

Which Methods of Dissemination do Women in Cape Town, South Africa Prefer When Searching for Safe Abortion Providers?



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Submitted in partial fulfilment of the requirements for the degree

Master of Public Health

At

University of Cape Town

April 2018

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April 2018

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Declaration

I, Kayla Blackburn (student number BLCKAY001), declare that the work that I have submitted is my own; where the work of others has been used (whether quoted verbatim or referenced to), it has been properly cited using **Harvard** formatting. This project fulfills the Mini-Dissertation requirements for the General Track as required for the Master of Public Health Degree at the University of Cape Town's School of Public Health and Family Medicine. This thesis/dissertation has been submitted to the Turnitin module and I confirm that my supervisor has seen my report and any concerns revealed by such have been resolved with my supervisor.

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Dedication

“Bringing the gifts that my ancestors gave, I am the dream and hope of the slave” –Maya Angelou

This work is dedicated to those who have come before me, paving the way and offering guidance in my life journey. Specifically, I would like to thank the women in my life. Grandma Elsie Blackburn and Great-great Aunt Laura Hull, thank you both for your ancestral guidance. Mom, Laura Blackburn, thank you for your encouragement and belief in me. Auntie Joy Blackburn, thank you for being a source of kindness and love in my life.

Lastly, thank you Francis Marais and Boipelo Ndlovu for your love, friendship, patience, and support throughout this process. You both are very dear to me.

Abstract

Background:

The Choice on Termination of Pregnancy Act of 1996 makes provision for access to safe abortion, free of charge in government facilities in South Africa. Despite liberal abortion legislation, unsafe abortion persists in South Africa. Increasing access to information about safe and legal abortion providers through methods such as online databases, community health workers, and telephone hotlines will most likely decrease the number of women using illegal/unsafe abortion providers. This study aims to: determine how women prefer to access information on safe abortion providers and services in Cape Town, South Africa; determine which avenues of obtaining information are most accessible for women; and determine if there is a preferential difference in accessing information based on age, education and socio-economic status. The purpose of this research is to provide knowledge on how to increase the accessibility of safe abortion providers and services through preferential information dissemination.

Methods:

Participants were recruited from Marie Stopes International South Africa, a non-profit organization (NGO) that provides sexual and reproductive health services in Cape Town, South Africa. Recruitment of participants took place between September and November 2017. Eligibility criteria included that participants be between 18 to 49 years of age and presenting for an abortion. Data was collected through a self-administered paper-based questionnaire. There were four sections of the questionnaire: Socio-Demographics, Reproductive History, Interactions with Sources of Health Information, and Preferred Method to Access Information.

Results:

Ninety-eight women completed the self-administered questionnaire. Over 59 % of women preferred to use the internet to access information about safe abortion providers. Participants had access to the internet via their mobile phones, computers, laptops, and tablets. Internet access was more accessible for women who had completed secondary school and/or acquired a post-secondary degree, was employed, and/or earned more than USD 258 a month. Participants also preferred to use health care providers (29%), and community health workers (20%) for accessing information about safe and legal abortion services.

Conclusions:

This study identified the most preferred and acceptable methods to access information about safe abortion providers by women at an NGO clinic in Cape Town. Community health workers, the internet and health care providers and hotlines should be used to formulate dissemination methods that are tailored to women in South Africa. Information about government facilities, their current abortion provision status, and the type of abortion services they provide should be compiled, continually updated, and made available to women in dissemination methods that are most preferred, accessible and acceptable to women. Options for socioeconomically disadvantaged women should be developed in conjunction with Internet-based options for accessing information about safe abortion providers and services.

Acknowledgements

As the primary author, Kayla Blackburn was responsible for the data collection and data analysis pieces of this research project. The primary author (KB) also conducted the literature review and wrote the drafts that constituted this final project as part of her MPH mini dissertation.

Associate Professor Jane Harries was the primary supervisor who was responsible for advising on the overall study, reviewing and commenting on drafts as well as assisting with procedural tasks.

Kristen Daskilewicz was the co-supervisor and was responsible for reviewing and commenting on drafts as well as assisting with procedural tasks.

Marie Stopes- South Africa, South Africa's largest non-profit sexual and reproductive health provider, allowed research to be conducted in their Cape Town clinic for purposes of this mini-dissertation and to utilize the findings of this research.

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Part A: Protocol

Which methods of dissemination do women in Cape Town, South Africa prefer when searching for safe abortion providers?

Kayla Blackburn MPH candidate

1.1 Background:

The Choice on Termination of Pregnancy Act of 1996 (CTOP) makes provision for access to safe abortion in South Africa. Before 1996, abortion in South Africa was regulated by the Abortion and Sterilization Act of 1975. Under this Act, abortions could be performed when the pregnancy could end with a severely handicapped child; was the result of rape or incest, and seriously threatened a woman's mental or physical health. The Act required that two independent doctors, neither of whom would perform the termination, approve the abortion.

Women in rural areas, where only one or two doctors were present in the hospital were unable to meet the requirement of approval by two independent doctors and thereby could not legally have an abortion (Mhlanga, 2003). The Abortion and Sterilization Act of 1975 effectively limited access to safe abortions to white women in developed and well-resourced areas. Women who were impoverished, black and/or lived outside of urban areas struggled logistically and monetarily to gain access to multiple doctors, state designated hospitals, courts and psychiatrists (Rebouch, 2011). During the years of the Act's application, about 1000 legal abortions were performed per year (de Pinho & Hoffman, 1998). Between March 1, 1976 and April 30, 1977, 44% (198) of patients applying for termination of pregnancy at the Johannesburg Hospital Pregnancy Advisory Clinic were accepted and the abortion performed. Thirty-one percent (142) were refused and 25% (114) withdraw their application. Of the women that were refused an abortion 43.4% (61) kept their baby, 8.5% (12) spontaneously aborted, 2.8 % (4) were not pregnant, 1 woman attempted suicide, and 44.6% (62) aborted elsewhere (Bloch et al. 1978). It is estimated that there were around 250,000 illegal abortions per year during the implementation of the 1975 Act (Klugman & Budlender, 2001). There is limited literature that assesses the effects of the Abortion and Sterilization Act on the

prevalence of illegal abortions during the Act's implementation, but one can measure its implications by the increased admissions of women presenting with incomplete and septic abortions which increased the maternal mortality and morbidity rates resulting from septic abortions (Fawcus et al, 1997; Shweni et al, 1992).

The Choice on Termination of Pregnancy Act of 1996 Act seeks to “promote reproductive rights and extends freedom of choice by affording every woman the right to choose whether to have an early, safe and legal termination of pregnancy according to her individual beliefs.”(No.92 of 1996: Choice on Termination of Pregnancy Act, 1996.) The CTOP does this by allowing termination on request during the first twelve weeks of pregnancy. From the thirteenth to the twentieth week a pregnancy may be terminated under four circumstances: if the pregnancy would significantly affect the woman's social or economic circumstances, if the pregnancy resulted from rape or incest, if the pregnancy endangers the woman's mental or physical health, or if the fetus may suffer from severe mental or physical abnormality. After the twentieth week, a pregnancy can be terminated if the fetus is severely malformed or has a risk of severe injury, or if it could endanger the woman's life. Due to the CTOP Act, abortion-related mortality from 1994 to 2000 declined by 91 percent (Jewkes & Rees, 2005).

Despite implementation of the CTOP Act, unsafe abortion perseveres in South Africa. Women in South Africa are having unsafe abortions due to barriers such as insufficient knowledge about the CTOP Act and its provisions, fear of discrimination, abuse, and stigmatization by health workers, financial constraints, and a shortage of trained and willing abortion providers, which translates to long waiting times and often the inability of women to abort on request within the first 12 weeks of their pregnancy (Constant et al., 2014; Cooper et al., 2004; Grossman et al., 2011; Harries et al., 2015).

Currently there is a government list of designated abortion facilities; however, only 57% of the designated facilities are functional (Bateman, 2011). Bhekisisa, a health journalism centre in South Africa, found that of the 450 facilities on the government designated list, only 246 are recognized by provincial health departments as actually providing abortion services (Bhekisisa Team, 2017). Further, only 197 facilities confirmed that they were providing abortion services (Bhekisisa Team, 2017). Such discrepancies in provision status illustrate that there is a need for a vetted and continually updated list of safe abortion providers in South Africa.

Designated facilities are facilities that the Member of the Executive Council has acknowledged as places where termination of pregnancy may take place. This list is counterproductive because women may present at multiple designated facilities that are not actually providing abortions and miss the window of legal abortion due to delays while searching for a functional designated facility.

Marie Stopes' South Africa, the largest non-profit sexual and reproductive health provider in South Africa, seeks to fulfil the need for a vetted and updated list of safe abortion providers in South Africa. Thus far, private and government facilities that are providing safe abortions in South Africa have been identified for the database. The next step in the formulation of the database is to disseminate the information in a form that is preferable and accessible for women in South Africa.

Presently, there is limited research on how South African women would prefer to access information on safe abortion providers, however, there is research from settings similar to South Africa that may inform how women prefer to access this information. In Bangladesh, where termination of pregnancy is illegal but menstrual regulation up until 8 to 10 weeks after the last menstrual period is allowed, it was found that low-income women were not aware of the formal mHealth services in their communities. Once informed about mHealth services,

participants thought that menstrual regulation mobile health services would increase access to medical information for women (Messinger et al., 2017). A study in South Carolina, USA that focused on women's pathways to abortion care found that women who did not have contact with a professional or a crisis pregnancy centre utilized the internet, family, and friends to find safe abortion providers (Maro et al., 2016). A cross-sectional study in Bihar and Jharkhand, India noted that most of the information that women received about family planning and abortion came from community-level resources such as Accredited Social Health Activist, Anganwadi workers, and Auxiliary Nurse Midwives; they also found that limited exposure to mass media, including television, radio, and newspapers, suggested that women could not be effectively reached through electronic or print media. (Banerjee et al., 2012).

Dissemination of the database through community health workers, mHealth services, and the internet are all viable options in South Africa but research is needed to assess which methods of dissemination are most preferential for South African women.

1.2 Problem Statement:

Currently, unsafe abortion providers and their services are more visible and known than safe abortion providers. Unsafe abortion providers have websites that trend on the first page of a google search and plaster their advertisements in public spaces. In South Africa, illegal/unsafe abortion providers and their services are easy to find and access. In order to curb these providers and the mortality and morbidities that their services cause, safe abortion providers must be just as visible. This research aims to determine how women prefer to access information on safe abortion providers in order to increase the visibility of safe abortion providers.

1.3 Purpose:

The primary aim of this study is to determine how women in Cape Town, South Africa prefer to access information concerning safe abortion providers.

The objectives of this study are to:

- Determine how women prefer to access information concerning safe abortion providers in Cape Town.
- Determine if there is a preferential difference dependent on age, socioeconomic status, and/or highest educational level attained.

Guiding questions:

- Do women in Cape Town prefer to use the internet to access information about safe abortion providers?
- Would women in Cape Town prefer to call a telephonic hotline to access information on safe abortion providers in Cape Town?
- Are there methods other than the internet and hotline that women in South Africa would prefer to use when seeking information on safe abortion providers?

The results of this study will inform Marie Stopes - South Africa of the preferred platform for the National Safe Abortion Database to be released. The National Safe Abortion Provider Database seeks to make abortion more accessible for women in South Africa by compiling and maintaining a database that details designated and non-designated government and private abortion facilities, their location and contact information.

A self-administered paper based questionnaire will be used to assess if women prefer to access information about abortion providers through the internet, a hotline, and/or other means.

1.4 Methods:

1.4.1 Study design:

This research is being undertaken as a fulfilment of the Masters of Public Health mini-dissertation requirement. A quantitative research design will be employed. Participants will be recruited from Marie Stopes' Cape Town and Bellville locations. Once recruited and informed consent is obtained, participants will be asked to complete a paper-based questionnaire.

1.4.2 Characteristics of the study population:

The minimum sample size estimated for this study is 92. The population is women that are seeking a legal termination of pregnancy in Cape Town at a Marie Stopes clinic. The sample size was calculated using a two-sided alpha of 0.05, an expected proportion of women that will prefer to use the internet over all other options of 40% and precision limits of 10%. A study that explored what happens to women who are denied abortion in Cape Town found that 37.5% of their participants used the internet to access illegal abortion providers (Harries et al 2015) and this informed the sample size calculation. Other studies also show similar percentages of women who utilized the internet for health services related searches. A feasibility pilot study that sought to determine women's acceptability and ability to self-assess eligibility for early medical abortion using an online gestational age calculator found that 24% of their sample reported doing internet searches for abortion information prior to coming to the clinic (Momberg et al 2016). Lastly, in an article that examined the correlates of online seeking behaviour, the authors found that 50% of Australian women that participated in the study sought health information online (Nikoloudakis et al 2016).

