# MINISTRY OF HEALTH OF THE KYRGYZ REPUBLIC

# THE IMPACT OF COVID-19 PANDEMIC ON SEXUAL AND REPRODUCTIVE HEALTH OF WOMEN IN THE KYRGYZ REPUBLIC



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The conclusions and recommendations presented in this publication are those of the authors and do not necessarily reflect the views of UNFPA

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#### **EXPRESSION OF GRATITUDE**

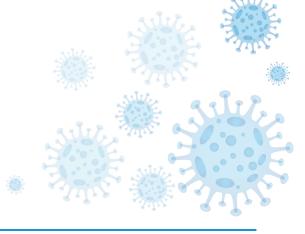
This study was made possible by the technical assistance of the United Nations Population Fund.

We thank all those who provided data for the assessment, completed the surveys and collected the questionnaires.

Our sincere appreciation goes to our colleagues, who continue to stand at the frontline of the fight against the new COVID-19 infection and help people to cope with the disease despite the danger of infection, the unknown virus, the incredible workload and the moral fatigue.

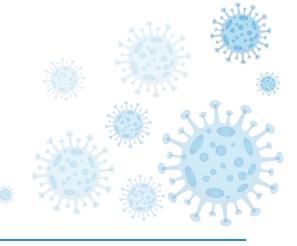
We are grateful to each interviewee for their assistance in the research as well as for their patience and understanding.

We express our sincere condolences to the relatives and friends of the deceased women!



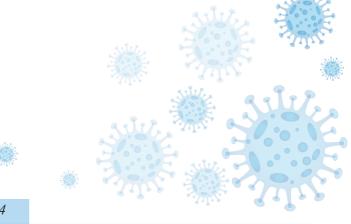
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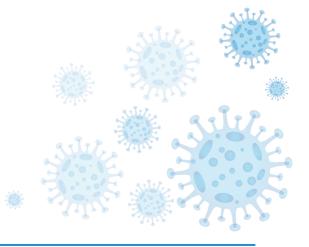
# THE LIST OF A BBREVIATIONS

HIV	Human immunodeficiency virus
IUD	Intrauterine device
WHO	World Health Organization
FDG	Family Doctor's Groups
WFA	Women of fertile age
WRA	Women of reproductive age
STIs	Sexually transmitted infections
KFPA	Kyrgyz Family Planning Alliance
KR	Kyrgyz Republic
CT	Computer Tomography
MoH KR	Ministry of Health of the Kyrgyz Republic
НО	Healthcare Organization
FP	Family Planning
AIDS	Acquired immunodeficiency syndrome
SRH	Sexual and Reproductive Health
FMC	Family Medicine Center
SE	State of Emergency
ES	Emergency situation
UNFPA	United Nations Population Fund



#### **KEY FINDINGS**

- 1. In the Kyrgyz Republic, COVID -19 deaths made a statistically significant difference in the overall maternal mortality rate in the country, with more than one-third of maternal deaths 39.7% (27 cases out of 68 deaths) attributed to COVID-19 and/or community-acquired pneumonia.
- 2. The rate of maternal mortality associated with SARS-CoV-2 was 17.5 cases per 100,000 live births. This was 2.8 times higher than in the United Kingdom, where the rate was 6.2 per 100,000 live births [4].
- 3. The period of isolation influenced the decrease in the availability of services such as contraception counseling, violence, termination of unwanted pregnancy, diagnosis and treatment of STDs.
- 4. The main barrier to receiving services was the recommendation to stay at home during the isolation period.
- 5. 79.4% of health workers indicated that they experienced a lack of knowledge in their work, where great difficulties were related to the triage of patients and the differential diagnosis between COVID-19 and other conditions, which can be accompanied by fever, respiratory complications, etc.
- 6. 100% of the interviewed medical workers mentioned the shortage of nursing staff as a very important factor influencing the care provided.



