

Guidelines and best practice recommendations on reproductive health services provision amid COVID-19 pandemic: Scoping review.

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Abstract

Introduction: During pandemics, there is uncertainty and information overload. Policymakers and health professionals prefer to use summarized evidence of practice recommendations. The aim of this scoping review is therefore to identify available guidelines, consensus statements, the standard of practice and practice recommendations on reproductive health service provision during the COVID-19 pandemics.

Methods: We searched guideline databases and websites of professional associations and international organizations working on sexual and reproductive health. We looked for guidelines, protocols, consensus statements and practice recommendations on sexual reproductive health services (SRH) during COVID-19 pandemics. Additionally, we searched: MEDLINE, EMBASE and Google Scholar. Data extraction was done by two independent reviewers using a customized tool that was developed to record the key information of the source that's relevant to the review question. The difference between the two authors on data extraction was resolved by discussion.

Results: A total of 20 records were included in the review. Identified recommendations were classified into thematic areas. The records addressed approaches to the antenatal care, labour and delivery, postnatal care, safe abortion, contraception, gender-based violence and artificial reproduction. We haven't employed any of the quality assessment tools as the pandemic is new clinical entity and evidences are based on expert opinion and limited clinical evidence.

Conclusions: There were consistent consensus statements and recommendations that there should be access to sexual and reproductive health services like antenatal care(ANC), postnatal care(PNC), contraception service, safe abortion care and clinical management of rape survivors during the COVID-19 pandemics with the concerted effort of service re-organization. The practice recommendations focus on innovative ways of service provision to minimize patient and staff exposure to COVID-19 as well as alleviate the burden on the health care system. These include utilizing telemedicine or digital health and community/home-based care or self-care.

Introduction

The 2019–20 coronavirus pandemic is an ongoing pandemic of coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)(1). The outbreak was first identified in Wuhan, Hubei Province, China, in December 2019. The World Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern on 30 January 2020 and recognized it as a pandemic on 11 March 2020 (2, 3).

The WHO considered reproductive health services, including care during pregnancy and child birth as an essential health service to continue during the COVID-19 pandemics(4). Additionally, WHO Stated, "Women's choices and rights to sexual and reproductive health care should be respected irrespective of

COVID-19 status, including access to contraception and safe abortion to the full extent of the law” (5). But when staff and services are under extreme stress there is a real risk of increasing avoidable harm. The tremendous burden caused by the COVID-19 outbreak is exceeding the capacity of many national and local health systems which is jeopardizing routine service delivery and undermining other health priorities. As such the evolving COVID-19 pandemic may affect routine services including sexual, reproductive and maternal health service delivery. Marie Stopes International(MSI) warned near 9.5 million people will miss out on reproductive service if service reduction continues for three months because of the lockdown(6). Experience in past epidemics also has shown that lack of access to essential health services and shut down of services unrelated to the epidemic response resulted in more deaths than the epidemic itself(7).

The aim of this scoping review is therefore to identify available guidelines, consensus statements, the standard of practice and practice recommendations on reproductive health service provision during the COVID-19 pandemic.

Review Questions?

- What's is the reproductive health service practice approach during current COVID-19 pandemic?
- What are the available recommendations to maintain the continuation of reproductive health service during pandemic?
- What are the available recommendations on service re-organization of reproductive health services?

Methods And Materials

We searched for professional associations and international organizations guidelines, protocols, consensus statements and practice recommendations on sexual reproductive health services (SRH) during COVID-19 pandemics. We looked for guideline databases and websites. We searched website of the following associations and organizations: World Health Organization(WHO), America College of Obstetrics and Gynecology (ACOG), Royal College of Obstetrics and Gynecology(RCOG), International Confederation of Midwives (ICM), Royal College of Midwives(RCM),International Society of Ultrasound in Obstetrics and Gynecology(ISUOG),International Federation of Obstetrics and Gynecology(FIGO),Society of Maternal and Fetal Medicine(SMFM),Society of Obstetrics and Gynecology of Canada (SOGC),RANZCOG(The Royal Australian and New Zealand College of Obstetricians and Gynecologists) , National Health Service (NHS), UNICEF (United Nations International Children's Emergency Fund), Faculty of Sexual and Reproductive Healthcare (FSRH), British Society of Abortion Care Providers (BSACP), National Abortion Federation (NAF), Society of Family Planning (SFP),United Nations Population Fund(UNFPA), International Planned Parenthood Federation(IPPF), Marie stopes International(MSI), European Society of Human Reproduction and Embryology(ESHRE),American Society for Reproductive Medicine(ASRM),Human Fertilization and Embryology Authority(HFEA),British Fertility Society(BFS) and The fertility Society of Australia(FSA). The guideline data basis searched were: Turning Research into

Practice (TRIP) database, Guideline International (GIN) library, National Guideline Clearinghouse (NGC) and National Institute for Health and Clinical Excellence (NICE).