The inclusion criteria are:

- Participants aged between 18 and 49 years
- Participants must be seeking a termination of pregnancy

Age was restricted to participants of reproductive age (15-49 years). For purposes of informed consent, those under the age of 18 were not included in this study. Women presenting for termination of pregnancy services is an inclusion criteria in this study because they have successfully navigated the process of identifying and presenting to a health facility that offers safe termination services. This study seeks to understand the methods in which they identified a safe abortion provider, Marie Stopes in this case, how they would have preferred/prefer to

access information about termination services, and the most accessible method of accessing information about termination services.

1.4.3 Study setting:

The study will be conducted at Marie Stopes South Africa's Cape Town location. Marie Stopes -South Africa provides first and second trimester abortion as a fee-paying service, whereas the public sector provides abortions free of charge. The researcher is aware that Marie Stopes is a fee-paying service and that women who typically seek services at Marie Stopes will be those that can afford to pay for the service, thereby skewing the sample. However, there are women who receive services at Marie Stopes free of charge through government subsidization agreements with government health clinics. For example, Mitchell's Plain Community Health Centre a public health facility refers women in their second trimester to Marie Stopes free of charge. Marie Stopes thus gives the researcher access to women of varying socioeconomic levels and backgrounds.

1.4.4 Recruitment and Enrolment

Convenience sampling will be used in this study. Convenience sampling is a non-probability sampling technique. This technique has been selected for this study because of the convenient accessibility and proximity of possible participants at Marie Stopes. This study is not well funded and must be completed within a pre-specified amount of time, thereby rendering convenience sampling the most viable method of sampling. The researcher is aware that this sampling method is not rigorous or systematic and will not be representative of the entire population. Participants will be recruited from the Belleville and Cape Town Marie Stopes' clinics. The researcher is aware that the population in this study is vulnerable because they are seeking a highly stigmatized service and will most probably be under some form of stress. With the before mentioned in mind, the researcher will approach individuals in an intentionally mindful manner. Women will be approached in the reception room of the clinic after they have

checked in and have completed the necessary paperwork for their health service. The researcher will ask the potential participant if she is interested in hearing about the study. Those who are interested will be given an overview of the study and a description of the possible risk and benefits. If the individual is still interested, the consent process will begin. The reception areas in Marie Stopes clinics are not crowded and therefore have a reasonable degree of privacy. If by chance the reception area is crowded, the participant will be asked to give their consent in a private room. During the consent process, the researcher will ensure that the participant knows that their participation is completely voluntary and that there are no negative consequences if they decide not to participate. Women who are eligible and interested in participating will be asked to give their written consent. The consent process and informed consent form will include the following:

1. A clear, concise explanation of the purpose of the study and the duration of the study
2. A description of the possible risks and benefits of the study
3. A statement that explains the voluntary nature of participation, explains that participants may end the questionnaire at any stage without penalty
4. The option to ask questions and a phone number to direct questions to
5. A description of measures for confidentiality
6. A description of what will be done with data once the study is complete

1.4.5 Research procedure and data collection methods:

Data will be collected from the Belleville and Cape Town Marie Stopes locations through a paper-based questionnaire. There are four sections of the questionnaire: Socio-Demographics, Reproductive History, Interactions with Sources of Health Information, and Preferred Method to Access Information. Women's preferred method and most accessible method will be established through the questionnaire. Women may have more than one preferred or most accessible method so the questionnaire allows the selection of more than one method. Participants will be given the paper-based questionnaire and asked to return it to the researcher

when they are finished. The researcher will be seated in a recognizable place in the waiting room.

1.4.6 Risk and benefits

Although there is no individual benefit of participating in this study, collectively, women in South Africa may benefit from research that will inform how to best connect women to safe abortion information and providers. The risk of participating in this study is in the form of increased stress. The target group of this study is vulnerable and will most probably be under strain while seeking abortion services. Asking participants to participate in this study may increase the anxiety that they are already experiencing. The researcher will be keenly aware that participants know that participation in this study is voluntary.

1.4.7 Compensation:

Participants will receive a R25 airtime voucher for their participation in the study.

1.4.8 Privacy and confidentiality:

The privacy and confidentiality of participants will be protected. The consent forms will be stored in a safe private place. The questionnaire is anonymous and no identifying information will be collected.

1.4.9 Pilot Study:

Before commencement of the study, a pilot study will be conducted to test the questionnaire and whether it is more efficient to have the questionnaire be research administered or self-administered by the participants. The piloting occurred at the Cape Town and Bellville Marie Stopes' locations. The questionnaire was initially piloted as a research administered questionnaire. This method of data collection was efficient but slow. The next method that was piloted was the self-administered questionnaires. This method allowed the researcher to recruit many more women and collect more questionnaires in a given time period than the previous

method. The self-administered questionnaires were also correctly and completely filled out. Self-administered questionnaires were chosen as the data collection method because they produced quality data and expedited the data collection process. The pilot also highlighted a question about contraceptive use in the reproductive history section of the questionnaire that participants consistently misunderstood, this question was amended.

1.4.10 Data management:

The researcher will check questionnaires after data is collected from participants to ensure that all questions are answered. Each questionnaire will be given a Personal Identification Number. The researcher will capture data directly from questionnaires into RedCap, a secure web application for building and managing surveys and databases. Captured questionnaires will be stored separately from questionnaires that have not been captured in a binder labelled as “Captured Questionnaires.”

1.4.11 Data Analysis:

Stata will be used for quantitative analysis. Descriptive statistics will be calculated regarding socio-demographic details, reproductive history, interactions with sources of information and preferred methods to access information. A table will be used to summarize the mean and standard deviation for numerical variables with normal distribution. The median and interquartile range will be used as summary statistics for numerical variables that are not normally distributed. Tables will be used to describe frequencies and percentages of categorical variables.

Section I: Socio-Demographics

Descriptive analysis will be used to describe the socio-demographic findings of this study. Findings will be described using percentages. A chi-squared test will be used to determine preferential differences of accessing information about safe abortion providers; preferences

will be stratified based on education, age, and socioeconomic status. Age will be coded into categories and socioeconomic status will be determined by monthly income and employment status.

Section II: Reproductive History

Questions 201, 202, 203, and 204 are numerical questions that assess the number of pregnancies, terminations, stillbirths, and pregnancies carried to term that participants have experienced percentages will be used to describe them. The remaining questions will be analysed through descriptive measures and be displayed in tables with percentages.

Section III: Interactions with Sources of Information

Descriptive analysis will be used and percentages will be found.

Section IV: Preferred Method to Access Information

Descriptive analysis will be used to explore data in the section. Entries will be analysed to see if there are categories that can be collapsed or excluded. Questions 401 and 406, questions that explore methods used to access termination at Marie Stopes and most preferred method respectively, will be analysed for agreement using cross-tabs. An analysis will be done on the preferential use of the internet as compared to all other methods. A crosstab will be used to examine the differences.

1.5 Schedule:

Month	Anticipated progress
May 2017	Departmental approval
June 2017	Submit proposal to Human Research Ethics Committee University of Cape Town
September –November 2017	Data collection
November 2017	Literature Review/ data entry

December 2017	Data cleaning and analysis
January 2018	Write-up results
February 2018	Feed-back from supervisors
March 2018	Final changes
April 2018	Submit mini-dissertation

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Part B: Literature Review

2. Literature Review

2.1 Objective of Literature Review:

The objective of this literature review is to explore the accessibility of safe abortion services in legal contexts, specifically in South Africa. This literature review will define safe abortion, explore barriers to accessing safe abortion services in legal contexts, describe the South Africa Choice on Termination of Pregnancy Act (CTOP) of 1996 and unsafe abortion trends in South Africa, and highlight current methods of accessing information about reproductive services, particularly safe abortion services, in South Africa and comparable countries.

The Choice on Termination of Pregnancy Act of 1996 (CTOP)¹ makes provision for access to safe abortion in South Africa. The Act states that abortion services are legal and free of charge in South African government facilities. Currently there is a list that can be obtained from the government of designated facilities in South Africa that provide abortion services; however, only 57% of the designated facilities are functional (Bateman, 2011). There is a need for a vetted and continually updated published list of safe abortion providers and health care facilities in South Africa. Women who use the outdated government list as a tool to access abortion services may find that they present at facilities that are non-functional. Contrarily, illegal/unsafe abortion providers and their services are very visible in public spaces and online. In order to curb these unsafe providers and the mortality and morbidities that their services might cause, safe abortion providers should be just as visible and accessible.

The research project that this literature review supplements aims to: determine how women prefer to access information on safe abortion providers and services in South Africa; determine which avenues of obtaining information are most accessible for women; and determine if there is a preferential difference in accessing information based on age, education and socio-

¹ The Choice on Termination of Pregnancy Act, 1996 (Act No.92 of 1996)

economic status. The aim of this research is to provide knowledge on how to increase the accessibility of safe abortion providers and services through preferential information dissemination. This research is being completed as a fulfilment of the mini-dissertation component of the Masters of Public Health degree at the University of Cape Town.

The following database engines will be used to search for relevant publications and papers:

- Pubmed
- Medline
- Cochrane Central
- EbscoHost
- Google Scholar

A predetermined list of search items was used to search each database. Search items were modified to expand or minimize search results. Literature that focused on context similar to South Africa was prioritized. Similarities included legal status of abortion, barriers to abortion services, and developing country status.

Search items included but were not limited to: abortion + “South Africa”; “unsafe abortion” + South Africa; (dissemination OR accessibility) AND (information OR communication) AND (abortion); (dissemination OR accessibility) AND (information OR communication) AND (contraceptives); (dissemination OR accessibility) AND (information OR communication) AND (reproductive services).

A folder was created for each database engine that was utilized. Sub-folders were created within these database folders for each search item used. Literature was explored for relevancy and relevant literature was saved within the corresponding folder for search item used and database explored. Once compiled, literature was read and important information was extracted for use in this literature review.

2.2 Introduction:

Political and civic conversation concerning abortion focuses on its morality and legality (Trueman & Magwentshu, 2013). Whether legal or moral, women will continue to terminate unintended pregnancies (Grimes et al., 2006; Marie Stopes South Africa, 2016). The legality of abortion impacts the safety of the procedure and its likelihood to be successful (Marie Stopes South Africa, 2016). Unsafe abortion is defined by the World Health Organization (WHO) as a procedure for terminating an unintended or unwanted pregnancy, carried out in an environment that does not conform to minimal medical standards and/or by persons lacking the necessary skills (World Health Organization, 2011). This definition has been conceptualized to include three categories of safety: safe, less safe and least safe (Ganatra et al., 2017). Abortions are classified as safe if they adhere to the recommendations of the World Health Organization. Less safe abortions are those that meet only one of two of the following criteria, either the abortion was done by a trained provider but with an outdated method or the abortion was carried out using a safe method but without support or supervision of a trained professional (Ganatra et al., 2017). Least safe abortions are classified as those done by untrained individuals using dangerous methods (Ganatra et al., 2017).

Between 2010 and 2014, 45.1 percent of abortions globally were unsafe with 97 percent of unsafe abortions occurring in developing countries (Ganatra et al., 2017). The majority of developing countries have restrictive abortion laws and these restrictions have negative effects on women's health. Legal restrictions on abortion often lead to denial of safe abortions, causing some women to seek services in unsafe settings (Fetters et al., 2008; Gerds et al., 2015; Guttmacher Institute, 2012; Harries et al, 2015). Around 1.6 million women in Africa, where abortion is largely restricted, are treated annually for complications from unsafe abortion (Singh & Maddow-Zimet, 2015). Complications include incomplete abortion, excessive blood loss, infection, septic shock, perforation of internal organs and inflammation of the peritoneum

(Gutmacher Institute, 2016). In South Africa, informal unsafe abortion services are easy to find as they are advertised abundantly in public spaces (Hodes, 2016). Such advertisements in public spaces lead many women to believe that they are accessing a legitimate service (NGO Pulse, 2012). Contrary to the visibility and accessibility of unsafe and illegal providers, less than one-third of providers trained to provide abortion services in South Africa provide abortion services (Trueman & Magwentshu, 2013). Also, only 57% of designated facilities are functional on the government list of designated abortion facilities (Bateman, 2011). Bhekisisa, a health journalism centre in South Africa, requested the list of designated abortion facilities from the South African government and found that of the 450 facilities on the published government designated list, only 246 are recognized by provincial health departments as providing abortion services (Bhekisisa Team, 2017). This means that the provincial health departments have failed to update the published list of designated abortion facilities and are therefore allowing incorrect information to circulate and be used by women seeking information about abortion services in South Africa. Further, only 197 health facilities confirmed that they are actually providing abortion services (Bhekisisa Team, 2017). Such discrepancies in provision status illustrate that there is a need for a vetted and continually updated list of designated facilities that currently provide safe abortion services in South Africa.