# GLOSSARY

Abortion	Termination of pregnancy (spontaneous expulsion or extraction of the embryo/fetus) before 22 weeks of gestation or before the fetus weighs 500 grams
Antenatal period	Pregnancy period
Safe motherhood	Safe motherhood involves achieving the best possible maternal and newborn health. It is to reduce maternal mortality and morbidity, improve newborn health by ensuring equitable access to primary health care, including family planning, monitoring and care during pregnancy, childbirth and the postpartum period for mother and infant, access to essential obstetric and neonatal care
Miscar riage	Accidental fetal loss before 22 weeks of pregnancy
Cesarean section	Childbirth by surgery - opening the abdomen and cutting the uterus.
Contraception	Methods and means of unwanted pregnancy prevention
Confidential	Trustworthy, based on trust
Maternal mortality	Death of a woman due to pregnancy (regardless of its duration and location), occurring during the pregnancy or within 42 days after its termination, from any cause related to the pregnancy, aggravated either by it or its management, but not from an accident or accidental cause.
Maternal mortality	Deaths resulting from obstetric complications related to pregnancy
from direct causes	(during pregnancy, childbirth, and the postpartum period), as well as from interventions, omissions, improper treatment, or in the chain of events following any of the above.
Maternal mortality from indirect causes	Death as a result of a preexisting illness or disease developed during pregnancy, unrelated to the immediate obstetrical cause, but aggravated by the physiological effects of pregnancy.
Stillbirth	Death of the product of conception before its complete expulsion or extraction from the mother's body, regardless of the duration of the pregnancy.
Migration	Population transfer within the country or from one country to another.
Abuse (WHO)	The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation.
Family planning	A system of social, medical and legal measures aimed at the conscious choice by citizens to have and raise a certain number of children, to observe intervals between births, and to preserve the reproductive health of citizens.
Preeclampsia	A complication of pregnancy characterized by high blood pressure after 20 weeks of pregnancy and pronounced proteinuria (the presence of protein in the urine)
Reproduction	Progeny reproduction
Reproductive health	The state of complete physical, mental health and social well-being of an individual, which determines his/her ability to reproduce offspring.
Reproductive period	The part of a woman's life during which she is capable of giving birth. The duration of the reproductive period is characterized by indicating the limits of reproductive age. In demography, reproductive age refers to the age of women between 15 to 49 years

Reproductive rights	The rights of citizens to procreation, protection of their reproductive health and free decision-making in regard to having or not having children whether married or not, methods of conception and childbirth, as well as the right for medical, social, informational and advisory assistance in this sphere.
Childbirth/delivery	The process by which a fetus is born; it can be delivered through the natural birthor by cesarean section.
Pre term (premature) delivery	Delivery at less than 37 full weeks' gestation
Delivery (mature)	Delivery at 37 full weeks to less than 42 full weeks
Delayed (post -term) delivery	Delivery at 42 full weeks or more
Sexual health	A state of physical, mental, and social well-being that defines a safe sexual life free of violence, discrimination, or coercion.
Sexual rights	An integral part of human rights based on the principles of liberty, dignity and equality.
Pregnancy -related deaths	Death of a woman while pregnant or within 42 days of the end of pregnancy, regardless of cause
Death by coincidence or accidental cause	Death during pregnancy or in the postpartum period from a cause unrelated to the pregnancy.
Pulmonary thromboembolism	Sudden failure of blood flow in a branch of a pulmonary artery due to clogging by a thrombus, resulting in the cessation of blood supply to the pulmonary tissue supplied by the branch.
State of emergency	A temporary measure introduced in the entire territory of the Kyrgyz Republic or in its certain areas, which is used exclusively in the interests of ensuring the safety of its citizens and the protection of the constitutional order and represents a special legal regime of state bodies, local governments, organizations, regardless of ownership, which allows the establishment of certain restrictions on the rights and freedoms of citizens, foreign citizens and state less persons, as well as the rights of legal entities and imposes additional obligations on them
Emergency situation	The situation that has developed in a certain territory of the Kyrgyz Republic as a result of a dangerous natural or mammade phenomenon, accident, catastrophe, natural or other disaster, the impact of modern means of destruction that may or have caused human casualties, damage to human health or the environment, significant material losses and disruption living conditions of people. Emergency mode is introduced by the government.
Apgar Scale	Assessment of the newborn's physical status with evaluation scores (0 to 2 for each of the five criteria - heart rate, respiratory movements, muscle tone, response to stimulation, skin color).
Eclampsia	The occurrence of one or more seizures unrelated to other manifestations of brain disorders in a woman during pregnancy, childbirth, or within 7 days after delivery.

