utilization of the online pharmacy platform. The project team also monitored the quality of education sessions delivered to

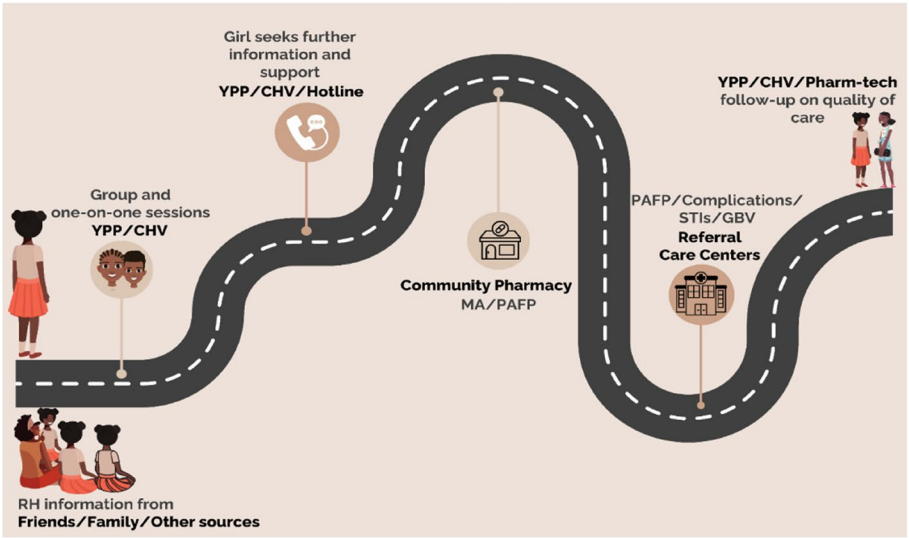

Fig. 3 A girl's journey through the *Tembe Mkononi* pathway for SRHR services

clients by CHVs as well as referrals made. Data on the sale of MA products was collected and compiled by the project team on a monthly basis from the participating pharmacy outlets. A joint review meeting involving the project team, pharmacy staff, CHVs and CHAs was held in October 2022 to share and strengthen working relationships, explore ways of documenting project achievements, identify challenges and ways of addressing them.

Data collection, analysis and management procedures

The study utilized a mixed methods approach comprising quantitative interviews with pharmacy staff and CHVs as well as review of sales records. The baseline survey was conducted in April 2022 and endline in December 2022. Baseline and endline interviews were conducted with 10 pharmacy staff and 20 CHVs using semi-structured questionnaires, while program data was extracted from pharmacy sales records and CHVs activity registers in order to track the project indicators. Baseline and endline data collection activities were conducted using structured paper-based questionnaires. The same pharmacy staff and CHVs were interviewed at baseline and endline. Thus, the structured paper-based questionnaires or interview guides used were specifically developed by the project team for this study. The three questionnaires or tools used were: Interview Guide for Pharmacy Staff, Interview Guide for CHVs and Pharmacy Drug Sales Register.

- Interview guide for pharmacy staff sought information on: background characteristics of pharmacy staff, MA service provision practices, experience with project SRHR interventions.
- Interview guide for CHVs sought information on: background characteristics of CHVs, in-service training/skills development, MA service provision practices, experience with project SRHR interventions.
- Pharmacy drug sales register captured information on: pharmacy outlet identification particulars, MA medication sold (number of clients served, quantity sold the previous month, quantity currently in stock), contraceptives/FP methods sold (number of clients served the previous month, quantity sold the previous month, quantity currently in stock). The tool also captured data on broad age categories (number of clients aged 19 years and below, number of clients aged 20–49 years) as well as challenges encountered in sale of MA medication and contraceptives and how the challenges were addressed.

Upon completion of fieldwork, the data was exported to Stata® software program for analysis. Analysis involved pairing of baseline and endline data by each pharmacy outlet and generating simple frequencies. The tool for documenting the purchase of MA products and contraceptives was programmed in Open Data Kit (ODK) software for use in tablets. Each participating pharmacy outlet had 1 tablet for transmitting the monthly sales data to the server.

Procedure for dissemination of findings

A forum for disseminating preliminary findings from the project was undertaken in December 2022 and attended by key national and county level stakeholders. Stakeholder contributions in the meeting were audio-recorded

and later transcribed verbatim. The transcript was analysed as per the meeting's discussion guidelines with highlights of significant ideas regarding MA service provision and contraceptive use. Findings were grouped into the following themes: Strategies for scaling up utilization of pharmacy outlets in the provision of SRHR services, particularly medication abortion, to women and girls; Opportunities for institutionalizing provision of SRHR services including MA within Homa Bay County reproductive health agenda, work plans and budgets; and the role of Ministry of Health and Kenya Pharmaceutical Association in capacity building for pharmacy staff, CHVs and YPPs to strengthen provision of MA services, MA task-sharing and commodity security, and routine data collection and utilization.

Ethical considerations

Research activities for this study were performed in accordance with the Declaration of Helsinki. Ethical approval for the *Tembe Mkononi* project was obtained from AMREF Ethics and Scientific Review Committee vide letter Ref: ESRC/P995/2021 dated 18th June 2021. A research license for the project was obtained in December 2021 from the National Commission for Science, Technology and Innovation (License number NACOSTI/P/22/15033).