Marie Stopes' national safe abortion provider database seeks to fulfil this need. Marie Stopes-South Africa is the country's largest non-profit provider of sexual and reproductive healthcare services. Marie Stopes seeks to impact the quality of life in South Africa by decreasing maternal and infant mortality, averting unsafe, illegal abortions, decreasing the number of unwanted pregnancies through contraceptive uptake, reducing the impact of HIV, sexual transmitted infections, and cervical cancer and expanding services when possible. Thus far, private and government facilities that are providing safe abortions in South Africa have been identified by

Marie Stopes. Identification of facilities involved making telephonic contact with facilities in South Africa. Facilities were identified from the government list of designated facilities, previously released lists of facilities providing abortions that Marie Stopes acquired, and internet Google searches. Facilities were telephonically contacted by research assistants and asked to telephonically complete a questionnaire that was formulated to gauge whether the facility was designated to provide abortion services, if said services are safe, and the accessibility of the abortion services. The next step in the formulation of the database is to disseminate the information in a form that is preferable and accessible for women in South Africa. Presently, there is limited research on how South African women prefer to access information on safe abortion health care services.

2.3 Abortion in sub-Saharan Africa:

According to the Guttmacher Institute, 90 percent of women of childbearing age in Africa live in countries with restrictive abortion laws (Guttmacher Institute, 2016). Generally, where there are laws that make provision for safe abortion, they are restrictive in that very few women actually successfully navigate the process to obtain a safe, legal abortion (Guttmacher Institute, 2016). An exception to this is South Africa's Choice on Termination of Pregnancy Act, South Africa allows abortion on request up to 12 weeks and, under certain circumstances, abortion up to 20 weeks of pregnancy. A more detailed analysis of this Act will be given in the following section.

Stigmatization of abortion and social and political sensitivity thereto, limit knowledge generation of unsafe abortion incidences through high-quality research in legal and illegal settings. It is estimated 8.3 million induced abortions occurred each year in Africa during 2010 to 2014 (Guttmacher Institute, 2016). Of these abortions, three out of four abortions were unsafe (Ganatra et al., 2017).

Unsafe abortion is often the result of restrictive policy and/or non-legal barriers that prevent women from accessing safe abortion services. In order to circumvent these barriers, an in-depth understanding of why women are opting for unsafe abortions must be completed. Currently, there is limited literature exploring women's Choice on unsafe abortion in a legal setting. Factors driving the decision thereto may be used to inform the process of increasing the accessibility of information about safer methods.

2.4 South Africa and the Choice on Termination of Pregnancy Act of 1996 (CTOP):

The Choice on Termination of Pregnancy Act of 1996 makes provision for access to legal, safe abortion in South Africa. Before its implementation, abortion in South Africa was regulated by the Abortion and Sterilization Act of 1975². Under this Act, legal abortions could be performed only in specific instances: when the pregnancy could end with a severely handicapped child; was the result of rape or incest, and seriously threaten a woman's mental or physical health. The Act mandated that two independent doctors, neither of whom would perform the termination, approve the abortion.

The Abortion and Sterilization Act of 1975 proved to be very restrictive and effectively limited access to safe abortions to white women in urban and well-resourced areas; because the act mandated that at least three doctors be involved, women in rural areas, where only one or two doctors were present in the hospital, suffered (Mhlanga, 2003). Gaining access to multiple doctors, state designated hospitals, courts and a psychiatrist was logistically and financially impossible for those who were impoverished, black and lived outside of urban areas (Rebouch, 2011). During the years of the Act's implementation, physicians performed about 1000 legal abortions per year (Pinho & Hoffman, 1998). It is estimated that there were around 250,000 illegal abortions per year under the 1975 Act (Klugman & Budlender, 2001). Although exact

² Abortion and Sterilization Act of 1975

data on the effects of this restrictive law on the prevalence of illegal abortions during the Act's implementation is limited, one can gauge its implications by increased admissions in gynecologic wards due to women presenting with incomplete and septic abortions, which constituted almost 50% of the OBGYN caseloads, and increased maternal mortality and morbidity rates resulting from septic abortions (Figa-Talamanca et al., 1997; Shweni PM et al., 1992).

The Choice on Termination of Pregnancy Act of 1996 (CTOP) “repeals the restrictive and inaccessible provisions of the Abortion and Sterilization Act and promotes reproductive rights and extends freedom of choice by affording every woman the right to choose whether to have an early, safe and legal termination of pregnancy according to her individual beliefs.”(No.92 of 1996: Choice on Termination of Pregnancy Act, 1996.) The CTOP Act allows termination on request during the first twelve weeks of pregnancy. From the thirteenth to the twentieth week a pregnancy may be terminated under four circumstances: if the pregnancy would significantly affect the woman's social or economic circumstances, if the pregnancy resulted from rape or incest, if the pregnancy endangers the woman's mental or physical health, or if the fetus may suffer from severe mental or physical abnormality. After the twentieth week, a pregnancy can be terminated if it poses a risk of severe injury to the fetus, would result in severe malformation of the fetus, or would endanger the woman's life. Due to the CTOP Act, abortion-related mortality from 1994 to 2000 declined by 91 percent (Jewkes & Rees, 2005).

2.5 Barriers to Legal Abortion Services

In countries where abortion is illegal, the biggest barrier is the law itself. However, liberalization of abortion laws does not ensure access or reduce barriers. Financial, provider-related, cultural and knowledge related barriers have been identified as obstacles to accessing safe abortion services, even in legal settings.

2.5.1 Financial Barriers

It is assumed that merely legally obtaining the right to abortion services translates to complete accessibility of the service. Abortion, similar to general health services, incurs additional cost and is restricted to those who can successfully navigate the health system. Rendering abortion legal and free of charge does not reduce the incurred cost associated with abortion services. Studies have found that in low-income contexts where abortion is legal and/or free the incurred cost associated with accessing abortion, including travel cost, lodging, and food, in conjunction with lost income may be burdensome to those who earn local average incomes (Banerjee et al., 2017; Lince-Deroche et al., 2017). Women were found to have to forgo regular payments, such as bills and groceries, to cover abortion costs (Shankar et al., 2017). Overall literature illustrates that the relative financial burden of abortion associated costs is higher for poorer women, even if services are free, due to lost wages and longer travel distances (Banerjee et al., 2017; Leone et al., 2015; Shankar et al., 2017).

2.5.2 Provider-related Barriers

Literature found that women aborted in unsafe methods because these methods were deemed safer than services at facilities due to fears of confidentiality (Izugbara, 2015; Gerdts et al., 2017). In South Africa, there is also stigma associated with providers who provide abortions, a shortage of trained second trimester abortion providers, and negative provider attitude towards women seeking abortions (Gerdts et al., 2017; Harries et al., 2015; Trueman & Magwentshu, 2013). These provider-related barriers reinforce each other and negatively impact women seeking access to abortion services. For an example, negative provider attitude towards women seeking abortion usually translates to stigma towards providers who provide the service, thereby creating a shortage of providers who 1) provide the service and 2) provide the service during the second term. Provision is further hampered by health professional's right to

freedom of conscience (Harries et al., 2014). This right gives citizens the freedom of conscience, belief, thought and religion. Conscientious objection undermines women's right to exercise reproductive autonomy in accessing abortion services that they are legally entitled to receive (Engelbrecht, 2005; Harries et al, 2014; Naylor and O'Sullivan, 2005; Trueman & Magwentshu, 2013).

2.5.3 Stigmatization

Abortion is stigmatized and not spoken about openly in some South African communities (Harries et al., 2007). Research has found that many South Africans attribute their disapproval of abortion to religion, culture, or morality (Gresh & Maharaj, 2014; Macleod, Sigcau, & Luwaca, 2011; Ronco, 2014; Varga, 2002). This communal disapproval creates stigmatization that may discourage women from seeking abortion services, or may cause women to seek services outside of their communities (Harries et al., 2007; World Health Organization, 2011).

2.5.4 Knowledge Barriers

Lack of knowledge pertaining to the Choice on Termination of Pregnancy Act has also been identified as a barrier to accessing safe abortion services (Harries, 2007; Jewkes et al., 2005; Moodley & Akinsooto, 2003). The Choice on Termination of Pregnancy Act of 1996 (CTOP) affords access to safe abortion services in South Africa and renders services at government facilities free; however, there are still women in South Africa who believe that abortion is illegal, are not aware of gestational age restraints for abortion on request, assume that the service is unaffordable or are unsure where to access safe termination of pregnancy services, (Gerds et al., 2017; Jewkes et al., 2005; Moodley & Akinsooto, 2003).

2.6 Unsafe Abortion in South Africa

Despite liberal abortion legislation and free services, unsafe abortion persists in South Africa (Hodes, 2016; Marie Stopes South Africa, 2016; NGO Pulse, 2012; Sedgh et al, 2012). Financial, provider-related, stigma related and knowledge related barriers are identified barriers that prevent women from acquiring free safe abortion services in South Africa (Constant et al., 2014; Engelbrecht, 2005; Gerdts et al., 2017; Gresh & Maharaj 2014; Harries et al., 2007; Harries et al., 2014; Harries et al., 2015; Jewkes et al., 2005; Lince-Deroche et al., 2017; Macleod, Sigcau, & Luwaca 2011; Moodley & Akinsoto, 2003 Naylor and O’Sullivan, 2005; Ronco 2014; Trueman & Magwentshu, 2013; Varga, 2002; World Health Organization, 2011).

Unsafe abortion can be self-induced, performed by a health worker outside of a prescribed facility, or induced by a non-medical person (World Health Organization, 2011). National maternal death mortality suggests that women are increasingly utilizing unsafe abortion methods; mortality from miscarriage/abortion increased by 62% between 2002-2004 and 2011-2013 (National Committee for the Confidential Enquires into Maternal Deaths, 2014). It should be noted that National maternal mortality reports in South Africa no longer distinguish abortion from spontaneous miscarriage and that ‘miscarriage’ is the allocated and encompassing term. This effectively prevents the calculation of accurate statistics about spontaneous miscarriage, safe, and unsafe abortion incidence rates in South Africa.

Women who reside in Gauteng, Limpopo or KwaZulu-Natal (National Committee for the Confidential Enquiries into Maternal Deaths, 2014), are classified as Black/African in South Africa (Constant et al. 2014), are HIV positive (National Committee for the Confidential Enquiries into Maternal Deaths 2014; Orner et al., 2011; Stevens, 2012), and/or hold a lower socioeconomic status (Constant et al., 2014; Trueman & Magwentshu, 2013) are more likely

to seek unsafe abortion methods than women who reside in other provinces, are white, are HIV negative, and/or are more affluent.

2.6.1 Lamp-post providers

The phrase “lamp-post providers” has been coined for illegal and unlicensed abortion providers in South Africa (Hodes, 2016). These providers use flyers and posters to advertise on lamp-posts, trains, city walls, and surfaces at taxi ranks (Hodes, 2016; Macleod et al., 2017). Advertising in public spaces leads many women to believe that they are accessing a legitimate service (NGO Pulse, 2012). Some providers have modernized their advertisement methods to include websites (Harries et al., 2015; Stuart-Madge, 2017). A Google search of abortion clinics yields results with many clinics advertising “quick and painless” results (Harries et al., 2015). These clinics pose as legal and safe facilities and women contact them seeking their services (Harries et al., 2015). Women are promised “quick, safe, and painless” services by these untrained individuals; however, many have to seek post-abortion treatment due to the botched abortion services rendered (Hodes, 2016; NGO Pulse, 2012; National Committee for the Confidential Enquiries into Maternal Deaths, 2014; World Health Organization, 2011).

2.6.2 Need to increase accessibility and visibility of safe abortion information

Generally, treatment of complications associated with unsafe abortions consumes a significant portion of hospital resources; thereby compromising other maternity and emergency services due to increase demand on scarce clinical, financial, and material resources (Figa-Talamanca et al., 1986; Fortney, 1981; Rees et al., 1997; World Health Organization, 2011). However, there is a gap in literature concerning how much of South Africa's health budget goes towards treating the complications of unsafe abortion.

Unsafe abortion undermines the progression that public health initiatives have made at improving women's health outcomes, particularly in reducing morbidity and mortality

(Macleod, Beynon-Jones, & Toerien, 2017). Information concerning accessing safe abortion providers should be just as accessible and visible as lamp-post providers' and illegal online providers' information. Increasing access to information about safe and legal abortion providers will most likely decrease the number of women using illegal/unsafe abortion providers. Lack of knowledge about the Choice on Termination of Pregnancy Act including the false belief that abortion is illegal, poor levels of knowledge on gestational age limits for abortion on request, and the assumption that legal abortion services are unaffordable and unawareness on where to access safe abortion services can be mitigated through increasing the accessibility and visibility of providers and/or facilities that provide safe abortion services (Gerds et al., 2017; Jewkes et al., 2005; Moodley & Akinsooto, 2003).