#### INTRODUCTION

The emergence of the SARS -CoV-2 virus raised immediate concerns about the impact of infection on pregnant women. Social distancing, home isolation, and reduced outpatient visits as a necessity during a pandemic inevitably lead to disruptions in sexual and reproductive health (SRH) services. The analysis of the impact of COVID-19 on women's reproductive health will provide insight into how government, civil society and other initiatives can be used more effectively to ensure adequate access to health services and other appropriate measures to protect and supportWRA (women in reproductive age), including pregnant women and the vulnerable segment of the female population.

The existing guidelines and recommendations of the MoH of KR

- 1. Temporary guidelines, version 1, approved by the decree of the MoH of KR #173, on March 20, 2020
- 2. Version 2 updated and approved by the decree of the MoH of KR #219, on April 5, 2020 05.04.2020
- 3. Provisional Clinical Guidelines for the Diagnosis and Treatment of Coronavirus Infection (COVID-19) Version 3, Order No. 387 of June 08, 2020.
- 4. Provisional Clinical Guidelines for the Diagnosis and Treatment of Coronavirus Infection (COVID-19) (Version 4) for all health care levels, Appendix 1 to MoH Order #649 from August 25, 2020.



#### **BRIEF OVERVIEW**

As a result of increasing incidence rates of the new COVID-19 virus, first reported in December 2019 from Wuhan, China, the WHO declared a global pandemic on March 11, 2020

The first case of infection in the territory of Central Asian countries was recorded on March 13, 2020 in two citizens of the Republic of Kazakhstan arriving from the Federal Republic of Germany.

On March 18, the first case of COVID-19 infection was recorded in a citizen of the Kyrgyz Republic arriving from Saudi Arabia.

At the beginning of the epidemic the number of people infected in large cities of the Kyrgyz Republic was insignificant. Thus, as of April 9, 2020, in the capital city of Bishkek and in the second most populous city of Osh there were only 36 cases per city. The highest number of infected people during the whole epidemic period was in Osh city (for comparison, on the same date, April 9, there were 98 cases, while on May 15 - 182 cases) and Jalalabad oblast (86 and 153correspondingly), which can be explained by the way the virus entered the country. It was brought in by the group of pilgrims, performing the so called "small hajj" (umra). This process is not controlled by state bodies and Spiritual Administration of Muslims of Kyrgyzstan, because pilgrimage is organized on commercial basis by tour operators. After their return, pilgrims tradfionally meet with many people. These mass events led to the spread of infection [1].

Children's pre-schools, schools and institutions of higher education in the country were closed for quarantine on March 16, 2020.

The state of emergency (SE) introduced due to the penetration of the coronavirus infection into the Kyrgyz Republic and to prevent its spread began to operate in the territory of the republic on March 22.

On March 25th a more severe state of emergency was established in Bishkek, Osh and Jalal-Abad cities, as well as in Kara-Suu and Nookat districts of Osh province and Suzak district of Jalal-Abad province.

On April 15, by presidential decree, a state of emergency was imposed in the city of Naryn and At-Bashy District of the Naryn Province.

In total, the state of emergency declared due to the spread of the coronavirus infection lasted 47 days in several regions in Kyrgyzstan.

During this period, the cities of Bishkek, Osh and a number of other settlements were under curfew, during which movement of vehicles and citizens was prohibited. In addition, almost all enterprises and organizations were closed. Sanitary-quarantire block posts were placed in these territories and could be crossed according to strict rules only. A special regime of entry and exit of citizens was introduced in Bishkek and Osh.