We confirm that written informed consent was sought and obtained from all the participating pharmacy staff and CHVs prior to conducting interviews.

Before consenting, data collectors emphasized to participants that the study was voluntary, the reason they were participating and risks and benefits of participating.

Results

Results from Interviews with Pharmacy Staff and CHVs

Background characteristics of study respondents

Study respondents comprised of 4 female and 6 male pharmacy staff as well as 17 female and 3 male CHVs. The mean age of participating pharmacy staff was 31 years with an average of 6 years' experience in the pharmacy field, while the mean age of CHVs was 40 years and almost all of them had worked as CHVs for 10 years. In terms of level of schooling, all the 10 pharmacy staff had attained college/university level education, while 3 out of the 20 CHVs had primary school level education, 9 had secondary school education, while 8 had attended college.

Screening of clients seeking MA services

Pharmacy staff were asked to state the type of screening they conducted on clients in order to determine their eligibility for obtaining MA services from the pharmacy outlets. The reasons for documenting pharmacy staff knowledge on screening of MA clients was to inform refresher training on screening and value clarification and attitude transformation exercises. All the 10 pharmacy staff reported that they asked clients about gestation period and reasons for wanting to terminate pregnancy before providing MA services, while 9 out of 10 pharmacy staff asked about the client's age and requested clients to conduct a rapid pregnancy test before providing any further services (Fig. 4).

A comparison of baseline and endline results showed that certain screening procedures either reduced or increased at the endline. For instance, asking clients whether they had referral forms, their medical history

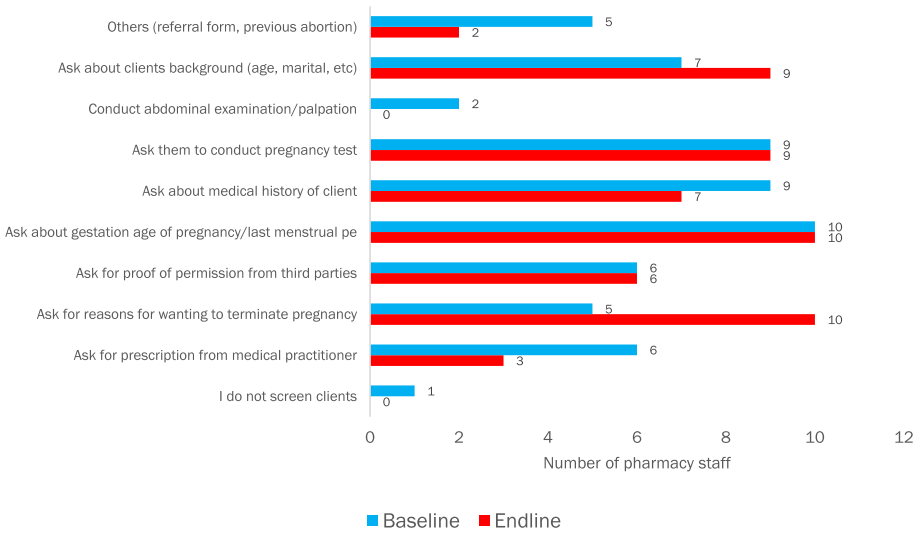

Fig. 4. Screening of clients by pharmacy staff before MA service provision, April-Dec 2022 (N=10)

or whether they had prescription from medical practitioners reduced at the endline. On the other hand, certain screening questions including knowing the client's age and asking for reasons for wanting to terminate the pregnancy increased at the endline. There were no major differences in the results of the other screening questions between baseline and endline. Overall, pharmacy staff knowledge on screening was utilized to strengthen training of the staff in accordance with the national guidelines, ethical considerations and to address instances where pharmacy staff may potentially decline to offer MA services to eligible clients.

Counseling and information provision to MA clients

Pharmacy staff were asked to state the type of SRHR information and advice they provided to clients who came to them seeking pregnancy termination. At endline, all the 10 pharmacy staff reported advising clients on the side effects of MA drugs as well as on post-abortion family planning (Fig. 5). The number of pharmacy staff who informed clients on how to confirm whether the MA process was successful (expulsion or removal of all products of conception) increased from 4 at baseline to 9 at endline. Similarly, the number of pharmacy staff who mentioned to clients about complications that may arise from MA use increased from 7 at baseline to 9 at endline. The number of pharmacy staff who counseled clients on other available options for pregnancy termination, risk of failure of MA, and when and how to use MA drugs appears to have reduced at endline.

Community health volunteers were asked to state the nature of counseling, advice and information they provided to clients who sought pregnancy termination services. Marked improvements occurred regarding the number of CHVs who informed clients on how to confirm that the MA process was successful (expulsion or removal of all products of conception) from 2 at baseline to 7 at endline. The number of CHVs who informed clients on when and where to seek help increased from 9 at baseline to 16 at endline, and those who informed clients on the side effects of MA drugs increased from 7 at baseline to 10 at endline (Fig. 6).

It should be noted that key tasks for CHVs involved creating awareness on availability of MA services and referring potential clients to pharmacy outlets. CHVs also worked in partnership with pharmacy staff to follow up post-MA clients to ensure that the MA process was successful (expulsion or removal of all products of conception).