2.7 Present Methods of Accessing Information about Reproductive Services

Although there is limited literature on how South African women actually acquire information on safe abortion services, possible methods may include online googling of providers, presenting to clinics for information, and utilizing social networks. The aforementioned methods are not the most efficient as women are unsure about which facilities are providing abortion services (Bhekisisa Team, 2017); unsafe providers have websites that appear on the first page of a Google search; women are apprehensive about presenting to and being turned away from clinics that do not provide abortion services and social networks may give inaccurate information. Methods of accessing reproductive health information in general, abortion services specifically, in South Africa and contexts similar to South Africa will be explored in the upcoming paragraphs of this section.

2.7.1 Telephone hotlines

In 1997 the British Columbia Women's Hospital and Health Centre implemented a toll-free telephone service in Canada called the Pregnancy Options Service. This service was created to

improve access to abortion care, support women with complex issues, and collect data on barriers to abortion services in Canada (Norman et al., 2014). Annually over 2000 women access abortion services through the Pregnancy Options Service with the greatest impact seen in the assistance provided to marginalized and vulnerable women (Norman et al., 2014).

In many countries where abortion is legally restricted, safe abortion information hotlines are also implemented. A study that explored the implementation of five Safe Abortion Information Hotlines in Argentina, Chile, Ecuador, Peru, and Venezuela (Drovetta, 2015) highlighted that these hotlines are created with the goal of distributing accurate information about inducing an abortion through the use of misoprostol. Misoprostol is a medication used to induce an abortion and is considered safe if a number of criteria are met. Call attendants evaluate whether the caller is able to use misoprostol, provide information about proper dosage and administration, tell women where they can purchase misoprostol, and direct women to nearby facilities should complications occur (Drovetta, 2015). Hotlines allow anonymity and are an easily accessible tool for anyone with a cellular device or landline. The Safe Abortion Information Hotlines explored in this study receives 5,000 to 5,400 calls a year from women attempting to acquire information on safe abortion methods (Drovetta, 2015). Currently only Marie Stopes has a call centre in South Africa that offers information on abortion services but this information is limited to services offered at Marie Stopes only.

2.7.2 mHealth and internet utilization

The Global Observatory for eHealth defined mHealth as medical and public health practices supported by mobile devices, patient monitoring devices, and other wireless devices (WHO, 2011). mHealth is a platform that is accessible for South African women and may also be preferred by South African women when looking for information on abortion services. South Africans were found to lead as one of the highest users of mobile technology and mobile social

networking on the continent, with South African adolescents being the first adopters of mobile technology (UNICEF, 2012). UNICEF found that 72 percent of 15 to 24-year-olds in South Africa have a cell phone (UNICEF, 2012). The abundant access of South Africans to mobile phones creates the opportunity to connect the population to information through mHealth platforms.

Research suggests that teens and adults utilize and prefer similar information pathways when seeking information about health. Teens reported that they utilize the internet, their parents, and other trusted relatives when seeking information about health (Galloway et al., 2017). When asked what they considered the best ways for teens to get information about accessing health services, participants cited social media, schools, and television advertisements (Galloway et al., 2017). Likewise, adult women seeking information about abortion providers have utilized the internet, print media, family, and friends to find safe abortion providers and safe abortion services (Harries et al., 2007; Margo et al., 2016).

Similar to hotlines that disseminate information on how to access information about abortion, there are also websites such as Safe2choose and Women on Web that offer information about abortion, sell mifepristone and misoprostol, and give instructions on how to take the pills. These organizations' goals are to increase the accessibility to safe abortion in contexts where access is illegal or hard to access. These organizations differ from unsafe providers through their provision of accurate information and availability to provide step-by-step instructions until the pregnancy is safely terminated.

In Bangladesh, where termination of pregnancy is illegal but menstrual regulation up until 8 to 10 weeks after the last menstrual period is allowed, it was found that low-income women were not aware of the formal mHealth services in their communities. Once informed about mHealth

services, participants thought that menstrual regulation mobile health services would increase access to medical information for women (Messinger et al., 2017).

Studies suggest that provision of sexual and reproductive health information through mHealth services is preferred by youth and can improve their sexual reproductive health outcomes (Hightow-Wideman et al., 2015; Levine et al., 2008; Gold et al., 2011; Lim et al., 2012; Vahdat et al., 2013). Their preference stems from the ability to avoid such barriers as stigmatization and discrimination by health care workers and transportation challenges (Biddlecom et al., 2007; Chandra-Mouli et al., 2014; Williamson et al., 2009). mHealth services also allow youth to feel a sense of privacy and confidentiality when attempting to access reproductive health information and services (Kennedy et al., 2013; Biddlecom et al., 2007).

Research has also been conducted on the use of mHealth interventions in improving sexual and reproductive health in developing countries. Three programs of note are m4RH in Tanzania, Kenya, and Uganda, m-ASSIST in South Africa, and a text-message program pilot in South Africa. m4RH and mASSIST link end-users to services (Ippoliti & L'Engle, 2017) whereas the text-message trial assessed the benefits of integrating text messages on phones on strengthening and simplifying medical abortion provision (Constant et al., 2015). m4RH links users to sexual and reproductive health and family planning information and services. mASSIST links users to family planning information and post-abortion information and/or services (Ippoliti & L'Engle, 2017). Constant's pilot study found that the utilization of mobile phones for an interactive questionnaire assessing the completion of medical abortion is feasible in South Africa (Constant et al., 2015). This is important because it demonstrates that South African women are willing and able to interact with mHealth technology specific to abortion care and services.

2.7.3 Community health workers

Community health workers are members of a community who provide informal basic health and medical care to their community. South Africa has an informal community health worker network that is a possible dissemination method for information on abortion services; however, there is a gap in literature that explores South African women's perspectives on utilizing community health workers as disseminators of information about abortion services.

A study that explores the preferences, acceptability, and perspectives of community health workers and women concerning integrating community health workers in medical abortion referral processes in India found that community health workers were willing to add medical abortion referrals to their list of duties once provided with appropriate training, regular supplies, and job aids (Gupta et al., 2017). However, Gupta found that women in the study felt apprehensive about utilizing community health workers as entry points to abortion services due to fears of breach of confidentiality and coercion to undergo sterilization (Gupta et al., 2017). Contrary to the aforementioned findings, an operations research study in Nepal found that community health workers are an effective option in informing women about medical abortions (Puri et al., 2015). The health workers in this context conducted urine pregnancy test, referred women to a safe abortion provider, and provided post-abortion contraceptive counselling (Puri et al., 2015).

A cross-sectional study in Bihar and Jharkhand, India noted that most of the information that women received about family planning and abortion came from community-level resources such as Accredited Social Health Activist, Anganwadi workers, and Auxiliary Nurse Midwives; the study also found that limited exposure to mass media, including television, radio, and newspapers suggests that women could not be effectively reached through electronic or print media. (Banerjee et al., 2012).

South African context-specific research is needed to gauge whether South Africa can effectively utilize its force of informal community health workers as disseminators of information concerning safe abortion access.

2.8 Gaps in Literature

Barriers that reduce the accessibility of abortion services are well documented in South Africa. However, there is limited knowledge on how to overcome these barriers in ways that are preferential to women. Research on preferred and accessible dissemination methods is needed to help inform the process of increasing access for those that are affected by known barriers.

There is limited in-depth documentation of the experiences of women who have experienced unsafe abortion methods. Stigmatization of abortion and social and political sensitivity, limit knowledge generation of experiences of women seeking illegal/unsafe abortion providers. Documentation of women's methods of accessing information on illegal/unsafe abortion providers could generate knowledge of how women prefer to access abortion information and can be applied to safe and legal abortion services.

It is known that South Africans lead as the highest users of mobile technology and mobile social networking on the continent (UNICEF, 2012). Mobile phones could connect South Africans to information on safe abortion services and providers through the internet, text messages, hotlines and/or apps. An abortion-related mHealth platform has already successfully been piloted in South Africa (Constant et al., 2015); it is known that clientele of Marie Stopes-South Africa schedule their abortion appointments through a call-centre, comparably a hotline that disseminates information about all safe abortion providers may be implemented; and an interactive website that outputs safe abortion providers in a woman's specific area is accessible through mobile technology. South African context-specific research is needed to gauge whether South Africa can effectively utilize informal community health workers as

disseminators of information concerning safe abortion access. South Africa has the infrastructure to create hotlines, mHealth platforms, social media pages, media campaigns, and websites that will allow women to access information about safe abortion providers. Further research is required to assess which dissemination methods are preferred and most accessible for women in South Africa. The research undertaken in this mini-dissertation will generate knowledge that will fill gaps in literature about methods that women in Cape Town find most preferable and accessible. Dissemination through hotlines, mHealth platforms, the internet, community health workers and print media will be explored in terms of women's general accessibility and usage in their daily lives and preferred method(s) for obtaining information specific to abortion services.

2.9 Conclusion

There has been steady progress towards universally affording women the right to access safe and legal abortion services. The Constitution of South Africa establishes the choice to abort as a human right and affords women free access to such services in government facilities. Despite these provisions, unsafe abortion continues in South Africa. Unsafe abortion continues in South Africa and the rest of the world due to barriers that prevent utilization of safe services. In countries with restrictive abortion laws, the biggest barrier is the law itself. In countries with liberal abortion laws, barriers include but are not limited to a lack of trained providers, transportation difficulties, unaffordable services, and lack of knowledge concerning where to acquire abortion services. Currently, in South Africa, there is limited knowledge on how South African women prefer to access information on safe abortion providers. Comparable to other methods of accessing information about reproductive services in non-South African contexts, South Africa also has the infrastructure to create hotlines, mHealth platforms, social media pages, media campaigns, and websites that will allow women to access information about safe

abortion providers. Further research is required to distinguish which method is most preferred and accessible for women in South Africa.

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Part C: Journal “ready” manuscript

Which methods of dissemination do women in Cape Town, South Africa prefer when searching for safe abortion providers?

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Abstract

Background:

The Choice on Termination of Pregnancy Act of 1996 makes provision for access to safe abortion, free of charge in government facilities in South Africa. Despite liberal abortion legislation, unsafe abortion persists in South Africa. Increasing access to information about safe and legal abortion providers through methods such as online databases, community health workers, and telephone hotlines will most likely decrease the number of women using illegal/unsafe abortion providers. This study aims to: determine how women prefer to access information on safe abortion providers and services in Cape Town, South Africa; determine which avenues of obtaining information are most accessible for women; and determine if there is a preferential difference in accessing information based on age, education and socio-economic status. The purpose of this research is to provide knowledge on how to increase the accessibility of safe abortion providers and services through preferential information dissemination.

Methods:

Participants were recruited from Marie Stopes International South Africa, a non-profit organization (NGO) that provides sexual and reproductive health services in Cape Town, South Africa. Recruitment of participants took place between September and November 2017. Eligibility criteria included that participants be between 18 to 49 years of age and presenting for an abortion. Data was collected through a self-administered paper-based questionnaire. There were four sections of the questionnaire: Socio-Demographics, Reproductive History, Interactions with Sources of Health Information, and Preferred Method to Access Information.

Results:

Ninety-eight women completed the self-administered questionnaire. Over 59 % (58/98) of women preferred to use the internet to access information about safe abortion providers. Participants had access to the internet via their mobile phones, computers, laptops, and tablets. Internet access was more accessible for women who had completed secondary school and/or acquired a post-secondary degree, was employed, and/or earned more than USD 258 a month. Twenty-nine percent of participants also preferred to use health care providers (28/98) and 20% preferred community health workers (20/98) for accessing information about safe and legal abortion services.

Conclusions:

This study identified the most preferred and acceptable methods to access information about safe abortion providers by women at an NGO clinic in Cape Town. Community health workers, the internet, health care providers and hotlines should be used to formulate dissemination methods that are tailored to women in South Africa. Information about government facilities, their current abortion provision status, and the type of abortion services they provide should be compiled, continually updated, and made available to women in dissemination methods that are most preferred, accessible and acceptable to women. Options for socioeconomically disadvantaged women should be developed in conjunction with internet-based options for accessing information about safe abortion providers.

