The Impact of the COVID-19 Pandemic on Access to Contraceptives: A Systematic Scoping Review

The Impact of the COVID-19 Pandemic on Access to Contraceptives: A Systematic Scoping Review

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Abstract

Background

The COVID-19 pandemic was a disaster that had far reaching effects on healthcare services, one of which being sexual and reproductive health. By disrupting the majority of in-person healthcare services, as well as the function of many supply chains, people across the globe faced difficulties in accessing the goods and services they relied on. This review is attempting to answer the question, what were the impacts of the COVID-19 pandemic on women's access to contraceptives?

Methods

Web of Science was searched on February 26, 2025 for studies reporting on participants' ability to access contraceptives during the COVID-19 pandemic, compared to before and/or after. Studies must have been conducted exclusively in people who identify as women, and who were engaged with contraceptives at the start of the pandemic. Data were narratively synthesized and grouped based on changes in use of contraceptives attributed to pandemic, and unintended pregnancies.

Results

This review includes 7 included studies which represent 9 countries and 84,562 people. Women's ages range from 12-50 years. Study size ranges from about 200 to over 70,000. Available data suggests that the COVID-19 pandemic had deleterious effects on reproductive health. Fear of becoming infected prevented many women from accessing contraceptives as they were able to pre-pandemic. COVID-19 related economic losses have also been linked to changes in fertility intentions, in turn changing contraceptives and family planning for some women. There was a reduction in dispensing of pharmaceutical contraceptives, such as the hormonal pill. There was an increase in unintended pregnancies. However, widespread use of long-acting reversible contraceptives (LARCs) eliminated some risks that arise from disruptions in services.

Conclusion

The current structure of the health care delivery system does not support equitable access to contraceptives. COVID-19 is one of many factors that can exacerbate this. Globally, interventions to address gaps in sexual education have the potential to improve access to and knowledge of contraception; this may be particularly critical during disruptions such as COVID-19 which can impact supply chains and access to healthcare providers.

Introduction

Background

The COVID-19 pandemic was a disaster that had far reaching effects on healthcare services[1]. By disrupting the majority of in-person healthcare services, as well as the function of many supply chains, people across the globe faced difficulties in accessing the goods and services they relied on. One area that was impacted was sexual and reproductive health[2]. It is important to understand how disruptions impact the ability of individuals to actively participate in their sexual and reproductive health. This information is useful for healthcare professionals, manufacturers, and consumers alike. Better communication of needs can result in improved preparedness in the event of future global pandemics.

Supply chains are complex network systems that encompass the ability to produce and distribute goods and services in the condition, amount and to a location at the time it is needed[3]. These systems involve many different suppliers, retailers, and consumers, without which the product or service is not able to reach the populations who need it. When a disaster occurs, this can disrupt the function of supply chains in a number of ways. Not necessarily considered to be “essential services”, there were many disruptions in contraceptive access and family planning during the COVID-19 pandemic[4]. Family planning is cited as one of the 10 great public health achievements of the twentieth century, and is defined by the World Health Organization (WHO) as “the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births[5].” The purpose of this study is to determine the impact of the COVID-19 pandemic and ensuing disruptions on the ability of women to access and utilize contraceptives and family planning services.

Intersection with Policy

The ability to access contraceptives and engage in family planning are key factors in combating inequity across the globe. Family planning is a tool that can be utilized to combat gender inequality, promote women’s empowerment, and reduce poverty[6]. Disruptions in access to

these essential services can create serious challenges, specifically in female populations. Ensuring consistent access to contraceptives is a way to promote women's autonomy, and help them to achieve equity. The right to decide when, or if, a woman would like to have children is a universal right that has even been adopted as a goal by Healthy People 2030[7]. For some women who suffer from conditions such as Polycystic Ovary Syndrome (PCOS) certain methods of contraception are essential in treating symptoms. Without the proper systems in place, disruptions like the COVID-19 pandemic can create challenges in accessing contraceptives and family planning, in turn impacting women's health, rights, and autonomy. This review includes studies from around the world. Therefore, a variety of healthcare delivery systems are represented. While the structure and financing may vary, the function is the same. Access to contraceptives and family planning must be classified as essential services. This way, women will not lose access to this life altering care in the event of a disruption.

Rationale

Public health officials around the world are preparing for the next pandemic. No one knows where, when, or what it will be, but it is widely accepted that there will be another pandemic[8]. If there is anything to gain from the COVID-19 pandemic, it should be the knowledge on how to prepare for the future. In the field of sexual and reproductive health, the delivery of goods and services must be oriented in a way that is able to withstand disruptions. The goal of this review is to consider available evidence and inform strategies on how to strengthen the infrastructure that provides access to contraceptives and family planning. By strengthening this infrastructure, these goods and services will be more resilient, ensuring continued, uninterrupted, and widespread access.

Review Question

What were the impacts of the COVID-19 pandemic on women's access to contraceptives?