Follow-up referral for post-MA clients

Both pharmacy staff and CHVs were trained on the importance of conducting follow-up to post-MA clients. At endline, all the 10-pharmacy staff reported that they offered counseling and verbal reassurance to post-MA clients, provided pain medication, and referred the clients to CHVs for home support. Majority of CHVs also indicated that pharmacy staff referred women and girls who had undergone pregnancy termination to them for follow-up. All the 20 CHVs at endline indicated that they provided counseling and verbal reassurance to clients who came back or called in for post-abortion follow-up compared to 9 at baseline (Fig. 7). There was also an increase in number of CHVs who referred post-abortion clients back to pharmacy outlets for further review from 3 at baseline to 6 at endline. Similarly, 17 CHVs advised post-abortion clients on available FP options at endline up from none at baseline.

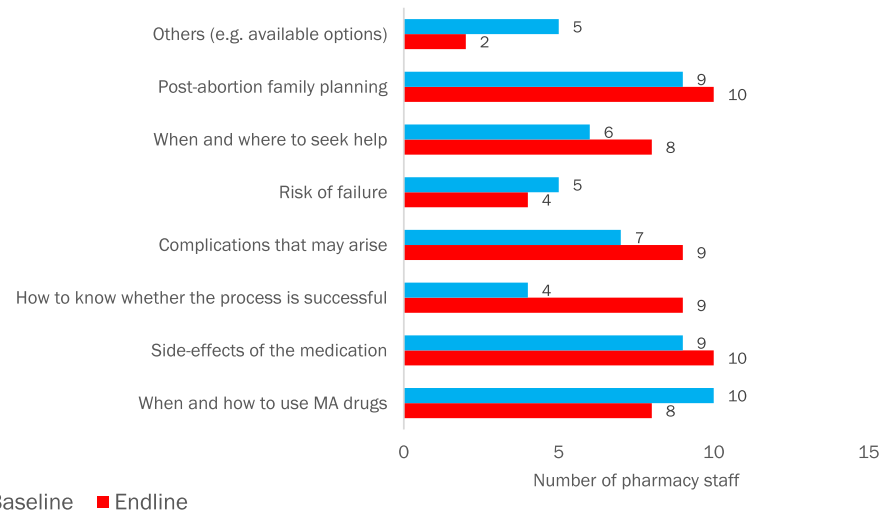

Fig. 5 Information by pharmacy staff to clients seeking MA services, April-Dec 2022 (N=10)

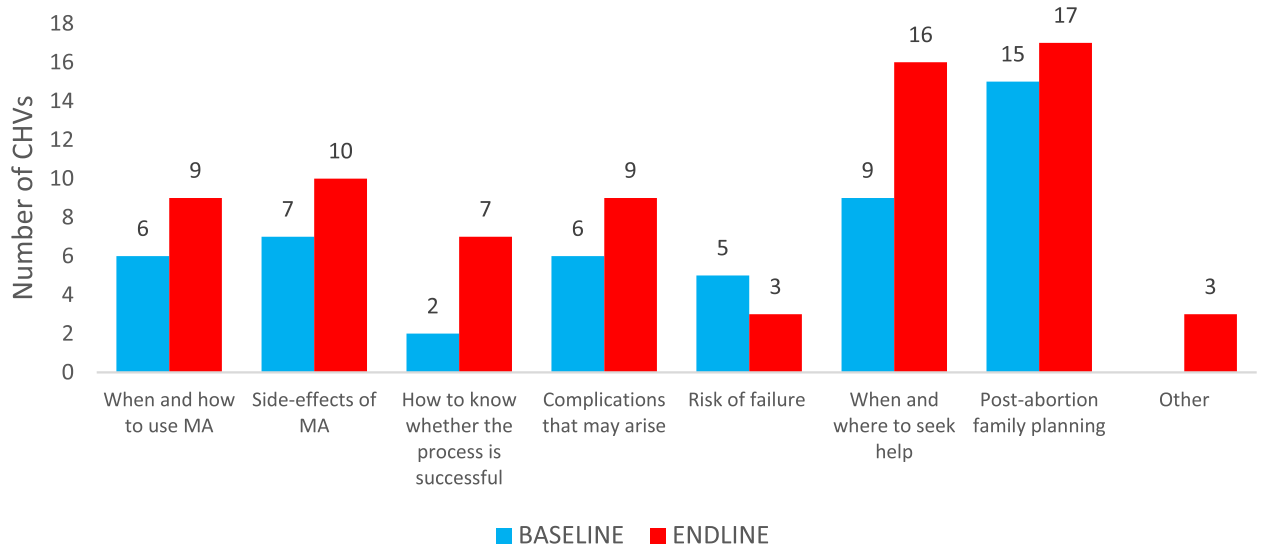

Fig. 6 Counseling and information provision by CHVs to MA clients, April-Dec 2022 (N=20)