Keywords:

Abortion; access to information; information dissemination; pregnancy; humans; female; abortion, legal; termination of pregnancy, legal; South Africa; community health workers; hotlines; abortion, induced; abortion, spontaneous; abortion, criminal; government

Background:

The Choice on Termination of Pregnancy Act (CTOP) of 1996³ makes provision for access to safe abortion in South Africa. The Act renders abortion services legal and free of charge in South African government facilities. The CTOP Act allows termination on request during the first twelve weeks of pregnancy. From the thirteenth to the twentieth week a pregnancy may be terminated under the following circumstances: if the pregnancy would significantly affect the woman's social or economic circumstances, if the pregnancy resulted from rape or incest, if the pregnancy endangers the woman's mental or physical health, or if the fetus may suffer from severe mental or physical abnormality. After the twentieth week, a pregnancy can be terminated if it poses a risk of severe injury to the fetus, would result in severe malformation of the fetus or would endanger the woman's life. Due to the liberalisation of the abortion legislation in 1996, abortion-related mortality declined by 91 percent [1].

Despite liberal abortion laws, unsafe abortion continues in South Africa [2, 3]. Unsafe abortion methods include abortions performed by a health worker outside of a prescribed facility, abortions induced by a non-medical person and/or abortions that are self-induced [4]. Research shows that women in South Africa are having unsafe abortions due to financial, provider-related, stigma related and knowledge related barriers [1, 5-9].

Although abortions in South African government facilities are free, there are incurred costs associated with accessing the service. These additional costs including travel cost, lodging, and food, in conjunction with lost income, may be burdensome to and barriers for women who have low incomes [8, 10].

Barriers to accessing safe abortion services are also provider-related. The Constitution of South Africa ensures the right to freedom of conscience. This right is extended to health professionals

³ The Choice on Termination of Pregnancy Act, 1996 (Act No.92 of 1996)

and gives them the freedom of conscience, belief, thought and religion. Health providers who feel that abortion provision would infringe on their freedom of conscience can refuse to provide abortion services. Provision is further hampered by a shortage of trained second-trimester abortion providers, negative provider attitude towards women seeking abortions, and stigma associated with providers who provide abortions [5, 11, 12].

Stigmatization affects women who have aborted their pregnancies and women seeking to abort present pregnancies. Research indicates that many South Africans attribute their disapproval of abortion to religion, culture, or morality [6, 9, 13, 14]. This collective condemnation creates stigmatization that causes women to seek services outside of their communities, thereby increasing the incurred cost of the abortion services, and may discourage women from seeking safe abortion services at all [15].

Lack of knowledge concerning abortion services is also an identified barrier to accessing safe services in South Africa. Some women are unaware that abortions are free and legal in government facilities, do not know gestational age limits for abortion on request, and are unsure of where to access safe abortion services [1, 5, 16]. Mortality from miscarriage/abortion increased by 62% between 2002-2004 and 2011-2013, this suggests that women are increasingly utilizing unsafe abortion methods [17]. National maternal mortality reports in South Africa no longer distinguish abortion from spontaneous miscarriage and that 'miscarriage' is the assigned and encompassing term. This further prevents the calculation of accurate statistics about spontaneous miscarriage, safe abortion, and unsafe abortion incidence rates in South Africa.

The phrase "lamp-post providers" is used to describe illegal and unlicensed abortion providers in South Africa [2]. Lamp-post providers place their advertisements lamp-posts, trains, city walls, and surfaces at taxi ranks [2, 18]. This form of advertisement in public spaces leads many

women to believe that they are accessing a legal and safe service [19]. Unsafe and illegal providers have updated their advertisement methods to include online websites. Women are promised safe services; however, many have to seek post-abortion treatment due to the botched abortion services rendered [2, 19]. Unsafe abortion challenges the progression that public health initiatives have made at improving maternal health outcomes, particularly in reducing morbidity and mortality [18]. Currently, it is difficult to access information about safe and legal abortion services for many women due to the lack of comprehensive information provided by the National health department about designated abortion care facilities. Increasing access to information about safe and legal abortion providers could aid in decreasing the number of women using illegal/unsafe abortion providers. Lack of knowledge about the Choice on Termination of Pregnancy Act including the perception that abortion is illegal, the lack of knowledge about gestational age limits for abortion on request, the assumption that legal abortion services expensive and unawareness of where to access safe abortion services can be alleviated through increasing the accessibility and visibility of providers and/or facilities that provide safe abortion services [1, 5, 16].

Research found that only 57% of listed designated facilities in South Africa are functional [20]. Bhekisisa, a health journalism centre in South Africa in 2017, requested a list of designated abortion facilities from the South African government and found that of the 450 facilities on the published government designated list, only 246 are recognized by provincial health departments as actually providing abortion services [21]. This means that there are 204 facilities on the list that are not recognized by the provincial health departments as providing services. Further, out of the 204 facilities that provincial health departments report as providing abortion services, only 197 health facilities confirmed that they are actually providing abortion services [21]. Such inconsistencies in service delivery status show that there is a need for a vetted and continually updated list of designated facilities that currently provide safe abortion

services in South Africa. If government officials are uncertain about which government facilities are providing abortion services, women are likely to be just as uncertain of where to present for safe and legal abortion services.

Toll-free telephone hotlines such as the British Columbia Women's Hospital and Health Centre's Pregnancy Options Service [22], mHealth and internet-based platforms such as m4RH in Tanzania that links users to sexual and reproductive health and family planning information and services [23], and community health workers are all methods used in similar settings to South Africa to disseminate information on safe abortion and reproductive options [24]. Comparable to methods of accessing information about reproductive services in non-South African contexts, South Africa has the infrastructure to create hotlines, mHealth platforms, social media pages, media campaigns, and websites that will allow women to access information about safe abortion providers and other sexual and reproductive health care services. Furthermore, South Africa also has community health workers that can be mobilized to disseminate information about safe abortion options. Additional research is required to differentiate which method is most preferred and accessible for women in South Africa. Although the aforementioned dissemination methods were successful in some countries, it is imperative that dissemination methods are tailored to specific contexts with consideration of the target population. It is important to identify how women in South Africa prefer to access information about safe abortion providers in order to create avenues that they deem preferential, accessible, and acceptable. These dissemination methods should be comprehensive and provide information in a format that is comprehensible to women and provides answers to any questions they may have about the facility and their services. Tailoring methods that meet these requirements will encourage women to use the created dissemination channels to access information about safe abortion providers instead of seeking unsafe and illegal abortion methods.

In order to create dissemination methods that are preferential, acceptable and accessible to women in South Africa, this study aims to: determine how women prefer to access information on safe abortion providers and services in Cape Town, South Africa; determine which avenues of obtaining information are most accessible for women; and determine if there is a preferential difference in accessing information based on age, education and socio-economic status. The purpose of this research is to provide knowledge on how to increase the accessibility of safe abortion providers and services through preferential information dissemination.

Methods:

A cross-sectional, descriptive quantitative research design was employed. Participants were recruited from the Cape Town location of Marie Stopes International South Africa, an NGO that provides sexual and reproductive health services. Inclusion criteria included that participants be between 18 to 49 years of age and presenting for an abortion. Age was restricted to participants of reproductive age (15-49 years). For purposes of informed consent, those under the age of 18 were not included in this study. Women presenting for an abortion is an inclusion criteria in this study because they have successfully navigated the process of identifying and presenting to a health facility that offers safe termination services. It is this process of accessing information about and presenting to a safe abortion provider that this study is interested in and women who have undergone this process will be able to tell how they would have preferred/prefer to access information about termination services, and the most accessible method of accessing information about termination services.

Marie Stopes -South Africa provides first and second trimester abortion as a fee-paying service, whereas the public sector provides abortions free of charge. The researcher is aware that Marie Stopes is a fee-paying service and that women who typically seek services at Marie Stopes will be those that can afford to pay for the service, thereby skewing the sample. However, there are women who receive services at Marie Stopes free of charge through government subsidization

agreements with government health clinics. For example, Mitchell's Plain CHC refers women in their second trimester to Marie Stopes free of charge. Thus, Marie Stopes gives the researcher access to women of varying socioeconomic levels and backgrounds that a government facility typically would not.

The minimum sample size estimated for this study was 92. The sample size was calculated using a two-sided alpha of 0.05, an expected proportion of women that will prefer to use the internet over all other options of 40% and precision limits of 10%. The expected percentage of women who would prefer the internet was informed by a study that explored what happens to women who are denied abortions in Cape Town. This study found that 37.5% of their participants used the internet to access illegal abortion providers and this informed the sample size calculation [11].

Data collection

Convenience sampling was used in this study. Women were approached in the reception room of the clinic after they checked-in and were processed for their health service. Those who were interested in the study were given an overview of the study and a description of the possible risk and benefits. Thereafter, those who were eligible and interested in participating completed the informed consent process and gave their written consent for participation in the study. Participants received a voucher for cell phone airtime valued at R25 as compensation for their participation.

Data was collected through a self-administered paper-based questionnaire. There were four sections of the questionnaire: Socio-Demographics, Reproductive History, Interactions with Sources of Health Information, and Preferred Method to Access Information. The development of questions were informed by previous literature and studies that explored abortion access, information utilization, reproductive history, and methods of accessing health-related

information. The questionnaire was formatted so that all preferences could be extrapolated. Participants were able to check all preferred methods from a given list and were given the option to add preferences that were not included in the list. After the question that assessed preference, there was an open-ended question that asked why the participants preferred the methods they chose. Preference was measured in this manner in order to identify all methods that were preferred, thereby allowing many dissemination methods based on these preferences to be created in the future.

Participants were given the paper-based questionnaire and asked to return it to the researcher. The researcher (first author) checked the questionnaires for completeness and was available to answer any questions that the participants had. Each questionnaire was given a personal identification number. The researcher captured data from questionnaires in RedCap, a secure web application for building and managing surveys and databases.

Data analysis

Stata 14 was used for quantitative analysis. Descriptive analyses were used to describe the socio-demographic findings of this study. Chi-squared tests were used to determine preferential differences of accessing information about safe abortion providers; preferences were stratified based on education, age, and socioeconomic status. Age was coded into categories of under and over 25 years of age and socioeconomic status was determined by monthly income and employment status. Income was measured in the South African Rand currency but was converted to United States Dollars for purposes of this article. USD 258 represents R3000. Outcomes are categorized as primary and secondary preferences. Primary preferences are methods that were most preferred, secondary preferences are methods that were not most preferred but were chosen by a considerable number of women.

Ethical considerations

Ethical approval to conduct the study was received from the Human Research Ethics Committee, University of Cape Town (HREC REF: 249/2017). All participants provided written informed consent before participating in the study. The privacy and confidentiality of participants are protected. No identifying information was collected.

Demographics

Recruitment of participants took place between September 2017 and November 2017; 118 women were approached to participate in the study. Of the women approached, 114 were eligible to participate. Overall, 98 women were enrolled in the study. The age of participants ranged between 18 and 42. The mean age was 27 years (SD: 6.11).

The majority of participants were South African (89/98). More than half identified as African (52/98) and three quarters of our sample identified their home language as Xhosa (38/98) or English (37/98).

The socioeconomic make-up of our sample reflects that data was collected at a fee-paying abortion service facility instead of a government facility where abortion services are free. The majority of participants were employed (60/98) and had completed secondary/high school (38/98) and/or pursued post-secondary education (30/98). See Table 1 for additional participant demographic information.

Table 1: Participant demographics ⁴

Age	n= 98
18-25	41 (41.8)
26-49	57 (58)
Nationality	
South African	89 (90.8)
Non- South African	9 (9.2)
Race	
African	52 (53.1)
Coloured	34 (34.7)
White	10 (10.2)
Other	2 (2)
Home Language	
English	37 (37.8)
Xhosa	38 (38.8)
Afrikaans	15 (15.3)
Other	8 (8.1)
Education	
Not completed secondary school	29 (29.6)
Secondary school graduate	38 (38.8)
Acquired post-secondary degree/certificate	30 (30.6)
No answer	1 (1.02)
Employment status	
Unemployed	38 (38.8)

⁴ The placement of tables within the text is a deviation from BMC Women's Health manuscript requirements

Employed	60 (61.2)
Monthly Income	
Under USD 258	48 (49)
USD 258 - USD 859	31 (31.6)
USD 860 – USD 1,804	12 (12.2)
USD 1,805+	7 (7.1)

Results

A large percentage of participants were presenting for an abortion for the first time (78/98). Over half of the women in our study reported that they had been pregnant before (68/98) and currently had children (58/98). Eighty-nine percent (87/98) had used a contraceptive method prior to this pregnancy, and 47% (46/98) were currently using a contraceptive method to prevent future pregnancies.

Although the majority of participants knew that government facilities provided free abortion services, only a small portion of participants thought that information about these facilities were easy to access. Sixty-four percent (63/98) of participants knew of government facilities that offered abortion services and 60% (59/98) knew that abortion services were free at government facilities. Forty percent (39/98) of women thought that it was easy to find information about government facilities that offer abortion services, 24% (24/98) perceived information difficult to obtain, and 36% (35/98) of participants were unsure about the difficulty of obtaining information about government facilities that offer abortion services.