In addition to searching the above professional associations and organizations websites and guideline databases, we also developed a search strategy to look at any relevant emerging practice recommendations not endorsed by associations and organizations. We searched the following databases: MEDLINE, EMBASE and Google Scholar (Appendix 1, Table 2: Search strategy). The report included in this scoping review was prepared based Preferred Reporting Items for systematic scoping review(8). We considered the following inclusion criteria:

Population.

This review considered adolescent girls, reproductive age women, pregnant women, women seeking abortion service, health care providers, health managers and health care institutions.

Interventions.

The review considered records addressing service delivery approaches and recommendations on Antenatal care(ANC), labour and delivery, postnatal care (PNC), contraceptive service, safe abortion service, management of rape survivors and Assisted reproductive technology(ART) services during COVID-19 pandemic.

Context

The review considered worldwide documents/records addressing antenatal care(ANC), labour and delivery, postnatal care (PNC), contraceptive service, safe abortion service, clinical management of rape survivors and Assisted reproductive technology(ART) services during the COVID-19 pandemic.

Types of documents/records.

We included records labeled guidelines, or recommendations, or consensus, or practice parameters, or position papers on SRH service practice during the COVID-19 pandemics. The search is limited to English and one year (considering the duration of the outbreak to be after December 2019).

Assessment of methodological quality.

We haven't employed any of the quality assessment tools (e.g. AGREE II) for clinical practice guidelines as the COVID-19 infection is a relatively new clinical entity where evidence is in the process of emerging

and most of the guidelines are based on expert consensus and limited clinical evidence without rigorous guideline development or recommendation synthesis pathways.

Data extraction and synthesis.

Data extraction was done by two independent persons using a customized tool that was developed to record the key information of the source that's relevant to the review question. The data extraction tool was developed for guideline related documents, consensus statements and practice recommendations. Types of the document and summary of recommendations were extracted. The difference between the two authors on data extraction was resolved by discussion (Appendix 2: supplementary material). Data were extracted for the following practice areas: antenatal care, labour and delivery, postnatal care, safe abortion care, contraception service, gender-based violence and assisted reproduction. We looked for service delivery organization changes, new position statements and guidelines on these services areas in relation to COVID-19 pandemic. We categorized identified guidelines or practice recommendations according to service delivery thematic areas and the findings were described narratively.

Results

We reviewed 24 websites, four guideline databases, PubMed, EMBASE and Google Scholar. Search yielded a total of 400 records. After removing duplicates, 380 documents were retained for further examination. After screening the titles and abstracts, 36 papers were retained for full-text review. Based on pre-defined inclusion criteria, 20 records were included in the scoping review (Fig 1).

Fig 1: Study selection process. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. <https://doi.org/10.1371/journal.pmed.1000097>.

Characteristics of included records (guidelines and practice recommendations).

Identified recommendations are categorized into service thematic areas: ANC, Labour and delivery, PNC, abortion, contraception, safe abortion, gender-based violence and assisted reproduction (Appendix 1: Table 1)

Key findings.

- Several international associations and organizations have declared service related to reproductive health, including contraception and safe abortion care as essential health service to continue during

the COVID-19 pandemics [WHO, ACOG, RCOG, FIGO, RCM, SOGC, RANZCOG, SFP, NAF, IPPF, UNFPA, MSI, BSACP, and FSRH].