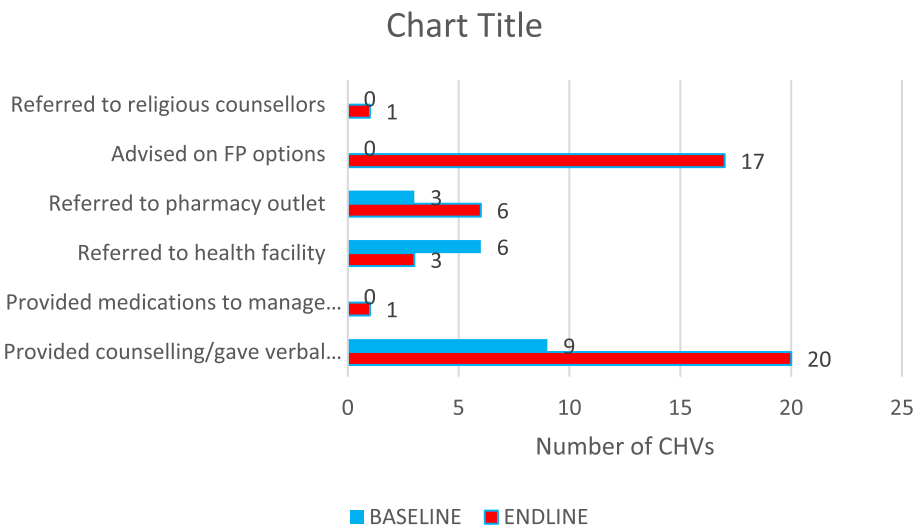

Fig. 7 Advice and services provided by CHVs to post-MA clients at follow-up, April-Dec 2022 (N=20)

Community level demand creation activities

According to the Government of Kenya Community Health Strategy, community dialogue days provide a useful platform and forum for CHVs and community health committees to interact with members of the public to discuss priority public health issues affecting them. CHVs were asked whether they had conducted community dialogue forums in the past 6 months prior to the baseline and endline surveys at which SRHR issues were discussed. The number of CHVs who organized community forums to discuss SRHR issues including MA increased from 18 at baseline to 20 at endline. The number of CHVs who conducted 7–9 meetings in the 6 months period preceding the baseline and endline surveys increased from 2 CHVs at baseline to 4 CHVs at endline, while the number of CHVs who had organized 10 meetings and above increased from 1 CHV at baseline to 5 CHVs at endline (Fig. 8).

The rest of the CHVs indicated having organized between 1 and 6 community dialogue forums in the 6 months preceding the baseline and endline surveys.

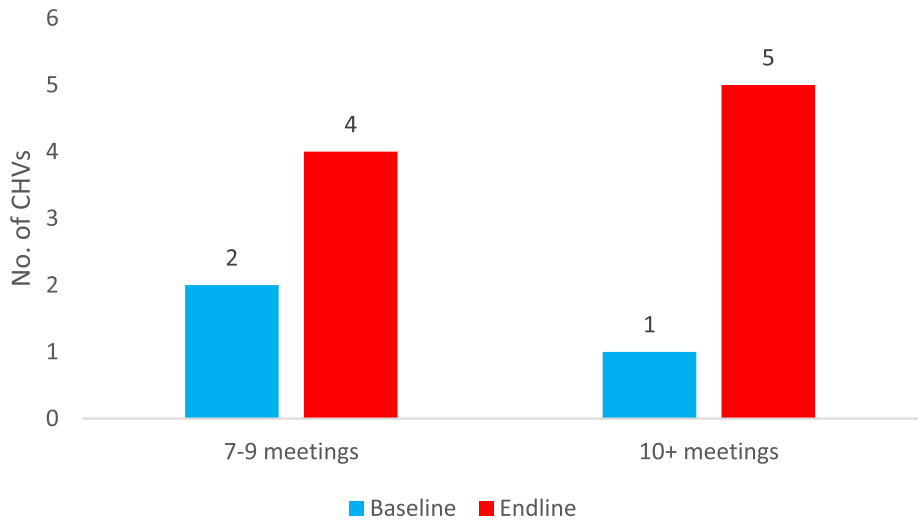

Fig. 8 No. of community dialogue forums organized by CHVs to discuss SRHR, April-Dec 2022 (N=20)

Pharmacy staff and CHV satisfaction with provision of SRHR services

In order to assess the acceptability of providing SRHR services and products through pharmacy outlets, both pharmacy staff and CHVs were asked a number of questions. Pharmacy staff were asked whether they were satisfied with their role in providing counseling, information and services to MA clients including utilization of the online platform. All the 10 pharmacy staff indicated satisfaction with provision of MA products and services to clients. Key reasons for satisfaction mentioned by pharmacy staff were: privacy and confidentiality of service provision; accurate MA sales data capture and verification through online platform; and fast retrieval of records and tracing of clients.

Similarly, CHVs were asked how satisfied they were with referring SRHR clients to pharmacy outlets for services. Eighteen out of 20 CHVs at baseline and all the 20 CHVs at endline indicated that they were satisfied with how they referred and linked clients to pharmacy outlets for MA services and products. Reasons provided by CHVs in support of their satisfaction with referral of clients to pharmacy outlets included positive feedback from clients as well as the pharmacy outlets on their performance, pharmacy outlets offering privacy and confidentiality to clients, friendly pharmacy staff and cooperative service providers, and proximity of pharmacy outlets to clients hence facilitating effective referrals.

Results from Pharmacy Sales Records

Number of MA clients served by participating pharmacy outlets

We obtained MA products sales data from each of the participating pharmacy outlets on monthly basis from April to December 2022. A total of 527 medication abortion clients were served at the participating pharmacy outlets, increasing from 15 clients in April 2022 to 112 in December 2022 (Fig. 9). Out of the 527 clients, the largest proportion (248 clients or 47%) was of women aged 20–24 while girls aged 15–19 years were fewer (134 clients accounting for 25%) of the total.