Most preferred and accessible dissemination methods

In the past, participants reported using diverse methods to access general health information: methods included the internet (71/98), pamphlets/brochures (69/98), community club meetings

(22/98), health care providers (66/98), community health workers (30/98), hotlines (25/98), and flyers on lamp-post and trains (23/98).

The majority of women in this study who terminated past pregnancies accessed abortion services previously at Marie Stopes. To access information about terminating their past pregnancies women used the internet, referrals by health providers, and social networks, such as family and friends. Similarly, women utilized referrals from health care providers (46/98), the internet (44/98), telephone hotlines (7/98), and community health workers (3/98) to access information about their current terminations at Marie Stopes.

The methods participants used to access information about their current abortions did not differ much from their identified most preferred method to access information about abortion providers: internet 58/98 (59%), healthcare providers 28/98 (29%), and community health workers 20/98 (20%). See Table 1 and Table 2 for additional participant preference and dissemination methods.

Preference and accessibility of internet

The internet was reported as the most preferred method to access abortion information by the participants in this study. Participants who had completed secondary school and/or acquired a post-secondary degree (49/58, 84%, chi square $p= 0.001$), were employed (44/58, 76%, chi square $p= 0.001$), or made over USD 258 (39/58, 62 %, chi square $p= 0.001$) were more likely to prefer using the internet when accessing information about abortion providers than those who had not completed secondary school and/or acquired a post-secondary degree (9/58, 16%), were unemployed (14/58, 24%), or made under USD 258 (19/58, 33%). Sixty-one percent of participants aged 26-49 (35/57) preferred to use the internet compared to 56% of participants aged 18-26 (23/42). There was not a statistically significant difference found for internet preference dependent on age (chi-square $p= 0.598$). Women who preferred the internet for

accessing information about safe abortion providers stated their preference was due to the internet being confidential, safe, and/or having accurate information

Overall, participants had access to the internet via their mobile phones (57/98, 58%), desktop computers (14/98 14%), and smaller devices such as laptops and tablets (12/98, 12%). Internet access through mobile devices was more accessible for women who had completed secondary school and/or acquired a post-secondary degree (49/57, 86%), were employed (42/57, 74%), or earned more than USD 258 a month (32/57, 60%) compared to those who had not completed secondary school and/or acquired a post-secondary degree (8/57, 14%), were unemployed (15/57, 26%), or earned less than USD 258 a month (24/57, 40%). Accessing the internet through a computer was not feasible for most of the study participants (84/98, 86%), but of those who could access internet from a computer, 86% (12/14) earned more than USD 258 a month, 93% (13/14) were employed, and 93% (13/14) had completed secondary school and/or acquired a post-secondary degree. Only a small number of participants could access the internet through a tablet or laptop (12/98, 12%). Of participants who could access the internet from a tablet, 83% (10/12) earned more than USD 258 a month and 91% (11/12) were employed.

Preference and accessibility of healthcare providers

Twenty-nine percent of participants found referrals from general health care providers about abortion services to be preferable (28/98) and 10% found them to be accessible (10/98). Although these are low percentages, health care provides ranked in the top three choices for most preferable and most accessible options in this study. There was no statistically significant difference found for preference of access in regards to health care providers in any of the stratified categories. Sixty-eight percent of participants that preferred this method earned less than USD 258 a month (19/28), 50% were unemployed (14/28), and 46% had not graduated from secondary school (13/28). Women who preferred this method cited reasons of safety and

accessibility for their preference. We are unable to discern whether participants meant safe from stigma, safe from clandestine abortion services, or a mixture of both. Reasons were given in an open-ended question format.

Preference and accessibility of community health workers

The majority of participants in this study did not prefer utilizing community health workers for accessing information about safe abortion providers (78/98, 80%). However, older participants who were between the age of 26-49 were more likely to prefer using community health workers for accessing information about safe abortion providers (16/20, 80%) when compared to participants aged 18-25 (4/20, 20%; chi-square $p=0.026$). Thirty-five percent of participants that preferred this method were unemployed (7/20) and 50% were unemployed (10/20). Women who preferred this method cited reasons of safety and accessibility for their preference. There were no other notable differences found in the remaining stratified categories.

Preference and accessibility of telephonic communication

Although only 10% (10/98) of the study's participants preferred utilizing a telephonic hotline to access information about abortion providers, telephonic communication was found to be the second most accessible option (45/98, 46%). An income over USD 258 is associated with more accessibility to telephonic communication (31/52, 60%; Fisher's exact $p=0.042$). There were no other notable differences found in the remaining stratified categories.

Table 2: Participant preferences for accessing information about abortion providers stratified by socio-demographic information

Participant preferences for accessing information about abortion providers (yes) descriptive and bivariate results *participants were allowed to identify multiple preferences									
Characteristics	Internet n=58	Telephone Hotline n= 10	Community Health Worker n=20	Health Care Provider n= 28	Mobile App n= 10	Posters in Health Facilities n= 9	Pamphlets /brochures n= 4	Community Club Meetings n= 2	Friends and Family n = 3
Age (years) n (%)									
18-25	23 (39.7)	6 (60)	4 (20)	15 (53.6)	3 (30)	5 (55.6)	2 (50)	1 (50)	3 (100)
26-49	35 (60.3)	4 (40)	16 (80)	13 (46.4)	7 (70)	4 (44.4)	2 (50)	1 (50)	0 (0)
P value:	0.598	0.219	0.026*	0.136	0.423	0.485	1.000	1.000	0.070
Nationality n (%)									
South African	53 (91.4)	8 (80)	17 (85)	28 (100)	9 (90)	9 (100)	4 (100)	2 (100)	2 (66.7)
Non-South African	5 (8.6)	2 (20)	3 (15)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (33.3)
Race n (%)									

African	19 (32.8)	5 (50)	11 (55)	19 (67.8)	4 (40)	3 (33.3)	1 (25)	2 (100)	2 (66.7)
Coloured	28 (48.3)	5 (50)	8 (40)	8 (28.6)	6 (60)	6 (66.7)	1 (75)	0 (0)	1 (33.3)
White	9 (15.5)	0 (0)	1 (5)	1 (3.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
other	2 (3.4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Home language n (%)									
English	30 (51.7)	3 (30)	9 (45)	9 (32.1)	6 (60)	4 (44.4)	1 (25)	1 (50)	1 (33.3)
Xhosa	11 (19)	2 (20)	8 (40)	18 (64.3)	3 (30)	2 (22.2)	1 (25)	1 (50)	1 (33.3)
Afrikaans	13 (22.4)	2 (20)	1 (5)	1 (3.6)	1 (10)	3 (33.3)	2 (50)	0 (0)	0 (0)
Zulu	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Other	4 (6.9)	2 (20)	2 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (33.3)
Education n (%)									
Not completed secondary school	9 (15.5)	3 (30)	5 (25)	13 (46.4)	2 (20)	2 (22.2)	0 (0)	2 (100)	1 (33.3)
Secondary school graduate	26 (44.8)	4 (40)	6 (30)	9 (32.1)	2 (20)	7 (77.8)	3 (75)	0 (0)	1 (33.3)
Acquired post-secondary	23 (39.7)	3 (30)	8 (40)	6 (21.4)	6 (60)	0 (0)	1 (25)	0 (0)	1 (33.3)

degree/ certificate									
No answer	0 (0)	0 (0)	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
p value:	0.001*	0.989	0.151	0.128	0.251	0.047*	0.406	0.106	1.00
Employment status n (%)									
Unemployed	14 (24.1)	3 (30)	7 (35)	14 (50)	0 (0.0)	4 (44.4)	2 (50)	2 (100)	1 (33.3)
Employed	44 (75.9)	7 (70)	13 (65)	14 (50)	10 (100)	5 (55.6)	2 (50)	0 (0)	1 (66.7)
p value:	0.001*	0.736	0.698	0.149	0.006*	0.732	0.640	0.148	1.00
Monthly income n (%)									
Under USD 258	19 (32.8)	5 (50)	10 (50)	19 (67.9)	2 (20)	6 (66.7)	3 (75)	2 (100)	1 (33.3)
USD 258 – USD 859	22 (37.9)	3 (30)	7 (35)	8 (28.6)	5 (50)	3 (33.3)	1 (25)	0 (0)	1 (33.3)
USD 860 – USD 1,804	12 (20.7)	1 (10)	2 (10)	1 (3.5)	1 (10)	0 (0)	0 (0)	0 (0)	1 (33.3)
USD 1,805 – USD 2577	3 (5.2)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	0 (0)
USD 2,578+	2 (3.4)	1 (10)	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
p value:	0.001*	0.638	0.885	0.114	0.053	0.814	1.00	0.687	0.623

Table 3: Participant accessibility of methods for acquiring information about abortion providers stratified by socio-demographic information

Participant accessibility of methods for acquiring information about abortion providers (yes) descriptive and bivariate results						
*participants were allowed to identify multiple preferences						
Characteristics	Telephonic Communication n (%) n= 53	Mobile phone (internet) n (%) n= 57	Computer n (%) n= 14	Tablet n (%) n= 12	Health Care Provider n (%) n= 10	
Age (years) n (%)						
18-25	20 (37.7)	23 (40.3)	7 (50)	4 (33.3)	4 (40)	
26-49	33 (62.3)	34 (59.7)	7 (50)	8 (66.7)	6 (60)	
p value:	0.372	0.725	0.504	0.524	1.00	
Nationality n (%)						
South African	50 (94.3)	50 (87.7)	11 (78.6)	11 (91.7)	9 (90)	
Non-South African	3 (5.7)	7 (12.3)	3 (21.4)	1 (8.3)	1 (10)	
Race n (%)						
African	29 (54.7)	24 (42.1)	3 (21.4)	1 (8.3)	6 (60)	
Coloured	20 (37.7)	22 (38.6)	7 (50)	8 (66.7)	4 (40)	
Indian	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	

White		3 (5.7)	9 (15.8)	3 (21.4)	3 (25)	0 (0)
other		1 (1.9)	2 (3.5)	1 (7.1)	0 (0)	0 (0)
Home Language						
English		21 (39.6)	25 (43.9)	7 (50)	8 (66.7)	5 (50)
Xhosa		23 (43.4)	15 (26.3)	0 (0)	0 (0)	3 (30)
Afrikaans		7 (13.2)	11 (19.3)	5 (35.7)	4 (33.3)	1 (10)
Zulu		0 (0)	1 (1.7)	0 (0)	0 (0)	0 (0)
Other		2 (3.8)	5 (8.8)	2 (14.3)	0 (0)	1 (10)
Education n (%)						
Not completed secondary school		18 (34)	8 (14.0)	1 (7.1)	0 (0)	3 (30)
Secondary school graduate		18 (34)	24 (42.1)	4 (28.6)	5 (41.7)	3 (30)
Acquired post-secondary degree/certificate		17 (32)	25 (43.9)	9 (64.3)	7 (58.3)	3 (30)
No answer		0 (0)	0 (0)	0 (0)	0 (0)	1 (10)
p value:		0.429	0.001*	0.025*	0.022*	0.187
Employment n (%)						
Unemployed		17 (32.1)	15 (26.3)	1 (7.1)	1 (8.3)	6 (60)

Employed		36 (67.9)	42 (73.7)	13 (92.9)	11 (91.7)	4 (40)
p value:		0.140	0.003*	0.009*	0.026*	0.179
Monthly Income n (%)						
Under USD 258		22 (41.5)	23 (40.3)	2 (14.3)	2 (16.7)	7 (70)
USD 258 – USD 859		21 (39.6)	17 (29.8)	7 (50)	4 (33.3)	2 (20)
USD 860 – USD 1,804		43 (7.6)	11 (19.3)	4 (28.6)	4 (33.3)	0 (0)
USD 1,805 – USD 2,577		4 (7.6)	3 (5.3)	1 (7.1)	1 (8.3)	0 (0)
USD 2,578+		2 (3.7)	3 (5.3)	0 (0)	1 (8.3)	1 (10)
p value:		0.042*	0.023*	0.018*	0.019*	0.275

Discussion:

There is limited research that assesses how women prefer to access information about safe abortion providers. Previous literature describes methods that women have used to access abortion services but does not ask if these methods were most accessible or the preferred method of accessing this information [11, 25]. This study found that South African women accessing abortion services in an urban NGO clinic preferred using internet-based methods and that the internet was most accessible on mobile phones. Secondary preferences for accessing information was through contact with community health workers, health care providers and telephonic hotlines.

Overall, participants in this study knew of government facilities that offered abortion services but the majority perceived information about government abortion services difficult to obtain. Just over half of the sample knew that abortion services at government facilities were free; however, it is alarming that nearly 40 percent did not know this. Free abortion services at government facilities is a hallmark of the CTOP legislation and participants lack of knowledge of this section of the Act supports literature that cites lack of knowledge about the CTOP as a barrier to accessing free government services [1,5,16].