- Pre-triage (screening) of all clients for COVID-19 is recommended.
- Modification of antenatal care provision from face-to-face to telehealth (voice or video calls) is a viable option to decrease the spread of COVID-19 except in high-risk mothers.
- If possible a one-stop clinic service provision with clinical examination and lab tests were done on the same visit should be considered.
- Instituting targeted obstetric referral and counter-referral criteria and processes are crucial to keep the system from becoming overwhelmed.
- To alleviate the burden on maternity services and decrease the spread of COVID-19 temporary reorganization of intrapartum care should be considered. Homebirth through community-based health workers and birth at midwifery-led units are viable options.
- Modification of postnatal services is recommended with earlier discharge, decreased number of visits and provision of home care or with telehealth. The telehealth care even can extend into those patients who have undergone surgeries.
- Telemedicine and self-care family planning methods are recommended consistently.
- For women already on combined hormonal contraception (CHC) and progesterone-only pills (POP), it's recommended to continue 6-12 months without rechecking body mass index (BMI) and blood pressure during the pandemics.
- For long term contraceptive users, it's recommended to use options of extended use to avoid face to face contact during the pandemics.
- No-touch or no-test early medication abortion is recommended consistently.
- It is recommended that medical, legal and policy mechanisms for victims of gender-based violence remain in place.
- It's recommended that assisted reproduction (including diagnostic procedures for infertility) shouldn't be started during the pandemics except in cases of fertility preservation.

Discussion

In this review, we attempted to locate documents in the form of guidelines, consensus statements, best practice statements and standards of practice indicating directions on how reproductive health service during COVID-19 pandemics. We searched guideline databases, PubMed, EMBASE and Google Scholar and website of international professional associations and organizations working on sexual and reproductive health.

Antenatal care

Antenatal care services are one of the essential services that the WHO recommends being given during pandemics [WHO]. One of the major focus areas of the guidelines and consensus statements is on antenatal care provision during the COVID-19 pandemic.

Pre-triage for ANC

In circumstances where a pregnant mother presents for a face to face care most of the societies including FIGO recommend screening (triage) at the entrance into the health facility (4, 9-13). The MFM guidance advises on even an earlier pre-triage with phone communication while the patient is at home before she visits ANC clinics [MFM guidance]. Some even recommend screening of attendants too.

Mode of ANC provision

The mode of ANC services delivery should be modified, and innovative ways of care provision are recommended with due consideration of individualized care plan (in eight of the reviewed 12 documents) (4, 10-16). In low-risk mothers, Telehealth (voice or video calls) are viable options for delivering prenatal care as well as triaging women before they present to the clinic. Remote access options such as home antenatal service provision by community health care workers are also suggested in WHO, RCOG and SMFM guidelines(4, 9, 12). But face to face care provision is advised in high-risk pregnancies and women with emergency conditions where physical examination and other clinical/laboratory tests might be needed(10, 14).

ANC schedules

There is no clear recommendation in any of the guidelines and consensus statements regarding modifications in the timing of 1st visit, subsequent visits and the total number of ANC visits. But omitting or virtual visits are recommended by the RCOG and RCM(9, 17), while standard schedules are advised in high-risk mothers by the SMFM(12). The RCOG guidance on antenatal care services and ultrasound in the COVID-19 pandemic suggests that local practice should determine re-booking (9). Repeat visits might be scheduled using Telehealth. In three of the guidelines, it is suggested that pregnant mothers present for prenatal visits alone or just with a single screen-negative attendant (9, 10, 13).

The extent of Prenatal care services

There are no recommendations on modifications to the extent of service provision in the standard prenatal care. The only guideline addressing the issue is the RCOG labor, delivery and postnatal guidance in COVID-19 pandemic which states scans and antenatal appointments and other investigations should be provided within a single visit one-stop clinic(9).

Obstetric referral pathways

One of the health service challenges encountered during any pandemics is how to effectively sustain functional referral pathways, especially in low resource settings. The joint RCOG/RCM Guidance for provision of midwife-led settings and home birth in the evolving coronavirus (COVID-19) pandemic states there is good evidence to inform transport for complications and obstetric emergencies. Solutions are likely to be context-specific, dependent on E.g. urban/rural context, and the extent of pressure on the ambulance services(17). The RCOG guidance on labor/delivery and postnatal care states obstetric antenatal referrals can be triaged locally by a consultant with a telephone appointment to discuss a proposed plan of care with the woman (14). It is advised by the WHO that Instituting targeted referral and counter-referral criteria and processes are crucial to keeping the system from becoming overwhelmed labour and delivery(4).

Labor and delivery.

Induction and Elective Cesarean delivery(CD).