Methods

Inclusion Criteria

These methods were pre-specified in advance. To be included, studies must:

- Collect and report data on participants' ability to access contraceptives during the COVID-19 pandemic, as well as before and/or after.
- Collect and report data on one or more of the following:

    - The impact of the COVID-19 pandemic on supply chain network logistics for contraceptives.
    - The impact of the COVID-19 pandemic on participants' ability to actively engage in family planning.
- Not only report data exclusively related to abortions/abortion access.
- Be conducted exclusively in people who identify as women and were engaged with contraceptives at the start of the pandemic.
- Be a primary study (no systematic reviews).

Searching

I searched the Web of Science database on February 26, 2025. I used search terms that I worked with a subject librarian to develop. The search yielded 101 results. I then refined those results by only selecting the document type "article". This reduced the number of results to 84. I used the following search term:

> (((covid-19 OR coronavirus OR pandemic) AND (contraception OR contraceptive OR "family planning" OR "reproductive planning")) AND ((supply chain OR disruption OR availability OR manufacturing OR distribution))) AND (women)

Screening

After completing my search, I downloaded all of my search results into Zotero. Then, I utilized the platform Rayyan for the screening process. I uploaded all references from Zotero to Rayyan, then screened all studies at title and abstract stage. After removing any studies that do not fit my inclusion criteria, I screened the remaining studies at full text stage.

Data Extraction

I used a form in Excel that I designed to facilitate my data extraction. I extracted information on the following variables:

- Aims (purpose of conducting the study)
- Methods (country, study design)
- Participants (total number of participants, age)
- Method of Contraceptive
- Who is reporting the data (women themselves, observer)
- When was data on availability obtained (pre, during, and/or post COVID-19 pandemic)
- Types of Disruptions
- Outcomes (unintended pregnancies)

Data Synthesis

I grouped the studies that met my inclusion criteria into three groups based on the study results. The first group was created based on access to any type of contraceptives (availability of contraceptives *not* changed due to the pandemic or availability of contraceptives *was* changed due to the pandemic). The second group was created based on the type of contraceptive affected and the type of COVID-19 related disruption. The third group was created based on unintended pregnancies.

Critical Appraisal

This is a systematic scoping review. Therefore, I will not be doing a formal risk of bias assessment. Instead, I created the following variables and used them to extract data in order to attempt to indicate study quality:

- Availability of temporal, comparative data (if a study was able to provide data from before, during, and after the COVID-19 pandemic, I considered these to be more reliable)
- Article includes perspectives of people directly affected (I chose to prioritize studies which reported on direct participant experience, as this is a reliable indicator of accessibility)

Results

Results of the Search

My initial searches yielded 84 studies (Figure 1). I screened all of these at the title and abstract level, and excluded 26. I was able to retrieve and screen all remaining 58 full text articles, and excluded 50 due to wrong focus (19), wrong study duration (15), wrong population (11), and wrong study design (5). Ultimately, I included 7 studies and 8 papers (Asali, 2022, Rodriguez, 2023, Tres, 2022, Moreau, 2022, Wood 2021, Baffour-Duah, 2022, Mundra, 2024 & Fikslin, 2022).