Most participants were referred to Marie Stopes from healthcare providers or community health workers. Both providers and community health workers referred participants to Marie Stopes rather than a government facility. This referral pathway may be due to a number of reasons; however, the lack of information about government abortion providers and the type of abortion services they offer (i.e... first vs second-trimester abortion and medical vs surgical) could have played a significant part. Government's lack of specific information on their abortion services may translate to underutilization of these services by women seeking abortion services.

A large number of participants also utilized the internet to access information about services at Marie Stopes. Marie Stopes renders information about their services easily accessible by advertising their services through public social media pages and social media ads and providing online and telephonic hotline appointment systems. Marie Stopes' efficient dissemination methods of providing information about their services when compared to the lack of information available about government facilities, may account for women of lower socioeconomic status presenting to a fee-paying facility instead of accessing free abortion services at a government facility.

The internet was the primary outcome of this study for the most preferred and most accessible method of accessing information about abortion providers. This finding substantiates what is known about women's information seeking patterns in studies undertaken in South Africa which found that study participants utilized the internet to access information about illegal and legal abortion services [11, 25]. Also, our study found that a high percentage of women use the internet to access general health information and that the internet was usually accessed through mobile devices. This is unsurprising as previous studies from South African and Australian settings documented that women use the internet to access health information, information in general, and information about abortion services [25] [26].

UNICEF found South Africans as one of the highest user groups of mobile technology and mobile social networking on the African continent [27]. The abundant access of South Africans to mobile phones creates the opportunity to connect the population to information about accessing safe abortion services through internet and hotline platforms. An interactive website could be created that will output information about abortion facilities nearby when women enter their addresses. The information should be comprehensive and easily interpreted. It should include information about the address and phone number of the facility and detail the type of abortion services provided (i.e. first vs second term & medical vs surgical). This

information is important because many women in this study stated that they knew of government facilities that offered abortion services but struggled to find specific information about these services. By presenting information in this manner, knowledge and provider-related barriers could be avoided. Women who choose to present to facilities close to their communities would also decrease financial barriers by decreasing the associated incurred cost of transportation, travel time and time taken away from work.

The majority of women that preferred the internet differed from those who did not by socioeconomic status. Women were more likely to prefer the internet if they completed secondary school and/or acquired a post-secondary degree, were employed, or made over USD 258 a month. Women who did not meet these socioeconomic standards were more likely to prefer methods that did not involve internet access.

Telephone hotlines are also an option that could capitalize on the accessibility of South Africans to mobile phones while being more inclusive of women who are socioeconomically disadvantaged. Generally, abortion hotlines are an easily accessible tool for anyone with a cellular device or landline. In Canada, where abortion is legal, the British Columbia Women's Hospital and Health Centre implemented a toll-free telephone service called the Pregnancy Options Service. The hotline was created to improve access to abortion care and annually over 2000 women access abortion services through the Pregnancy Options Service, with the greatest impact seen in the assistance provided to marginalized and vulnerable women [22]. This impact would also be expected in South Africa as the results of this study show that socioeconomically disadvantaged participants believe that they will have greater access to a hotline than other methods.

Currently, in South Africa, only Marie Stopes has a hotline that disseminates information on abortion services but this information is limited to services offered at Marie Stopes. A hotline

that disseminates information about abortion services available at government facilities could be developed and if possible be made toll-free. The hotline should ensure that the information is presented in a way that is easily interpreted by women, and that multiple facilities in the region of the woman are suggested as options for accessing abortion services.

To further disseminate information about how to access the created website and/or hotline, community health workers could be mobilized. Community health workers are deployed to provide health care services at the community level in South Africa; some are employed, others are affiliated with community-based organizations, and some are volunteers [28, 29]. Literature shows that community health workers are effective and willing to provide abortion-related services if given adequate training and support [24, 30]. Although research in India found women to be apprehensive about utilizing community health workers as entry points to abortion services [30], our study found that community health workers are a preferred and accessible method of accessing information about abortion services for participants that are socioeconomically disadvantaged.

In 2010, the Department of Health of South Africa launched a national primary health care initiative called “Re-engineering Primary Health Care” with the aim of establishing a preventative and health-promoting community-based primary health care model [31]. Community health workers are a core part of the program and the program seeks to integrate existing lay workers into the formal primary health care system to be supervised by facility-based nurses [31]. It is recommended that the formal health care system utilize community health workers as disseminators of instructions about where to access information about safe abortion services (i.e. the created website and/or hotline).

Lastly, although 23 percent of participants stated that they use flyers in public spaces to access information about general health services, no one chose it as the preferred or most accessible

method for accessing information about safe abortion services. These results may highlight that women in South Africa are recognizing lamp-post providers as being unsafe. It was previously thought that advertisement of abortion services in public spaces lead many women to believe that they are accessing a legitimate service [19], but the hesitancy of women in this study to prefer accessing abortion-specific information through public advisement may mean that women have identified providers who advertise in this way as unsafe. More research is required to substantiate this claim.

Preferred and most accessible methods of accessing information about abortion services have been identified in this study; however, it will not be useful unless information is generated about which facilities are offering abortion services and the types of services that are offered. Ideally, this information would be compiled in a central place and continually updated as facilities change their provision status. South Africa has taken the steps to decrease barriers to accessing abortion services that include liberal legislation and free services in government facilities. The next barrier that can be tackled is the lack of information concerning services in government facilities.

Limitations

Convenience sampling was used in this study. Convenience sampling is a non-probability sampling technique that is not rigorous or systematic and will not render data or results that are representative of the entire population. A more representative population may have shown yielded different results in terms of preferred and accessible methods. Also data collected in this study is self-reported and cannot be independently verified. The instrument used to collect data was a questionnaire that was written in English. Although the primary researcher was present to answer any questions that participants had, the researcher is only fluent in English, and participants who struggled to understand a particular question on the questionnaire may

have also struggled to understand her explanation of the question in English. However, there were not many cases of questions as the questionnaire was generally understood, a pilot study was completed before the commencement of this study to ensure this.

Conclusion

This study identified the most preferred and acceptable methods to access information about safe abortion providers by women at an NGO clinic in Cape Town. The identified primary method is the internet and secondary methods are health care providers, community health workers and hotlines. There were preferential differences found based on socio-economic variables and these differences should be considered whilst developing dissemination methods.

The internet, telephonic hotlines, health care providers and community health workers should be used to formulate dissemination methods that are tailored to women in South Africa. Information about government facilities, their current abortion provision status, and the type of abortion services they provide should be compiled, continually updated, and made available to women in dissemination methods that are most preferred, accessible and acceptable to women in South Africa. Options for socioeconomically disadvantaged women, such as telephonic hotlines, should be developed in conjunction with internet-based options for accessing information about safe abortion providers. The development of internet and hotline dissemination methods that are accessible and preferred by women will encourage women to use the created dissemination channels to access information about safe abortion providers instead of seeking unsafe and illegal abortion methods.

The results of this study are not generalizable. Although women from all socio-economic and educational backgrounds were represented in this study, women in this study presented to a fee-paying facility. Their ability to pay for an abortion service coupled with the high educational status and level of employment in this study renders it ungeneralizable to South

Africa. More research is needed to explore the preferences of women of lower socioeconomic levels who are unable to present for abortion services at a fee-paying facility.

Declarations:

Ethics approval and consent to participate:

Ethical approval to conduct the study was received from the Human Research Ethics Committee, University of Cape Town. All participants provided written informed consent before participating in the study. The privacy and confidentiality of participants are protected. Consent forms are stored in a safe private place.

Consent for publication:

Not applicable

Availability of data and materials:

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests:

The authors declare that they have no competing interests.

Funding:

Marie Stopes- South Africa funded the airtime received by the participants and provided the primary researcher with a research assistant stipend for the duration of the study.

Authors' contributions:

KB collected and analysed the data for this study. All authors read, edited, and approved the final manuscript.

Acknowledgements:

Debbie Constant contributed assistance in the formulation of a data analysis plan.

Thank you Marie Stopes South Africa and the study participants.

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Part D: Appendices



UNIVERSITY OF CAPE TOWN
Faculty of Health Sciences
Human Research Ethics Committee



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01 June 2017

HREC REF: 249/2017

A/Prof Jane Harries
 Public Health & Family Medicine
 Falmouth Building

Dear A/Prof Harries

PROJECT TITLE: WHICH METHODS OF DISSEMINATION DO WOMEN IN SOUTH AFRICA PREFER WHEN SEARCHING FOR SAFE ABORTION PROVIDERS? (Masters candidate - Ms K Blackburn)

Thank you for submitting your response to the Faculty of Health Sciences Human Research Ethics Committee dated 22 May 2017.

It is a pleasure to inform you that the HREC has formally approved the above-mentioned study.

Approval is granted for one year until the 30 June 2018.

Please submit a progress form, using the standardised Annual Report Form if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

(Forms can be found on our website: www.health.uct.ac.za/fhs/research/humanethics/forms)

Please quote the HREC REF in all your correspondence.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please note that for all studies approved by the HREC, the principal investigator must obtain appropriate institutional approval before the research may occur.

The HREC acknowledges that the student, Kayla Blackburn will also be involved in this study.

Yours sincerely

PROFESSOR M BLOCKMAN
CHAIRPERSON, FHS HUMAN RESEARCH ETHICS COMMITTEE
 Federal Wide Assurance Number: FWA00001637.
 Institutional Review Board (IRB) number: 1RB00001938

HREC 249/2017



Informed Consent Statement

Safe Abortion Database Survey

You are being asked to participate in a research study that is seeking to explore how women in Cape Town prefer to access information about safe abortion providers in South Africa.

Please read this form carefully and ask questions if there is something you do not understand or want more information on.

What the study is about:

This study seeks to determine which how women in South Africa prefer to receive information about safe abortion providers.

To participate you must be between the age of 18 and 49, and be seeking a termination of pregnancy.

What we will ask you to do:

If you agree to be in this study, you will be asked to **complete a survey**. This survey will ask questions concerning the best methods, in the participant's opinion, to distribute the information collected from the database. It will take approximately 15 minutes to complete the survey.

Risks and benefits:

Although there is no individual benefit of participating in this study, collectively, women in South Africa may benefit from research that will inform how to best connect women to abortion information. The Safe Abortion Provider Database will be free to access. The risk of participating in this study is in the form of increased stress. We acknowledge that your participation in this study may cause you additional stress. Please be aware that this study is completely voluntary.

Compensation:

Participants will receive a R25 airtime voucher for their participation in the study.

Your participation in this study will be confidential:

The outcomes of this study may be published and will not include any information that will make it possible for you to be identified.

Taking part in this research study is voluntary:

Taking part in this study is completely voluntary. You have the right to withdraw your consent at any part of this questionnaire. There are no penalties for withdrawing your consent. The questionnaire will begin after you're given your consent.



If you have questions:

If you have questions concerning this consent sheet or the research study please ask them now. If you have questions later, after your consent has been given, you can contact:

Kayla Blackburn: +27 62 694 2055: kayla.blackburn@uct.ac.za

Jane Harries: jane.harries@uct.ac.za

Kristen Daskilewicz: ka.daskilewicz@uct.ac.za

If you have questions concerning your rights as a participant you can contact the University of Cape Town Human Research Ethics Committee at +27 21 406 6346.

You will be given a copy of this form for your records.

Statement of consent: I have read the above information, it is written in a language that I understand, and have received answers to any questions I asked. I consent to take part in the study.

Participant's signature _____

Date _____

Researcher's signature _____

Date _____



Safe Abortion Provider Database Survey

Location: _____ Date: _____ PID: _____

Introduction

Thank you for agreeing to participate in this study. To remind you, this is a research study about women’s preferred method to access information about safe abortion providers. You have been invited to participate in this study because you are a woman aged 18-49 who is seeking a termination of pregnancy. This information will be useful to the development of a database that will make information about safe abortion providers more accessible.

Instructions

Please answer all questions as accurately as possible. Check or mark the appropriate box/space for each question or print an answer in blanks provided. All answers are confidential and complete anonymity is assured. Your participation is voluntary and will help us greatly. Thank you.