There is limited guidance on the induction of labor in the face of the COVID-19 pandemic. The RCOG recommends labor induction in low-risk mothers can be considered at as outpatient department (OPD) to ease the burden on inpatient services(14). The NHS advises that elective procedures (including) be done as planned to avoid burden on emergency services(15).

Place of Delivery.

In institutional deliveries limiting the number of attendants is recommended but with due consideration of making sure that there is always a family member around in emergencies. A single preferably screen negative labor companion is recommended in 2 of the guidelines(10, 15).

The COVID-19 pandemic will strain labor and delivery services if tertiary centers are overwhelmed with the care of non-pregnant patients with COVID-19 infection. Some of maternal health service providers might also be called to provide care in non-obstetric settings. There is also a concern for a healthy woman giving birth in a facility acquiring the COVID-19 infection. Hence some of the guidelines have addressed the issue of the place of birth in the face of COVID-19 pandemic. The International Confederation of Midwives (ICM) and the Royal College of Midwives (RCM) support community birth (home birth) for healthy women and newborn infants if there are appropriate mid-wife staffing and referrals are facilitated in obstetric emergencies (17-19). Where these are not available, it may be necessary to modify available services, seeking at all times to maximize the provision of safe and positive birth experience to all women (19). The NHS Clinical guide for the temporary reorganization of intrapartum maternity care during the coronavirus pandemic has put 4 options of childbirth: homebirth, alongside midwifery-led unit,

freestanding midwifery-led unit, and obstetric unit. Freestanding mid-wife led delivery services are forwarded as viable options of childbirth by both NHS and RCOG guidance (15, 19). But this usually requires a response from an ambulance service, which may also currently be stretched. This means transfers from home to the hospital may not be sufficiently quick to ensure the safety of mother and baby (15).

Post-natal care

Modification of postnatal services is recommended with fewer visits and provision of care with telehealth. The telehealth care even can extend into those patients who have undergone surgeries. Generally, earlier discharge of mothers with uncomplicated deliveries is recommended (immediate or less than 24hrs in those after vaginally delivery and after 24hrs in cesarean section (11)).

In the presence of community-based health workers home, postnatal care provision is another option suggested by WHO (4). The RCOG postnatal care guidance recommends for most women telephone or home visits may be preferable to community clinic visits to comply with social distancing. Face to face visiting is recommended for women with Known psycho-social vulnerabilities, operative birth, premature/low birthweight baby and other medical or neonatal complications (9). But ACOG advisory commentary suggests that phone call consultations and video conferencing with inspection of photos of wound site can be done in women who have undergone surgery(11).

Contraception service.

For women already on contraception:

Telemedicine and self-care family planning methods were recommended consistently. Self-care family planning methods include contraceptive pills, self-injectables, subcutaneous depo shots, condoms, vaginal rings, and fertility awareness methods [WHO, FIGO, RCOG, RCM, SOGC, RANZOG, IPPF, UNFPA, MSI, and FSRH](3, 20-24).

There are consistent position statements that recommend combined hormonal contraception (CHC) and progesterone-only pills (POP) users to continue 6-12 months without visits and rechecking body mass index (BMI) and blood pressure. Depot medroxyprogesterone acetate (DMPA) users can switch to available progesterone-only pills (POP) to avoid face to face contact(3, 20, 25, 26). For long term contraceptive user's options of extended use to avoid face to face contact is recommended. Limited evidence shows that the duration of long-acting contraceptive effect is 2 years beyond the Food and Drug Administration(FDA)-approved duration(27). Depending on that evidence many associations and organizations practice recommendations [FIGO, RCOG, RCM, SOGC, RANZOG, IPPF, UNFPA, MSI, and FSRH] advised delaying removal of implants and IUCD during the pandemic crisis unless serious side effect happens or wants to get pregnant (3, 20, 23, 26, 28, 29).

New contraception starters:

Telemedicine and self-care family planning with remote assessment and prescription of CHC, POP for 6-12 months and self-injectable contraception were consistently recommended. However, administration of DMPA or insertion of implants or intrauterine devices to be considered where concerns about adherence, individual intolerance of oral contraceptives or use of teratogens make longer-acting reversible contraception the only suitable option. Pre-procedure assessment and information-giving remotely to minimize face-to-face contact time (minimum contact service) with healthcare professionals were recommended [WHO, FIGO, RCOG, RCM, SOGC, RANZOG, IPPF, UNFPA, MSI, and FSRH]. Optimal use of contact points, such as expanding post-partum family planning with special focus on long-acting reversible contraception was recommended [FIGO, RCOG, RCM, FSRH, MSI, and UNFPA].