In case of necessity of hospitalization, it was recommended to call an ambulance. During the active spread of the new coronavirus infection, a significant reduction in outpatient capacity also occurred in the obstetric and gynecological area. Changing priorities in health care delivery led to reduced access to family planning services, abortions, prenatal care, detection and treatment of HIV infection, gender-based violence and mental health care This caused an increase in the incidence and

consequences of unplanned pregnancy, unsafe abortions, sexually transmitted infections, pregnancy complications, miscarriage, post-traumatic stress disorder, depression, suicide, partner violence, and maternal and infant mortality.

#### ANALYSIS METHODOLOGY

Two methods were used to carry out the analysis:

- 1. Desk Research systematization and analysis of available secondary information:
  - official government statistics and reports of relevant government agencies on COVID-19:
  - Reports and studies of international and non-governmental organizations;
  - *Publications in the media and Internet;*
  - Other open data sources.

The desk analysis provided a set of data to assess and understand the situation in SRH in the Kyrgyz Republic under COVID-19 conditions, forming a number of hypotheses, which can later be verified through additional took proposed in this study, such as a questionnaire survey of target groups, as well as focus group discussions [2].

- 2. Questionnaire a basic set of questions to assess the availability and quality of services that characterize SRH care provision:
- 2.1. Family planning a system of social, medical and legal measures aimed at the conscious choice by citizens to have and raise a certain number of children, to observe intervals between births, and to preserve the reproductive health of citizens.
  - 2.2. Safe pregnancy, maternal and child health, including:
    - Antenatal care (not less than 9 visits)
    - Delivery by a qualified health care professional at the appropriate level of healthcare organization
    - Postpartum care/patronage (within 3 days after delivery)
    - A woman's knowledge of warning signs during pregnancy and after childbirth.
  - 2.3. Violence, stigma and discrimination against sexual health, sexual orientation, health status and gender.
  - 2.4. Pre- and post-abortion care- performing safe induced abortions provided according to the law.
  - 2.5. Sexually transmitted diseases and HIV/AIDS

During the development of these questions, the group was guided by the following aspects:

- 1. Has a woman felt the need in SRH care?
- 2. Was she able to receive the care needed (availability of services during Covid-19);
- 3. If she has not received services, the recipient was requested to identify the reason within the following categories:
  - No access to healthcare organization
  - Unavailable transportation,
  - Unavailable laboratory
  - The patient had no access to information.
- 4. Inaccessibility of the service under certain reasons resulted in

- Unwanted pregnancy,
- The disease progression,
- Complications

Target groups to be surveyed:

- 1. Pregnant women, women in labor and parturient women;
- 2. Visitors of FDG/FMC.
- 3. Medical workers of obstetric hospitals, FMC and FDG

Questionnaire methodology . A total of 183 women were interviewed over 2 days, on October 6 and 7, 2020, including 148 women in maternity hospitals in Osh and Bishkek and 35 patients in FMC and FDG. (Table #1).

Table #1

№	Respondent's categories	Abs.	Rel.
1.	Pregnant women in FMCs/FDGs	10	5,5
2.	Pregnant women in a maternity hospital	31	16,9
3.	Parturientwomen in hospital	87	63,9
4.	Gynecologists patients in FMCs and FDGs	10	5,5
5.	Parturientwomen in red zone	15	8,2
	Total	183	100%

Within two days of October 6 and 7, 2020, 63 medical workers were interviewed in maternity hospitals and in the FMCs/FDGs of Osh and Bishkek.

#### THE ANALYSIS RESULTS

According to operational data, in 2020, the following was observed:

- 1. The total number of 849 pregnant women/women in labor/and parturient women were diagnosed with COVID-19
- 2. 27 (3.2%) cases of new infection were fatal.

#### MATERNAL MORTALITY

In the year of 2020 68 women in Kyrgyz Republic died as a result of complications during pregnancy, childbirth and within 42 days of the postpartum period, which amounted to 44.1 cases per 100,000 live births.

There was an increase in maternal deaths, with 16.2 more deaths per 100,000 live births in 2020. Compared to 2019, the increase constitutes 58.4%.

Out of 68 maternal deaths, nearly one in two women died from COVID -19 related causes (27 out of 68 - 39.7%). Meanwhile, the maternal mortality rate associated with SARS-CoV-2 was 17.5 cases per 100,000 live births. This is 2.8 times higher than in the United Kingdom (6.2 per 100,000 live births) [4].