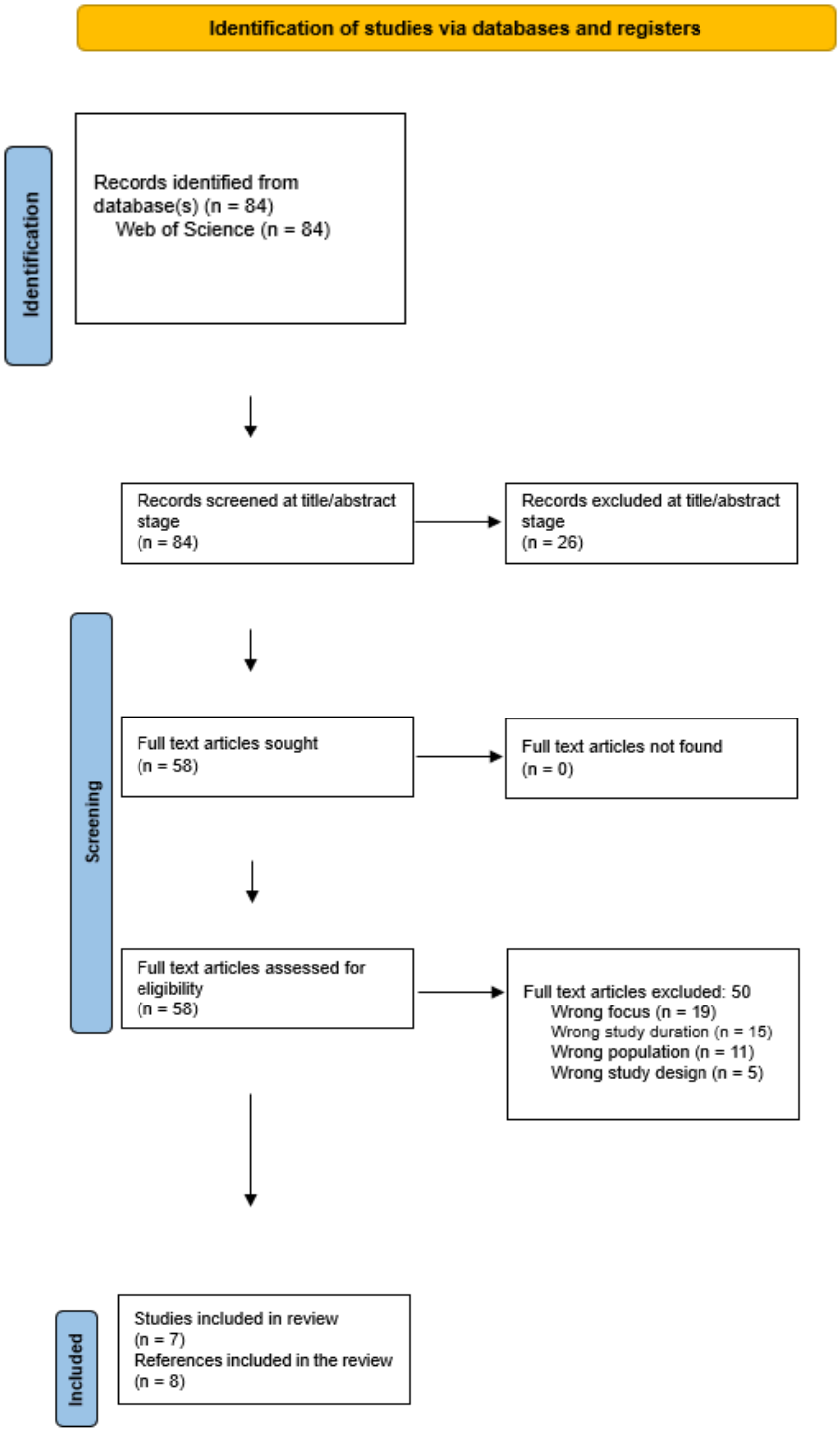

Figure 1. PRISMA diagram of study flow

Characteristics of Included Studies

Table 1 includes details of the 7 included studies. Overall, the included studies represent 9 countries and 84,562 people who identified as women and were engaged with contraceptives at the start of the COVID-19 pandemic (March 2020). Women's ages range from 12-50 years. Study size ranges from about 200 to over 70,000. One study looked specifically at the number of units of contraceptives dispensed. A range of quantitative and qualitative study designs were used, including cross-sectional, retrospective cross sectional, retrospective cohort, and longitudinal surveys. All studies were investigating the impact of the COVID-19 pandemic on contraceptive use. Studies also reported on the impact of the pandemic on unintended pregnancies. All data is available in Table 1, shown below.

Table 1. Characteristics of included studies

Study ID	Aims	Country	Study Design	Total # of Participants	Age	Method of Contraceptive	Women Reporting?
Asali 2022[9]	Report on what family planning methods women used during the pandemic, report if women changed their preferred methods and the reason for the change. Assess women's knowledge about the natural methods of family planning, which could be an alternative method in situations where services and accessibility to more effective methods are limited (large scale pandemic), and estimate unplanned pregnancies.	Jordan	Web based cross-sectional study	519	18-50 years	IUCD, depo-provera, COCP, condoms, vaginal ring, coitus interruptus, breastfeeding, rhythm method	Yes, survey questions completed via online questionnaire. Feedback from participants was taken into account when creating final questions.
Baffour-Duah 2022[10]	Determine the trends of immediate post-abortion contraceptive uptake among women who had induced abortion at a dedicated abortion centre in Johannesburg, South Africa.	South Africa	Retrospective cross-sectional and trend analysis	2010-2019: 11,338. 2019: 985. 2020: 668.	12-40+ years	Oral, injectible, IUD, implants.	No, utilizing clinic data.
Fikslin 2022[11]	Patterns of continuation and discontinuation of birth control and PrEP during the COVID-19 pandemic.	United States	Exploratory study, between April and June 2020.	217 women	Mean age was 27.73	IUD (44.1%), hormonal pills (41.9%), implants (8.8%).	Yes, structured interviews.