According to the project's proof of concept, it was expected that 300 girls aged 15–19 years and 900 women aged 20–49 years would be reached during the project period. The set targets were exceeded whereby 1,025 girls aged 15–19 years and 1,389 women aged 20–49 years were reached.

There was variation in the workload between pharmacy outlets (Fig. 10), with pharmacies A, F and I having higher workload at 94 clients, 82 clients and 86 clients respectively, while pharmacies D, E and H had the least workload at 12 clients, 9 clients and 13 clients respectively.

Overall trend in client utilization of SRHR services at pharmacy outlets

Data from the online pharmacy platform showed a steady increase in the number of clients who obtained SRHR information, services and products from 14 clients in April to 112 clients in December 2022 (Fig. 11). The decline in number of clients served between August and September 2022 could be attributed to the general elections held in Kenya during that period.

Clients who sought services from pharmacy outlets were asked to state the source of their information on SRHR services including MA. Analysis of the data revealed that a large proportion of clients who received

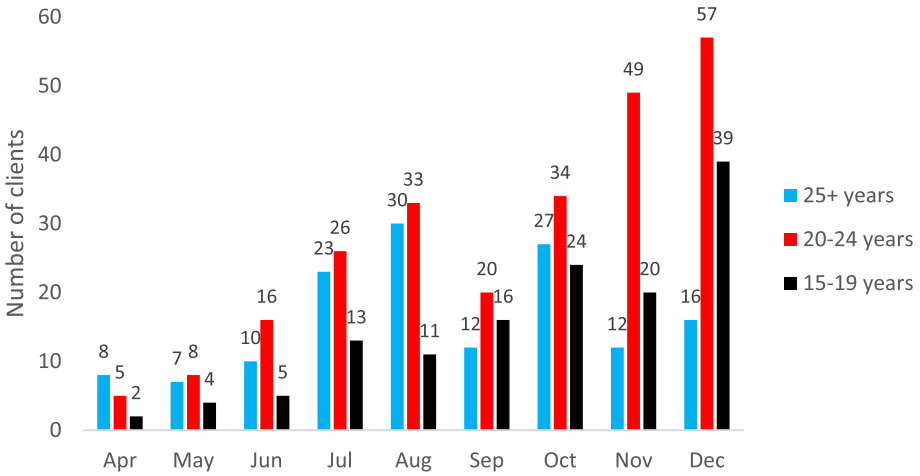

Fig. 9 Number of MA clients by age categories, April-Dec 2022 (N=527)

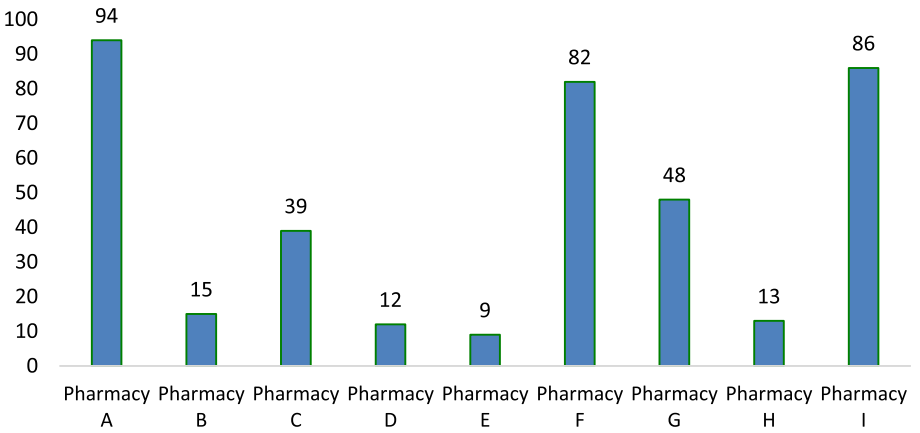

Fig. 10 Number of MA clients served per pharmacy outlet, April-Dec 2022 (N=527)

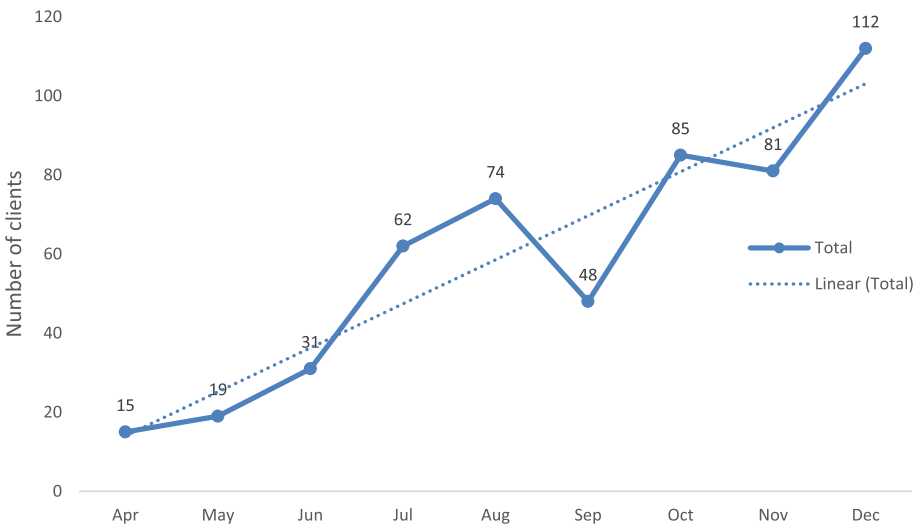

Fig. 11 Trend in number of MA clients served through pharmacy outlets, April-Dec 2022 (N=527). Sources of information on MA for clients