Emergency contraception (EC):

Remote assessment of requirements and choice of EC. Oral emergency contraception remote prescription or provision without prescription or Cu-IUD provision with minimum face to face contact is recommended [RCOG, RCM, FSRH, BSACP, FIGO].

Safe abortion service.

All records (practice recommendations and position papers or commentaries) consistently recommend screening for COVID-19 symptoms from remote before face to face contact or during remote early medication abortion without face to face contact. There were several recommendations on no-touch/no-test early medication abortion protocol (2, 3, 25, 28, 30). The no-touch protocol depicts pathways to minimize COVID-19 exposure to patients and staff by organizing early medical abortion services to be delivered via video or teleconferencing /telemedicine and delivery of a treatment package(2, 25, 28). The treatment package includes mifepristone, misoprostol, ibuprofen, and self-care family planning. The no-touch/no-test protocol is self-medication abortion in early pregnancy without pre-procedure ultrasound and blood testing. The guideline also indicated that for women in self-isolation because of exposure to COVID-19 no-touch early medication abortion can be arranged similarly at home. If face to face contact care is must for COVID-19 exposed women, the guideline recommends that it should be booked when the isolation period is over unless the gestation is uncertain, and the delay may result in a woman not being able to access abortion in which face to face contact must be arranged with full personal protective measures(25). There is no specific protocol recommended for second-trimester medication abortion (above 12 weeks), but professional association and organizations position papers consistently recommend the utilization of telemedicine for digital patient education and counseling to reduce waiting periods and extent of face to face contact(minimal contact service)(4, 28, 30, 31).

For surgical abortion position papers and practice, recommendations focus on minimum contact procedure by remote digital patient education, counseling, and evaluation. The other focus practice

recommendation is increasing safety during the procedure by limiting the number of people in the procedure room, appropriate use of personal protective equipment's and decontaminate area after the procedure as per the recommendation(28, 30, 31). The practice recommendations also include surgical facemask and sanitizer or hand washing for women. Vacuum aspiration, dilatation, and evacuation or dilatation and curettage are not aerosol-generating procedures unless done by general anesthesia(32). Therefore, these procedures don't require full personal protective equipment like N95, but abortion provides should screen all patients before the procedure and use standard precautions. Where possible and feasible it's also highlighted to perform the procedures under local anesthesia or intravenous sedation or spinal anesthesia to avoid the need for general anesthesia(25, 28, 30, 32). Its recommended consistently that follow up visits is not required in all conditions and were needed to be done remotely by telemedicine.

Gender-Based Violence(GBV).

It is recommended that medical, legal and policy mechanisms for victims of gender-based violence remain in place during the pandemic crisis. Access to clinical care (medical evaluation and management) for rape survivors is recommended to be maintained 24/7 with necessary modifications in referral pathways to increase access[UNFPA, WHO, FIGO, RANZOG, RCOG, RCM, FSRH, and UN Women](3, 4, 31, 33, 34).

Assisted reproductive technology(ART).

Its recommended that assisted reproduction (including diagnostic procedures for infertility) shouldn't be started during the pandemics except in cases of urgent fertility preservation such as in oncology patients, the cryopreservation of gametes, embryos or tissue can still be considered [ESHRE, BFS, FSA, HFEA, and ASRM]. For those already on treatment its recommended to freeze all for later embryo transfer(35-39).

Conclusions

Implications for practice.

There were consistent consensus statements and recommendations that there should be access to routine SRH services like ANC, PNC, essential newborn care, breastfeeding support, contraception service, safe abortion care and clinical management of rape survivors during the COVID-19 pandemics. The practice recommendations focus on minimizing patient and staff exposure to COVID-19 by utilizing telemedicine or digital health and includes the following: Telehealth (virtual visits) for antenatal and postnatal care with a reduced number of visits in women without risks and screening for COVID-19 of all women who present for face to face care; Community based (mid-wife led) or home births should be considered with functional back-up referral systems and modification (reorganization) of obstetrical

referral pathways, no-touch/no-taste early medication abortion or minimum contact safe abortion care and self-serving family planning.