Study ID	Aims	Country	Study Design	Total # of Participants	Age	Method of Contraceptive	Women Reporting?
Moreau 2022[12] & Wood 2021[13]	Contraceptive use and unintended pregnancies measured before COVID-19 (November 2019 to January 2020) and during COVID-19 (November 2020 to January 2021). Examine population-level changes in the need for and use of contraception by women during the COVID-19 pandemic.	Burkina Faso, Kenya, Democratic Republic of Congo and Nigeria	Nationally and regionally representative longitudinal surveys	35 households per census enumeration area (EA)	15-49 years	Not specified	No, utilizing census data
Mundra 2024[14]	Assess the effect of the pandemic on the delivery/utilization of reproductive, maternal, newborn, child health, and adolescent (RMNCH+A) services.	India	Cross-sectional (July to December 2020)	200 pregnant women (PW), 200 postnatal women (PNC)	Mean age was 25 for PW and 26.3 PNC	Male sterilization, female sterilization, IUD, oral pills distributed, PPIUCD, PAIUCD, Antara	No, utilizing health systems data and interviews. Compared the health system data regarding maternal health services for the whole district for April-December 2020 with the data for April-December 2019.
Rodriguez 2023[15]	To understand how changes to in-person health care during the COVID pandemic impacted contraceptive use in Oregon's state-funded network.	United States	Retrospective cohort (January 2019 to June 2021)	70,295	12-51 years	Tier 1: IUD, implants. Tier 2: progestin injectable, pill/patch/ring	Yes, in-person and virtual contraceptive service visits in publicly-supported Clinics. Abstracted data from the Client Enrollment Form and Clinic Visit Record.
Tres 2022[16]	Looking at the municipal dispensation of contraceptives.	Brazil	Retrospective cohort (January 2019 to June 2021)	Collected number of units dispensed	N/A	Copper IUD, four different hormonal pills.	No, Evaluated reports of medication distribution spreadsheets from pharmacies.

IUCD: intrauterine contraceptive device; PPIUCD: postpartum IUCD; PAIUCD: post abortion IUCD; PW: pregnant women; PNC: postnatal women

Critical Appraisal

The variables I used to extract data in order to attempt to indicate study quality were the availability of temporal, comparative data and whether or not an article includes perspectives of people directly affected, favoring those that did include qualitative elements. Of the 7 included studies, only 3 included qualitative data (Asali 2022, Mundra 2024, and Fikslin 2022). All studies included temporal data from before and during the COVID-19 pandemic. Only 2 studies reported data from after the pandemic (Asali 2022 and Fikslin 2022).

Synthesis of Findings

In order to present the findings of my included studies, I grouped data into three tables. Table 2 shows contraceptive use during the pre-pandemic period, table 3 shows contraceptive use during the pandemic and attributed changes, and table 4 shows reports on unintended pregnancies.

Background on Use of Contraceptives Prior to the Pandemic

The 7 included studies report on use of contraceptives in a range of different ways, shown in Table 2 below. Asali[9] was conducted in Jordan, and includes data on modern vs. traditional methods of contraception. This included a range of different types of contraceptives (intrauterine contraceptive device (IUCD), depo-provera, combined oral contraceptive pill (COCP), condom, vaginal ring, coitus interruptus, breastfeeding, and the rhythm method. Prior to the pandemic, 79.8% of participants used traditional methods, and 82.1% preferred modern contraceptives. This data was collected via online questionnaire, and feedback from participants was taken into account when creating survey questions. Moreau[12] & Wood[13] also gathered information directly from participants in the form of interviews. This study began in November 2019, so phase 1 surveys were collected face to face by trained interviewers prior to the pandemic. Data was collected in Burkina Faso, Kenya, Kinshasa, Democratic Republic of the Congo and Lagos, Nigeria. It was reported that pre-pandemic, the majority of women in all four countries reported no use of contraception (70.1%, 52.2%, 55.4% and 60.6%). Of those who did report birth control, there was a range in less effective, effective, and highly effective methods.

Highly effective methods include intrauterine contraceptive devices (IUDs) which are a form of long-acting reversible contraceptives (LARCs). These were common in the preliminary data collected by Fikslin[11], which also collected data in the form of structured interviews. Mundra[14] conducted phone interviews, as well as utilizing health systems data, and reported what methods of contraceptives were being utilized by women who had recently been pregnant. Hormonal pills were found to be the most widely distributed, with IUDs being second. Baffour-Duah[10] focused specifically on post-abortion contraceptive uptake. Beginning in 2010 at a clinic in South Africa, data reports what percentage of women agreed to begin contraceptives

following an abortion and what type was used. From 2010-2019 73.51% agreed, and in 2019 91.78% of women agreed to post abortion contraceptive uptake. Rodriguez[15] also utilized clinic data, reporting 145,540 clinic visits by women within Oregon and Southern Washington at publicly supported clinics between January 2019 and February 28, 2020. Tres[16] evaluated pharmacy data to determine average monthly consumption (AMC) of a range of different contraceptive methods.