MA services (308 clients) got information about accessing the products at pharmacy outlets from community outreach meetings, while 194 clients had been referred to the pharmacy outlets by CHVs/YPPs (Fig. 12). Majority of clients seeking MA services were in the 20–24 years age group.

Provision of post-MA family planning methods to clients

Monthly sales data from the online pharmacy platform showed that pharmacy staff were able to provide a variety of short-term contraceptive methods. For instance, the 3-months injectable contraceptive (DMPA) was the most commonly dispensed method (205 clients), followed by oral contraceptive pills (121 clients), while the emergency pill (5 clients) was the least FP method obtained (Table 1).

Dissemination of preliminary findings

During the December 2022 forum to disseminate preliminary findings, stakeholders acknowledged the potential role played by pharmacy outlets in reaching more girls and women who require SRHR services. The stakeholders explained that at present CHVs do refer clients to pharmacy outlets for counseling services and to obtain MA products. Once a client has been attended to, she is referred back to the CHV for follow up at the community level. To facilitate effective follow up, pharmacy staff agreed amongst themselves to be providing their telephone contacts and those of the CHVs to the clients. Participants at the dissemination meeting said that this referral model is easily scalable because it links the pharmacy outlets with the CHVs and clients.

The restrictive nature of abortion services in Kenya as per the Constitution of Kenya 2010 and the caveat imposed on the provision of contraceptive services to adolescent clients by the Kenya RH Policy 2022–2032 was discussed at the dissemination meeting. Given that the same Constitution mandates providers to offer high quality, safe, effective, user-centred, timely, efficient

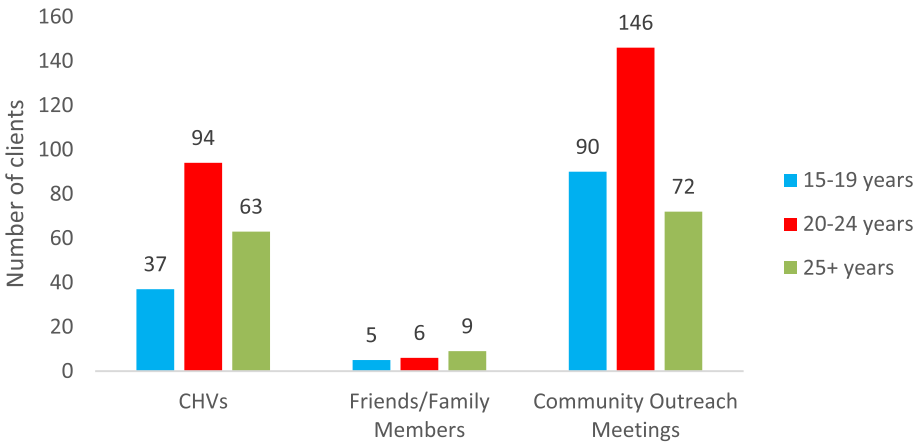

Fig. 12 Sources of information on MA by clients by age categories, April-Dec 2022 (N=527). Note: YPPs are included in the bar graphs for CHVs as a source of information

Table 1 Post-MA FP sales to clients by age category April-Dec 2022 (N=527)

Contraceptive Method	15–19 years	20–24 years	25+ years	Grand Total
3 Month Injectable	49	100	56	205
Condoms	12	10	12	34
Emergency contraception		2	3	5
Implant	3	2	2	7
Method desired but no method received[a]	5	14	12	31
No method desired	48	45	17	110
Oral Contraceptives	15	70	36	121
Referred for contraception (PAFP)	1	3	6	10
Grand Total	**133**	**246**	**144**	523

[a] The tool did not have provisions for reason(s) why desired method was not received by the client. However, pharmacy staff indicated that some clients asked for methods that they did not have the technical capacity to administer, such as the IUD

and equitable services to all clients, the meeting recommended that providers handle each client on a case-by-case basis.

At the meeting, Kenya Pharmaceutical Association (KPA) indicated that they are able to advocate for scale up and utilization of pharmacy outlets as service points for MA services in collaboration with other partners including Pharmacy and Poisons Board and the Ministry of Health. They argued that doing so will greatly improve access and quality of MA services.

Majority of stakeholders noted that through the project, pharmacies are now able to counsel, advice clients, dispense MA drugs and contraceptives and conduct telephone-based follow-ups. Given that in the past, the primary role of pharmacies was to dispense drugs, the additional activities benefit clients by bringing SRHR services closer to them, making them available and within reach. From the findings, stakeholders indicated that utilizing pharmacy outlets is a sustainable avenue for girls and women to access and utilize SRHR services including MA.