Extended use of long term contraceptive methods or minimum contact long term contraceptive service provision is recommended during the pandemic. Additionally, during COVID-19 pandemics every stake holders should make sure medical, legal and policy mechanisms for victims of gender-based violence are in place. However, many recommend not to start a new assisted reproduction cycle during the pandemic except for fertility preservation and to freeze all embryo for those who were already on treatment.

Implications for research.

Most of the documents that are included in this review didn't pass through rigorous guideline development process because of the nature of the pandemic. New evidence is evolving with time as the duration of the pandemic extends. Hence, we recommend primary studies and systematic reviews to generate evidence on the impact of new practices, map and document best practice implementations.

Declarations

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Conflicts of interest.

The authors declare no conflict of interest in this review.

Authors' contribution.

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Figures

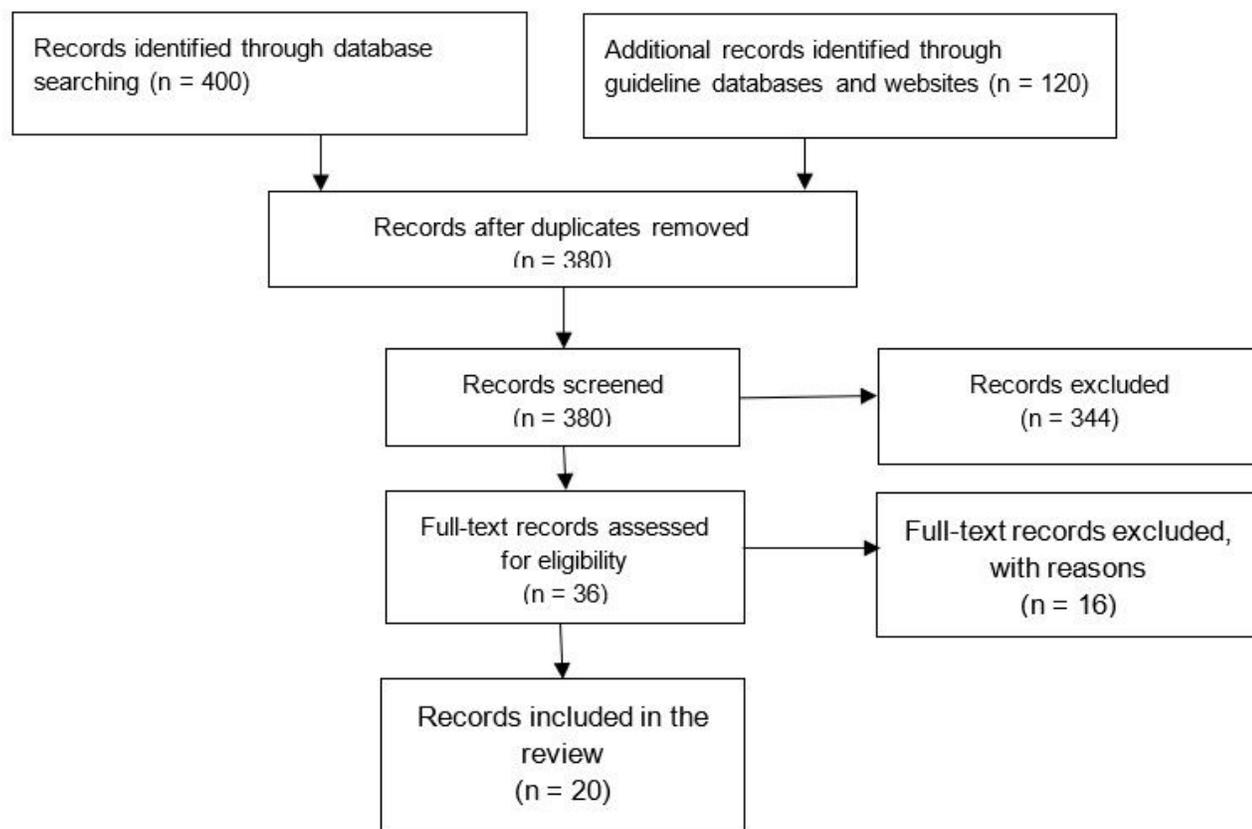


Figure 1

Study selection process. From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. <https://doi.org/10.1371/journal.pmed.1000097>.

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