Contraceptive use During the Pandemic and Attributed Changes

Once baseline data was obtained, researchers were able to make comparisons with contraceptive use during the COVID-19 pandemic. Shown below in table 3, Asali[9] reported that 79.7% of women became more accepting of traditional methods (coitus interruptus, breastfeeding, and the rhythm method). 38.2% of the women in their study changed their contraceptive methods, reasons including limited access to family planning services (33.5%) and non availability of their preferred method (31.8%). Tres 2022[16] found that distribution of combined oral contraceptive pills (COCP) decreased by 44.18%, injectables decreased by 47.58%, and medroxyprogesterone acetate (MPA) decreased 13.98%. This led researchers to believe there was a decrease in utilization of contraceptives as compared to pre-pandemic in their study population of women who had been utilizing contraceptives prior to the pandemic. Lockdown restrictions created challenges in accessing in person reproductive health services. Baffour-Duah[10] noted how lack of access to in person services such as family planning visits were reported, indicating disruptions in care.

Mundra[14] also found that there were decreases in IUCD insertion, injectable and oral pill distribution. Rodriguez[15] notes that women who were able to get reproductive health visits were more likely to leave with a method of contraception, but less likely to be a tier 1 method (IUCD, implant) as compared to pre-pandemic. This was more likely to impact women in rural areas (vs. metropolitan) and those who were publicly insured. Tier 2 methods progestin injectable, pill, patch, ring, and are shown to be less effective than tier 1. However, some populations were less impacted by pandemic related disruptions. Fikslin[11] found that 92.5% of birth control users reported continuation of their birth control. Predominant reasons included long-acting reversible contraceptive (LARC) use, access to remote health-care services, and increased vigilance over pregnancy prevention. Moreau[12] & Wood[13] also reported that the majority of women were able to continue LARC use, and indicated there were no shortages in stock of contraceptives. They did report that the intention behind using contraceptives may have changed, as COVID-19 related economic losses have been linked to changes in fertility intentions.

Unintended Pregnancies

Overall, unintended pregnancies were impacted by the COVID-19 pandemic. Table 4 shows how these impacts varied between studies. Asali[9] reported that 183 women (35.3%) became pregnant during the pandemic period of September to December 2020. Of these, 90% were unplanned. Results showed that women who changed their routine family planning methods and women who accepted traditional methods of contraception were more likely to have unplanned pregnancy. The inconvenience associated with these was rated as high or very high by 54.7% of these women. These unplanned pregnancies were most common in multiparous women and women who had been married for less than 20 years. Researchers concluded that changes resulting from pandemic related disruptions influenced these unintended pregnancies. Tres[16] says that the impact of COVID-19 restrictions on unintended pregnancy at the population level remains undetermined. However, there was an increase in IUD insertion. This method has high contraceptive efficacy and long action. Therefore, this increase can greatly contribute to the reduction of unplanned pregnancy rates in this population. In their study, Moreau[12] & Wood[13] found that rates of women who were currently experiencing unintended pregnancy decreased by 0.7% in Burkina Faso, decreased by 0.2% in Kenya, increased by 0.2% in the DRC, and stayed the same in Nigeria.

The study population in Baffour-Duah[10] was specifically women who had legal termination of unintended pregnancy from January 1, 2010 to December 2020. Following this, there was an increased LARC uptake compared to hormonal pills, indicating a desire to prevent unplanned pregnancy throughout the pandemic. Fikslin[11] also noted that multiple participants expressed increased vigilance over pregnancy prevention during the pandemic. Women were motivated to avoid unintended pregnancy. One participant said, “I have ZERO desire to get pregnant and either seek an abortion or get prenatal care during a pandemic.” Family planning services were one of the worst affected during the pandemic, according to Mundra[14] . As per estimates, a mere 10% reduction in access to family planning services could result in around 49 million women with unmet needs for contraception and 15 million unintended pregnancies over the next 12 months globally. Rodriguez[15] notes that people of color and individuals who are low-income disproportionately experience disruptions in family planning service provision, likely exacerbated by the pandemic.