Section 1. Socio-Demographics

101	How old are you?	Age _____	
102	What is your nationality?	<input type="checkbox"/> South African <input type="checkbox"/> Non South African Specify country of origin _____	
103	How would you identify yourself?	<input type="checkbox"/> African <input type="checkbox"/> Coloured <input type="checkbox"/> Indian <input type="checkbox"/> White <input type="checkbox"/> Other Specify _____	
104	What is your home language?	<input type="checkbox"/> English <input type="checkbox"/> Xhosa <input type="checkbox"/> Afrikaans <input type="checkbox"/> Zulu <input type="checkbox"/> Other Specify _____	
105	What is the highest grade/year of school you have completed?	<input type="checkbox"/> Grade 1-7 <input type="checkbox"/> Grade 8 <input type="checkbox"/> Grade 9 <input type="checkbox"/> Grade 10 <input type="checkbox"/> Grade 11	



		<input type="checkbox"/> Grade 12/Matric <input type="checkbox"/> Post-secondary diploma/certificate <input type="checkbox"/> University <input type="checkbox"/> Technical college <input type="checkbox"/> Other Specify _____	
106	What is your marital status?	<input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Separated <input type="checkbox"/> Divorced <input type="checkbox"/> Widowed <input type="checkbox"/> Living with partner <input type="checkbox"/> Other Specify _____	
107	Where do you live?	_____ Please Specify	
108	What is your monthly income?	<input type="checkbox"/> Under R 3,000 <input type="checkbox"/> R 3,000 - R 10,000 <input type="checkbox"/> R 11,000 - R 20,000 <input type="checkbox"/> R 21,000 - R 30,000 <input type="checkbox"/> R 31,000 +	
109	What best describes your employment status?	<input type="checkbox"/> Unemployed (Earn nothing) <input type="checkbox"/> Self-employed (Work for yourself) <input type="checkbox"/> Part-time (Work less than 20 hours a week) <input type="checkbox"/> Full-time (Work more than 20 hours a week)	If unemployed, skip to Section II
110	If you are employed, what are you employed as?	_____ Specify your type of employment	



Part II: Reproductive History			
201	How many times have you been pregnant? (Including this pregnancy)	_____	
		Please specify the number of pregnancies you've had.	
202	How many children do you have?	_____	
		Please specify the number of children you have given birth to.	
203	How many termination of pregnancies have you had? (Excluding this pregnancy)	_____	
		Please specify the number of terminations you have had.	
204	How many miscarriages or still births have you had?	_____	
		Please specify the number of miscarriages or still births you have had.	
205	Where have you accessed termination of pregnancy services in the past? (Select all that apply)	<input type="checkbox"/> Marie Stopes <input type="checkbox"/> Government facility <input type="checkbox"/> Traditional healer <input type="checkbox"/> Unlicensed clinic <input type="checkbox"/> Self-terminated <input type="checkbox"/> Other Specify _____	
206	How did you receive information about those termination methods? (Please select all that apply)	<input type="checkbox"/> Online <input type="checkbox"/> Friends <input type="checkbox"/> Family <input type="checkbox"/> Flyer in public space <input type="checkbox"/> Health provider <input type="checkbox"/> Other Specify _____	
207	Have you used a contraceptive method to prevent pregnancy?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Answer question 210
208	Are you currently using any method to delay or avoid getting pregnant?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Answer question 209
209	If yes, which method did you use? <i>(Select all that have used)</i>	<input type="checkbox"/> Female sterilization <input type="checkbox"/> Male sterilization <input type="checkbox"/> IUD (loop)	



		<input type="checkbox"/> Injection <ul style="list-style-type: none"> <input type="radio"/> Depo Provera <input type="radio"/> Nuristerate <input type="checkbox"/> Implant <input type="checkbox"/> Oral contraceptive pill <input type="checkbox"/> Male condom <input type="checkbox"/> Female condom <input type="checkbox"/> Other method <p>Specify _____</p>	
210	What contraceptive method/s have you used in the past?	<input type="checkbox"/> Female sterilization <input type="checkbox"/> Male sterilization <input type="checkbox"/> IUD (loop) <input type="checkbox"/> Injection <ul style="list-style-type: none"> <input type="radio"/> Depo Provera <input type="radio"/> Nuristerate <input type="checkbox"/> Implant <input type="checkbox"/> Oral contraceptive pill <input type="checkbox"/> Male condom <input type="checkbox"/> Female condom <input type="checkbox"/> Other method <p>Specify _____</p>	
211	What are the reasons why you may have discontinued the use of the contraceptive method to lead to this pregnancy? (select all that apply)	<input type="checkbox"/> Did not have access to method <input type="checkbox"/> Could not afford the method <input type="checkbox"/> Unsatisfied with method <input type="checkbox"/> Partner did not want to use method <input type="checkbox"/> Did not discontinue method <input type="checkbox"/> Other <p>Specify _____</p>	

Section III: Interactions with Sources of Health Information

301	How often do you use the internet to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
302	On average, how many hours per day do you spend on the internet?	<input type="checkbox"/> Less than 1 hour a day <input type="checkbox"/> 1-2 hours <input type="checkbox"/> 2-3 hours <input type="checkbox"/> 3-4 hours <input type="checkbox"/> More than 4 hours a day	
303	How do you access the internet? (Please select ALL that apply)	<input type="checkbox"/> Phone <input type="checkbox"/> Tablet/laptop/ipad <input type="checkbox"/> Computer	



		<input type="checkbox"/> Other Specify _____	
304	Where do you access the internet? (Select ALL that apply)	<input type="checkbox"/> Home <input type="checkbox"/> Library <input type="checkbox"/> School <input type="checkbox"/> Internet Café <input type="checkbox"/> Your mobile phone <input type="checkbox"/> Friend's or family's house <input type="checkbox"/> Other Specify _____	
305	How often do you use your mobile phone to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
306	How often do you use your tablet/laptop/ipad to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
307	How often do you use your computer to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
308	How often do you read pamphlets/brochures to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
309	How often do you attend women/community club meetings to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
310	How often do you seek health information from health care providers?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	



311	How often do you seek health information from community health workers in your community?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
312	How often do you use a hotline to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
313	How often do you use flyers on lamp-post and trains to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
314	How often do you use apps on your mobile phone to access health information?	<input type="checkbox"/> Once a month or less <input type="checkbox"/> Once a week <input type="checkbox"/> Several times a week <input type="checkbox"/> Every day <input type="checkbox"/> Several times a day <input type="checkbox"/> Never	
Part IV: Preferred Method to Access Information			
401	How did you access information about terminating your pregnancy at Marie Stopes?	<input type="checkbox"/> Internet <input type="checkbox"/> Posters in health care facilities <input type="checkbox"/> Telephone hotline <input type="checkbox"/> Flyers on lap-post and trains <input type="checkbox"/> Pamphlets/brochures <input type="checkbox"/> App on mobile phone <input type="checkbox"/> Community club meetings <input type="checkbox"/> Community health worker <input type="checkbox"/> Health care provider-referral <input type="checkbox"/> Other Specify _____ _____	
402	Do you know of any government facilities that offer termination of pregnancy services?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
403	Did you know that termination of pregnancy is free at government facilities?	<input type="checkbox"/> Free <input type="checkbox"/> Not sure <input type="checkbox"/> Price _____	



404	How easy is it to find information about government facilities that offer termination of pregnancy services in your community?	<input type="checkbox"/> Very easy <input type="checkbox"/> Easy <input type="checkbox"/> Not sure <input type="checkbox"/> Difficult <input type="checkbox"/> Very difficult	
405	Where do you receive information about general health care services? (tick as many as apply)	<input type="checkbox"/> Relatives <input type="checkbox"/> Friends <input type="checkbox"/> Internet <input type="checkbox"/> Primary health provider <input type="checkbox"/> Advertisement in public spaces <input type="checkbox"/> Other Specify _____	
406	Which method would you most prefer to use when seeking a termination of pregnancy provider?	<input type="checkbox"/> Internet <input type="checkbox"/> Posters in health care facilities <input type="checkbox"/> Telephone hotline <input type="checkbox"/> Flyers on lap-post and trains <input type="checkbox"/> Pamphlets/brochures <input type="checkbox"/> App on mobile phone <input type="checkbox"/> Community club meetings <input type="checkbox"/> Community health worker <input type="checkbox"/> Health care provider <input type="checkbox"/> Friends and family <input type="checkbox"/> Other Specify _____ _____	
407	Why do you prefer this method?		
408	What do you have access to the most?	<input type="checkbox"/> Mobile phone - to make phone calls <input type="checkbox"/> Mobile phone- for internet access <input type="checkbox"/> Computer- for internet access <input type="checkbox"/> Tablet/laptop/ipad- for internet access	



		<ul style="list-style-type: none"><input type="checkbox"/> Posters in health care facilities<input type="checkbox"/> Telephone hotline<input type="checkbox"/> Flyers on lap-post and trains<input type="checkbox"/> Pamphlets/brochures<input type="checkbox"/> App on mobile phone<input type="checkbox"/> Community club meetings<input type="checkbox"/> Community health worker<input type="checkbox"/> Health care provider<input type="checkbox"/> Friends and family<input type="checkbox"/> Other <p>Specify _____</p> <p>_____</p>	
409	Why is this method most accessible?		

BMC Women's Health manuscript criteria

Title page

The title page should:

- present a title that includes, if appropriate, the study design e.g.:
- list the full names, institutional addresses and email addresses for all authors
- indicate the corresponding author

Abstract

The Abstract should not exceed 350 words. Please minimize the use of abbreviations and do not cite references in the abstract. The abstract must include the following separate sections:

- **Background:** the context and purpose of the study
- **Methods:** how the study was performed and statistical tests used
- **Results:** the main findings
- **Conclusions:** brief summary and potential implications
- **Trial registration:** If your article reports the results of a health care intervention on human participants, it must be registered in an appropriate registry and the registration number and date of registration should be included in this section. If it was not registered prospectively (before enrollment of the first participant), you should include the words 'retrospectively registered'.

Keywords

Three to ten keywords representing the main content of the article.

Background

The Background section should explain the background to the study, its aims, a summary of the existing literature and why this study was necessary or its contribution to the field.

Methods

The methods section should include:

- the aim, design and setting of the study
- the characteristics of participants or description of materials
- a clear description of all processes, interventions and comparisons. Generic drug names should generally be used. When proprietary brands are used in research, include the brand names in parentheses
- the type of statistical analysis used, including a power calculation if appropriate

Results

This should include the findings of the study including, if appropriate, results of statistical analysis which must be included either in the text or as tables and figures.

Discussion

This section should discuss the implications of the findings in context of existing research and highlight limitations of the study.

Conclusions

This should state clearly the main conclusions and provide an explanation of the importance and relevance of the study reported.

List of abbreviations

If abbreviations are used in the text they should be defined in the text at first use, and a list of abbreviations should be provided.

Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- Ethics approval and consent to participate
- Consent for publication
- Availability of data and material
- Competing interests
- Funding
- Authors' contributions
- Acknowledgements
- Authors' information (optional)

Ethics approval and consent to participate

Manuscripts reporting studies involving human participants, human data or human tissue must:

- include a statement on ethics approval and consent (even where the need for approval was waived)
- include the name of the ethics committee that approved the study and the committee's reference number if appropriate

Consent for publication

If your manuscript contains any individual person's data in any form (including individual details, images or videos), consent for publication must be obtained from that person, or in the case of children, their parent or legal guardian. All presentations of case reports must have consent for publication.

If your manuscript does not contain data from any individual person, please state “Not applicable” in this section.

Availability of data and materials

All manuscripts must include an ‘Availability of data and materials’ statement. Data availability statements should include information on where data supporting the results reported in the article can be found including, where applicable, hyperlinks to publicly archived datasets analysed or generated during the study. By data we mean the minimal dataset that would be necessary to interpret, replicate and build upon the findings reported in the article. We recognise it is not always possible to share research data publicly, for instance when individual privacy could be compromised, and in such instances data availability should still be stated in the manuscript along with any conditions for access.

Competing interests

All financial and non-financial competing interests must be declared in this section.

If you do not have any competing interests, please state "The authors declare that they have no competing interests" in this section.

Funding

All sources of funding for the research reported should be declared. The role of the funding body in the design of the study and collection, analysis, and interpretation of data and in writing the manuscript should be declared.

Authors' contributions

The individual contributions of authors to the manuscript should be specified in this section.

Please use initials to refer to each author's contribution in this section.

Acknowledgements

Please acknowledge anyone who contributed towards the article who does not meet the criteria for authorship including anyone who provided professional writing services or materials.

Authors should obtain permission to acknowledge from all those mentioned in the Acknowledgements section.

If you do not have anyone to acknowledge, please write "Not applicable" in this section.

Authors' information

This section is optional.

You may choose to use this section to include any relevant information about the author(s) that may aid the reader's interpretation of the article, and understand the standpoint of the

author(s). This may include details about the authors' qualifications, current positions they hold at institutions or societies, or any other relevant background information. Please refer to authors using their initials. Note this section should not be used to describe any competing interests.

Endnotes

Endnotes should be designated within the text using a superscript lowercase letter and all notes (along with their corresponding letter) should be included in the Endnotes section. Please format this section in a paragraph rather than a list.

References

All references, including URLs, must be numbered consecutively, in square brackets, in the order in which they are cited in the text, followed by any in tables or legends. The reference numbers must be finalized and the reference list fully formatted before submission.