The maternal mortality rate not related to the new infection COVID-19, was 26.6 cases per 100,000 live births.

Thus, maternal mortality due to COVID-19 in 2020 statistically significantly changed the maternal mortality rate in the country.

In the Kyrgyz Republic, deaths from COVID -19 statistically significantly changed the overall maternal mortality rate in the country, when more than a third of maternal deaths- 39.7% (27 cases out of 68 deaths) were related to COVID-19 and/or community-acquired pneumonia.

#### **DECEASED WOMEN**

In the Kyrgyz Republic, 27 women died of SARS -CoV-2 in 2020, representing 3.2% of the total number (849 cases) of patients diagnosed with COVID-19.

Of the 27 women who died, 13 (48.1%) had confirmed SARS -CoV-2 infection at the time of death and 14 (51.2%) were diagnosed with pneumonia.

According to the data accumulated for 9 months' period of 2020, it was noted that the proportion of deaths in the group of patients with confirmed coronavirus infection was 5.5%, while in the group of women with only clinically confirmed diagnosis it was 1.5%. Thus, laboratory-confirmed coronavirus infection is an important factor increasing the risk of maternal mortality.

The average age of those who died was 31.8±3.2 years, ranging from 22 to 45 years.

Women who were about to give birth for the fourth time died the most (8 to 29.6%). Mortality was equally common among first-time mothers (6 to 22.2%) and those who were about to deliver their third baby (6 to 22.2%). An upcoming second birth was expected in 14.8% (4) and a fifth birth in 11.2% (3).

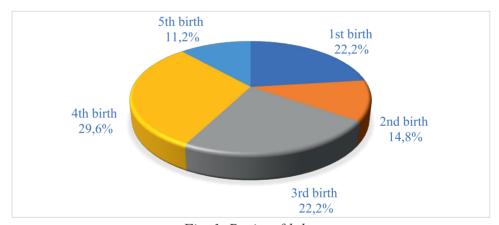


Fig. 1. Parity of labor

According to medical records 24 (88.9%) of deceased women were housewives. Only 1 woman (3.7%) had permanent job and 2 women (7.4%) identified categories like "private entrepreneurship, sewing". Unemployment remains a significant social indicator, which increases maternal mortality.

Antenatal care was provided for 20 deceased women (74,1%). 7 women (25,9%) were not registered with HO as pregnant.

Of the 20 pregnant women registered, most were observed at the level of the urban family medicine center. Six (6) women (30%) were observed at the level of the district FMC; 4 women (20%), 7 (35%)

were observed in rural family physician groups, and 3 (15%) pregnant women were observed at the Feldsher Obstetric Point (FOP)(Fig. 2).

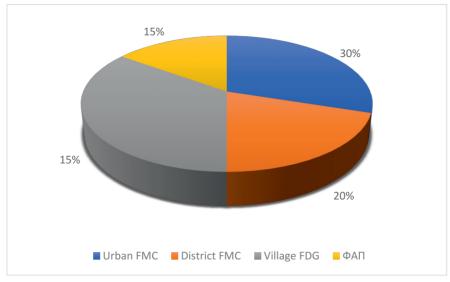
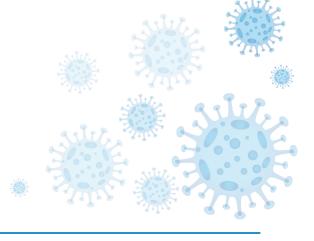


Fig. 2. Level of facility where prenatal care was provided

One woman died while pregnant, 19 – after giving birth. Birth through caesarian section prevailed in 84.2% (16) of cases.

Most of the women were delivered prematurely (57.7% - 15), with an average gestational term of 31.8 weeks and ranging from 22 to 35 weeks. Deliveries at full-term were 42.3% (11).