Table 2. Contraceptive use during pre-pandemic period

Study ID	Contraceptive Type	Pre-Pandemic Utilization	Reported by:
Asali 2022[9]	IUCD, depo-provera, COCP, condoms, vaginal ring, coitus interruptus, breastfeeding, rhythm method.	79.8% used traditional methods, 82.1% preferred modern over traditional methods (75.1%- confidence in efficacy, 46.5%- limitations of knowledge about traditional methods, 54.3% unaware of these traditional methods.)	Survey questions completed via online questionnaire. Feedback from participants was taken into account when creating final questions.
Baffour-Duah 2022[10]	Oral, injectible, IUCD, implants.	From 2010-2019: 73.51% of patients said yes to post-abortion contraceptive uptake. 2019: 91.78% yes. Of these, 7.09% or 8.12% oral, 65.52% or 80.71% injectible, 0.49% or 1.12% implants, 0.41% or 0.61% IUD, 26.49% or 8.22% none (no contraceptive uptake).	Clinic data.
Fikslin 2022[11]	IUD (44.1%), hormonal pills (41.9%), implants (8.8%).	A substantial portion of birth control users reported using long-acting reversible contraceptives (LARC)—with 47.0% using an IUCD (n = 62) and 9.1% using an implant device (n = 12)—rendering a large amount of the sample unlikely to be discontinuing during the pandemic. Remaining birth control users were either using hormonal pills (n = 57; 43.2%) or injection (n = 1; 0.8%)	Structured interviews.
Moreau 2022[12] & Wood 2021[13]	Any form of modern contraceptive.	Phase 1 surveys were collected face to face by trained resident interviewers before COVID-19 (November 2019 to January 2020). Contraceptive use among women in need was: Burkina Faso (43.2%), Kenya (71.3%), DRC-Kinshasa (71.8%) and Nigeria-Lagos (63.4%)	Interviews, census data.
Mundra 2024[14]	IUCD, oral pills distributed, PPIUCD, PAIUCD, Antara.	IUD insertion: 30.3, oral pills distributed: 457.3, PPIUCD: 58.5, PAIUCD: 6.4, Antara (injectible): 33.7	Utilizing health systems data and phone interviews.
Rodriguez 2023[15]	Tier 1: IUCD, implants. Tier 2: progestin injectable, pill/patch/ring.	145,540 visits. IUDS: 13.4%, Implants: 11.6%	In-person and virtual contraceptive service visits in publicly-supported clinics, abstracted data from the Client Enrollment Form and Clinic Visit Record.
Tres 2022[16]	Copper IUCD, four different hormonal pills.	Average Monthly Consumption (AMC)- IUD: 16, MPA: 565, LNG: 740, VE: 435, NETA: 25	Evaluating pharmacy records.

IUCD: intrauterine contraceptive device; MPA: medroxyprogesterone acetate; LNG: levonorgestrel; EE: ethinyl estradiol; EV: estradiol valerate; NETA: norethisterone acetate

Table 3. Contraceptive use during the pandemic and attributed changes

Study ID	Disruption	Intra-Pandemic Utilization	Change
Asali 2022[9]	38.2% changed their contraceptive methods. Women may have had more than one reason for the change; limited access to family planning services (33.5%), non availability of the preferred method (31.8%). 79.7% became more accepting of traditional methods.	30.1% obtained contraceptives over the counter from pharmacies, 43% from The Ministry of Health (public). 38.2% changed their contraceptive methods, women may have had more than one reason for the change; include limited access to family planning services (33.5%), non availability of the preferred method (31.8%)	38.2% of women surveyed changed their contraceptive methods; 31.8% of them experienced non availability of their preferred method of contraception.
Baffour-Duah 2022[10]	Decline in reproductive health consultations such as family planning visits and contraceptive use were reported in Liberia, Sierra Leone and Guinea during the Ebola outbreaks and six months after the epidemic, indicating that epidemics can have deleterious effects on reproductive health.	In 2020, 90.72% of patients said yes to post-abortion contraceptive uptake. Of these, 5.69% oral, 81.74% injectible, 1.35% implants, 1.05% IUD, and 9.28% none	There was an increase in women agreeing to take contraceptives following an abortion.
Fikslin 2022[11]	92.5% of birth control users reported continuation of their birth control, with the predominant reasons reported being use for health reasons, long-acting reversible contraceptive use, access to remote health-care services, and increased vigilance over pregnancy prevention.	10 people (7.5%) indicated plans to discontinue their birth control prescription during the lockdown. (92.5%) of birth control users reported continuation of their birth control, with the predominant reasons reported being use for health reasons, long-acting reversible contraceptive use, access to remote health-care services, and increased vigilance over pregnancy prevention	Overall, most people in this study were able to continue using birth control. This was influenced by the fact that many participants were using LARCs.
Moreau 2022[12] & Wood 2021[13]	There was a sustained use of contraceptives indicating there were no shortages (commodity stock had not run out yet), a high proportion of users relied on methods with prolonged duration (ex. Implants, IUCDs, multi pack contraceptive pills). COVID-19 related economic losses have been linked to changes in fertility intentions.	Phase 2 surveys (November 2020 to January 2021). Contraceptive use among women in need was: Burkina Faso (52.3%), Kenya (76.5%), DRC-Kinshasa (72.4%), and Nigeria-Lagos (69.7%).	Urban Nigeria experienced the largest increase in proportion of women in need of contraception from before the pandemic to during.