Stakeholders also pointed out the importance of linking data from pharmacy outlets to the national District Health Information System (DHIS). They expressed the need to advocate for linking of data from private sector health providers such as pharmacy outlets and health centres to the Ministry's health management information system.

Lastly, stakeholders recommended that findings and lessons from the project be integrated into the Homa Bay County work plans and budget. They pointed out that this would ensure sustainability of the interventions and the model.

Discussion

A key objective of the study was to assess the feasibility of increasing access to medication abortion information and products for women and girls through pharmacy-based provision, and utilization of community health volunteers to increase demand for MA services. Findings from the study showed that it is feasible and acceptable to increase access to SRHR information and services, including MA, by use of pharmacy staff and CHVs.

Effect of demand creation on utilization of MA services

The large number of women and girls who received MA information and services could be attributed to increased awareness created by CHVs through community outreach forums. Previous studies by Gupta P, *et al*, 2017; Rishita N, 2018; and Olaniran A, *et al*, 2019, have provided evidence that community health cadres are effective in making safe abortion information and services accessible to women to facilitate decision-making in the context of choice [14–16]. The increased utilization of pharmacy outlets could also be attributed to the confidence the target population had in getting services from community pharmacy outlets, which offer privacy and confidential care. Similar studies by Newton D, *et al*, 2016; Ho P., 2006; Aiken A., *et al*, 2018; and Kanstrup C., *et al*, 2018, have observed that the choice of service delivery points by clients seeking abortion services depends on waiting time, distance to access points, need for privacy and control [17–20]. These studies argue that providing choices to consumers is an integral part of service delivery. In addition, the studies point out that health systems which do not provide options limit individuals' likelihood of opting for a safe method that meets their needs.

Counseling and information provision by pharmacy staff

The project's training activities for pharmacy staff aimed to build their capacity to deliver accurate information on medication abortion to prospective clients, conduct screening and counseling, dispense correct dosage of MA medication, and provide quality post-MA services. As shown in the results section of this paper, we saw an overall increase in the number of pharmacy staff who advised clients on many of the critical aspects of MA services, thereby enabling clients to make informed decisions. For instance, the number of pharmacy staff who informed clients on how to confirm whether the MA process was successful (expulsion or removal of all products of conception) increased from 4 at baseline to 9 at endline, while the number of pharmacy staff who mentioned to clients about complications that may arise from MA use increased from 7 at baseline to 9 at endline.

These results demonstrate that pharmacy staff are strategically placed to increase access to and utilization of MA services even in contexts where provision of abortion and contraceptive services to adolescents is stigmatized. Previous studies have shown that pharmacy staff are often the first-line healthcare providers hence they have the responsibility of delivering accurate information and increasing access to interventions for unintended pregnancy. As argued by Sneeringer R.K, *et al* (2012), training of pharmacy staff enables them to effectively provide information, conduct counseling and deliver healthcare related to stigmatized conditions including STIs, HIV & AIDS and pregnancy termination [21]. Further, studies by Lara D, et al (2011) and Billings D.L., et al (2009) have shown that pharmacy outlets are often the most available healthcare outlets in communities, with short waiting time and less costly services. Their success has been due to their ability to facilitate rapid access to medications, supplies, medical information, and advice while maintaining client confidentiality [22, 23].

Linkage with wider health system

Throughout the results section, a number of activities that touch on MA commodities, contraception, capacity building for pharmacy staff and CHVs, operating the 24 hour hotline, referral of clients seeking MA services to pharmacy outlets and link facilities, and demand creation benefited from having a functional health system in place. It was evident that involvement of the county government and the leadership of the county and sub-county health management teams supported proper functioning of the health system including the provision of SRHR services. The issue of embracing a health system approach was also discussed during the dissemination meeting held in December 2022. Both the public and private sector representatives at the dissemination meeting acknowledged that through the project, pharmacy staff are now able to counsel, advise clients, dispense MA drugs and contraceptive methods, and conduct follow-up of clients after service provision. Participants also advocated for the linking of service data collected at pharmacy outlets to the national District Health Information System (DHIS 2) to be utilized for policy and programming on medication abortion. Participants pointed out the need to involve private sector providers, including pharmacy staff in update trainings on SRHR service provision organized by the public sector. They pointed out that the private sector is often left out during refresher trainings. They argued that task-shifting allows clinical staff to focus on clinical procedures whilst leaving pharmacy staff to focus on provision of MA services so long as it is undertaken within the recommended gestation period.

A similar study by Elul B., (2011) emphasized the need for refresher trainings for all service cadres, both in public and private sectors, in order to guarantee the quality of services provision [24]. Other studies have also emphasized the need for service providers to be competent in pregnancy determination, pre and post abortion counseling, gestation assessment, knowledge on need for referral and procedures involved, dispensing MA pills, patient monitoring, and follow-up assessment and care [25–28]. The involvement of pharmacy staff in the provision of MA services was viewed as strengthening the task-shifting approach. The approach allows medical staff with clinical skills such as doctors, nurses and clinical officers to focus on provision of surgical methods such as manual vacuum aspiration and dilation and curettage (D&C).