Study ID	Disruption	Intra-Pandemic Utilization	Change
Mundra 2024[14]	Coverage for both temporary and permanent methods declined during the pandemic as compared to the previous year.	April to Dec 2020- male sterilization: 3.1, female sterilization: 42.3, total sterilization: 39.1, IUD insertion: 20.1, oral pills distributed: 400.3, PPIUCD: 39.3, PAIUCD: 1.0, Antara (injectible): 6.1	There were decreases in all types of contraception, likely because these procedures were not able to be conducted during lockdown. Total sterilization decreased by 30.0, IUD insertion decreased by 10.2, oral pills distributed decreased by 57.0, postpartum copper IUD decreased by 19.2, post abortion copper IUD decreased by 5.4, and Antara (injectable) decreased by 27.6.
Rodriguez 2023[15]	People with visits were more likely to leave with a method of contraception, but less likely to be a tier 1 method as compared to pre-pandemic, particularly among rural areas and the publicly ensured. Less likely to impact women in metropolitan zip codes, more likely to be those without insurance. There was a decrease in the provision of both IUCDs and implants as compared to pre-COVID (visits with IUDs: pre 13.4%, acute 11.2%, visits with implants: pre 11.6%, acute 10.0%).	24,088 visits. IUDS: 11.2%, Implants: 10.0%	There was a decrease in the provision of both IUDs and implants. People with visits were more likely to leave with a method of contraception, but less likely to be a tier 1 method, particularly among rural areas and the publicly insured/uninsured. (Tier 1: IUCD, implants. Tier 2: progestin injectable, pill/patch/ring.) Less likely to be women in metropolitan zip codes.
Tres 2022[16]	There was a total reduction of 31.77% in the dispensing of contraceptives by units. There was a 160% increase in the use of progestogen-only oral contraceptives (may be because of the removal of desogestrel during the same period).	AMC- IUD: 23, MPA: 486, LNG: 413, VE: 228, NETA: 65.	There was a total reduction of 31.77% in the dispensing of contraceptives by units. There was a 160% increase in the use of progestogen-only oral contraceptives (may be because of the removal of desogestrel during the same period)

IUCD: intrauterine contraceptive device; COCP: combined oral contraceptive pills; PPIUCD: postpartum IUCD; PAIUCD: post abortion IUCD

Table 4. Reports on unintended pregnancies

Study ID	Unintended Pregnancy
Asali 2022[9]	183 women (35.3%) got pregnant during the curfew. 90% of these were unplanned. The inconvenience associated with these was rated as high or very high by 54.7% of these women. Women who changed their routine family planning methods and women who accepted traditional methods, as a result of pandemic related disruptions, were more likely to have unplanned pregnancies. Multiparous women and women who had been married for less than 20 years were more likely to have unplanned pregnancy.
Baffour-Duah 2022[10]	Study population was specifically women who had legal termination of unintended pregnancy from January 1, 2010 to December 2020. Increased uptake in Long Acting Reversible Contraceptive (LARC) uptake vs. hormonal pills following abortion during the COVID-19 era.
Fikslin 2022[11]	Multiple participants expressed increased vigilance over pregnancy prevention during the pandemic, motivated to avoid unintended pregnancy. One participant said, “I have ZERO desire to get pregnant and either seek an abortion or get prenatal care during a pandemic.”
Moreau 2022[12] & Wood 2021[13]	At each survey, women were asked about their current pregnancy status, whether the pregnancy was wanted or happened at the right time, their future fertility intentions, and current contraceptive behaviours. Pre-Pandemic surveys found that rates of women who were currently experiencing unintended pregnancy were: Burkina Faso (2.8%), Kenya (2.3%), DRC (2.6%), Nigeria (1.0%). During the pandemic, this changed to: Burkina Faso (2.1%), Kenya (2.1%), DRC (2.8%), Nigeria (1.0%). These rates decreased, decreased, increased, and stayed the same.
Mundra 2024[14]	Family planning services were one of the worst affected during the pandemic. As per estimates, a mere 10% reduction in access to family planning services could result in around 49 million women with unmet needs for contraception and 15 million unintended pregnancies over the next 12 months globally.
Rodriguez 2023[15]	The COVID-19 pandemic exacerbated already existing disparities in contraception and unintended pregnancy. People of color and individuals who are low-income disproportionately experience disruptions in family planning service provision.
Tres 2022[16]	The impact of COVID-19 restrictions on unintended pregnancy at the population level remains undetermined. However, there was an increase in IUD insertion. This method has high contraceptive efficacy and long action. Therefore, this increase can greatly contribute to the reduction of unplanned pregnancy rates in this population.

Discussion

Summary of Main Results

The studies included in this review present a wide range of results. One shift that occurred was some women's relationship with modern contraceptives. A fair amount of women, 79.7% in one study, became more accepting of traditional methods of contraception (coitus interruptus, breastfeeding, and the rhythm method) as a result of the pandemic. This has been seen in the wake of other pandemics, such as Ebola in some African countries. 38.2% of the women in their study changed their contraceptive methods. Reasons for this included limited access to family planning services (33.5%) and non availability of their preferred method of contraception (31.8%). The pandemic resulted in reduced distribution of combined oral contraceptive pills (COCP), reaching a 44.18% reduction in some places, when compared to pre-pandemic amounts. This leads researchers to believe that there was a decrease in utilization of contraceptives in women who had been utilizing contraceptives prior to the pandemic. Lockdown restrictions created a number of challenges in accessing in-person reproductive health services. Disruptions in access to in-person family planning services were also reported in a number of African countries during the Ebola outbreaks, and this disruption continued to have impacts for at least six months following the pandemic. This indicates that epidemics can have deleterious effects on reproductive health, some of which last for months after.