Implication of study findings on maternal morbidity and mortality

Morbidity and mortality related to unsafe abortion are major public health problems not only in Kenya but globally. Reducing maternal morbidity and mortality is a priority for low-and-middle-income countries. According to the World Health Organization, countries wanting to reduce maternal mortality but reluctant to address abortion, need to resolve their internal incoherence [29]. Furthermore, the rollout of universal health coverage (UHC) provides the opportunity to integrate abortion services more meaningfully with relevant reproductive health programs given that unsafe abortion is one of the leading causes of preventable maternal mortality in Kenya.

Findings from this project showed that it is feasible and acceptable to utilize pharmacy outlets to increase access to MA services by women and girls. Pharmacy outlets were found to be closest to women and girls in the communities where they reside and are the preferred first points of contact for MA and post-abortion contraceptive services. Further, it emerged from the findings that pharmacy outlets have MA drugs and contraceptives in stock all the time, a finding that guarantees uninterrupted availability of services. Therefore, attempts to reduce morbidity and mortality related to unsafe abortion have to consider involving the pharmacy outlets given the potential they have as the preferred first point of contact for MA and post-abortion services. Overall, the findings demonstrate that providing MA information and services to women and girls at pharmacy outlets is a promising strategy for increasing access. It is anticipated that improving access to MA would reduce unsafe abortions and ultimately maternal morbidity and mortality associated with such abortions.

Study limitations

The main limitation of this study was the short time frame within which the project team was expected to implement activities. Initial requirements including obtaining ethical approval, contracting obligations with implementing partners and the COVID-19 situation prevailing at the time contributed to delays in the commencement of project activities. Another limitation is that the baseline survey was conducted a few months after commencement of project interventions including training of pharmacy staff and CHVs. The project team delayed collection of baseline data in order to give room for setting up of a functional online pharmacy platform, which was one of the main project interventions. This could explain the marginal differences between baseline and endline findings since the study participants had already been exposed to some aspects of the project interventions by the time of conducting the baseline survey, and also the interval between baseline and endline data collection was short.

Conclusions

Findings from the study showed that it is feasible and acceptable to increase access to SRHR information and services, including MA, through pharmacy provision and community health volunteers. The steady increase in the number of clients who sought MA services during the project period could be attributed to increased awareness on availability of MA services by clients, as well as increased knowledge, skills and confidence of the pharmacy staff after undergoing training. The support provided by the County Government of Homa Bay contributed to creating demand for SRHR services among the target population including MA information and products.

Recommendations

A number of recommendations arise from the study. First, there is need to scale up the provision of MA information, products and services through pharmacy outlets given its potential to reach the target population, and to deliver services in a private and confidential manner. Secondly, the Pharmacy and Poisons Board, Pharmaceutical Association of Kenya, the Division of Reproductive and Maternal Health (Ministry of Health), and County Governments should prioritize training of pharmacy staff in SRHR information, products and services through on-the-job training or continuous medical education. For sustainability purposes, such training could be undertaken as part of continuous professional development (CPD). Lastly, findings and lessons learned from the study point to the need for incorporating capacity building of health providers particularly pharmacy staff and CHVs as well as commodity security for SRHR into county annual work plans and budgets to ensure sustained service provision.

Abbreviations

CHA	Community Health Assistant
CHMT	County Health Management Team
CHV	Community Health Volunteer
DHS	Demographic and Health Survey
EML	National Emergency Medicines List
FGDs	Focus Group Discussions
FP	Family Planning
GBV	Gender-Based Violence
IDIs	In-Depth Interviews
IRB	Institutional Review Board
KDHS	Kenya Demographic and Health Survey
KMET	Kisumu Medical and Educational Trust
PPB	Pharmacy and Poisons Board
MA	Medication abortion
MOH	Ministry of Health
PI	Principal Investigator
PC-Kenya	Population Council Kenya
RA	Research Assistant
RCC	Referral Care Centre
SCHMT	Sub-County Health Management Team
SRHR	Sexual and Reproductive Health and Rights
WHO	World Health Organisation
YPP	Youth Peer Provider

Supplementary Information

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Supplementary Material 1.

Supplementary Material 2.

Supplementary Material 3.

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Authors' contributions

W.L. conceptualized the overall study; F.O. wrote the study design and methodology; M.O., C.N. and B.D. interpreted data for accuracy; S.R. and Z.W. reviewed the article for intellectual content.

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Data availability

No datasets were generated or analysed during the current study.
Baseline and endline data collection activities were conducted using structured paper-based questionnaires or interview guides. The interview guides (namely, Interview Guide for CHVs, Interview Guide for Pharmacy Staff and Pharmacy Drug Sales Register) were specifically developed by the project team for this study. These guides have been loaded as supplementary files for this manuscript.

Declarations

Ethics approval and consent to participate

Research activities for this study were performed in accordance with the Declaration of Helsinki. Ethical approval for the *Tembe Mkononi* project was obtained from AMREF Ethics and Scientific Review Committee vide letter Ref: ESRC/P995/2021 dated 18th June 2021. A research license for the project was obtained in December 2021 from the National Commission for Science, Technology and Innovation (License number NACOSTI/P/22/15033).
We confirm that written informed consent was sought and obtained from all the participating pharmacy staff and CHVs prior to conducting interviews. Before consenting, data collectors emphasized to participants that the study was voluntary, the reason they were participating and risks and benefits of participating.

Consent for publication

Not applicable

Competing interests

The authors declare no competing interests.

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