Due to a lack of in-person services, and fear of infection preventing some women from leaving the home, there were decreases in IUCD insertion, injectable and oral pill distribution. Women who were able to get reproductive health visits were more likely to leave with a method of contraception, but were less likely for it to be a tier 1 method (IUCD, implant) as compared to pre-pandemic. Tier 2 methods include progestin injectable, pill, patch, and ring, and are shown to be less effective than tier 1. This tells us that not only did the distribution of contraceptives change, but also the methods being distributed. Women in rural areas (vs. metropolitan) and those who were publicly insured were more likely to be affected.

Some populations were less impacted by pandemic related disruptions. In some studies, as many as 92.5% of participants reported continuation of their birth control. Predominant reasons included long-acting reversible contraceptive (LARC) use, access to remote health-care services, and increased vigilance over pregnancy prevention. The majority of women were able to continue LARC use, and indicated there were no shortages in stock of contraceptives. However, they did report that the intention behind using contraceptives may have changed, as COVID-19 related economic losses have been linked to changes in fertility intentions. This resulted in hyper vigilance, in some women, to avoid pregnancy.

Strengths & Limitations of the Literature

There has been extensive research published on the COVID-19 pandemic globally. Many studies have been conducted in an attempt to assess the impact of the pandemic on women's health. However, most researchers are focused on care administered during the pandemic, rather than specifically access to different methods of contraceptives. As such, many of the studies yielded by my initial search provided a snapshot of the state of women's health during the pandemic, but lack a comparison with access before and/or after the pandemic. I was specifically interested in the ability of women to access contraceptives before, during, and after the pandemic in the United States, and there were limited studies conducted in the United States specifically. I also wanted to focus on the impact of supply chain disruptions, and there was a lack in literature that illustrated the impact of supply chain on women's ability to access their normal methods of contraception. Therefore, this review is primarily based on research from countries outside of the United States. There is a wide range of study populations, but these results may not be generalizable to all female populations. Only 3 out of 7 studies utilized qualitative data (Asali 2022[9], Fikslin 2022[11], Rodriguez 2023[15]). The remaining 4 studies would have benefited from providing perspectives from women affected to supplement quantitative data.

Strengths & Limitations of the Review Process

This review was conducted following predetermined methods that I created with the help of multiple experts in this field. However, I was the only researcher completing data extraction. Therefore, one limitation of this review process is that data extraction was not done in duplicate, and some relevant data may have been mistakenly excluded. Another limitation was that studies were only obtained from one database (Web of Science). Therefore, there is a chance I missed relevant studies on other databases. Because I was the sole reviewer, there is a chance I missed some relevant studies during the search process as well as misidentification during screening.

Findings Situated in the Broader Literature

The findings of this review align with larger studies which have pulled articles from multiple databases. Evidence from a review done by Geleto et al. found that there are likely 60 million less users of modern contraception across the world as a result of COVID-19 related disruptions[17]. This has the potential to have resulted in 1.4 million unintended pregnancies globally. The magnitude of this problem has resulted in a number of different studies, each focusing on unique elements of contraceptive access and/or family planning. Many systematic reviews have been published in an attempt to understand the direct impact of the COVID-19 pandemic on access to contraception in countries around the world. In terms of family planning, these services are commonly studied in low-income countries. While this information is

extremely valuable, I think there is a gap in research in the United States. Family planning is a tool to promote gender equity and autonomy in women, regardless of socioeconomic status. Therefore, it is extremely important there are studies being done in a variety of different populations and demographics.

Contextual Considerations

It can be difficult to isolate the COVID-19 pandemic as a specific exposure affecting contraception when there are already a number of confounders. In order to truly understand the effects, we need to consider the range of variables that can affect contraception. Even if the population was limited to women in the United States, varying state level legislation and cultural norms results in a plethora of unique strengths and limitations. The current structure of the health care delivery system does not support equitable access to birth control. Women who live in rural areas vs. metropolitan areas were subject to more disruptions in access to healthcare (Rogriguez). Women utilizing public insurance were also more likely to be impacted by disruptions. These are important factors to consider in the ability of women to actively engage in family planning, and utilize contraceptives as they intend to. Disruptions that resulted from the COVID-19 pandemic can illustrate weaknesses in the structure of providing health care for women across the world.

Next Steps

The current geopolitical climate is threatening contraceptive access. In the United States, the *Dobbs v. Jackson Women's Health Organization* decision is already having far reaching consequences on the delivery of sexual and reproductive health care[18]. Therefore, there is a need for further research on how women are interacting with contraceptives, and strengthening the structure of delivery. COVID-19 exacerbated gaps in access to care that must be addressed in order to be prepared for future disruptions. Globally, interventions to address gaps in sexual education have the potential to improve access to and knowledge of contraception. This would allow family planning to be executed more effectively and have a greater impact on reducing unintended pregnancies[19].

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