In 8 (29.6%) cases, along with COVID-19, there were such pregnancy complications as severe preeclampsia (5 cases, 18.5%), premature detachment of the normally located placenta (2 cases, 7.4%), and antenatal fetal death (2-7.4%). Extragenital pathology has been observed in 5 (18.5%) cases, including decompensated diabetes in 3 (11.1%) cases, nodular goiter in 1 (3.7%) case, and chronic hypertension in 1 (3.7%) case. These data indicate that in COVID-19 diabetes mellitus and severe preeclampsia are risk factors for maternal mortality.



Place of death.

In Kyrgyz Republic maternal and child care is being provided in three level of perinatal care (Fig. 3).

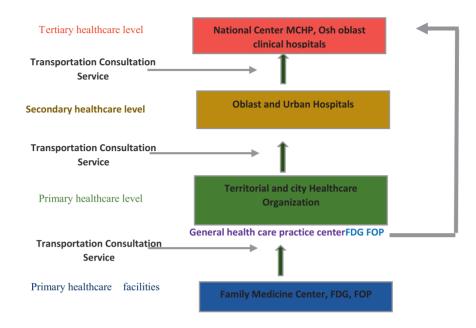


Fig. 3. Three level system of perinatal care services provision

However, according to the Order of the Ministry of Health of the Kyrgyz Republic # 156 of 17.03.20, there were certain hospitals assigned to provide care to patients with COVID-19. Most women died in Level II hospitals - 59.3% (16 deaths), every third woman (37.0% - 10) died in Level I hospitals, and only one woman (3.7%) died in tertiary level hospitals.

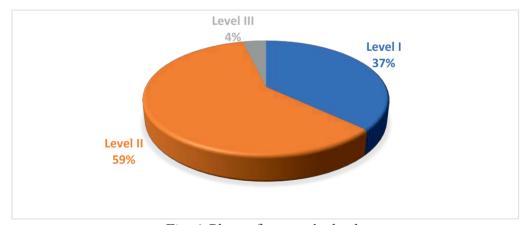


Fig. 4. Place of women's deaths

There was one alarming case of a woman who died by suicide when, after giving birth, she threw herself out of a maternity hospital window and died of multiple traumas.

#### **CONCLUSIONS**

- 1. Maternal mortality in the Kyrgyz Republic during 2020 was 44.1 cases per 100,000 live births, compared to 26.1 cases per 100,000 in 2019.
- 2. In the maternal mortality pattern, more than onethird of deaths, 39.7% (27 cases out of 68 deaths) were due to COVID-19 and/or community-acquired pneumonia.
- 3. In the Kyrgyz Republic, COVID -19 deaths made statistically significant change in the overall maternal mortality rate in the country.
- 4. Risk factors for maternal mortality in COVID-19 are diabetes mellitus and severepre-eclampsia.

#### PATIENT S' SURVEY RESULTS

The objectives of the study were:

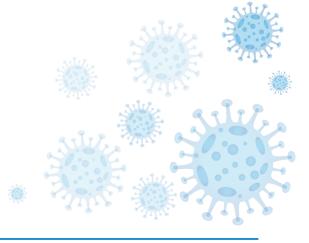
- 1. Determine the need for SRH services.
- 2. Determine the availability of SRH services.
- 3. Identify possible barriers related to COVID-19 interventions in the country in the provision of SRH services.
- 4. Determine the degree of awareness of pregnant/parturient women/women on COVID -19.

The average age of the respondents was 30.8 and ranged from 22 to 48 years.

Table 2 presents respondents' answers about their needs for SRH services. As you can see, almost one third of the respondents needed contraception services, including the insertion of an IUD (9.8%) and counseling on contraception (19.1%). As a result of the fact that the contraception service was not received, a third of the respondents needed abortion services and most of those in need (88.5%) did not receive this service. Perhaps this figure would have been higher, since the structure of respondents was dominated by pregnant women, women in labor and postpartum women. However, if we consider that at the beginning of the pandemic and the announcement in the country of restrictions related to COVID-19, most of the respondents were either in the early stages of pregnancy or at the planning stage, it can be assumed that about 10% of the children born were not planned. A quarter of respondents (24.6%) noted that they are not satisfied with the quality of antenatal care Postpartum patronage was necessary for 1.6% of the respondents and none of these women received this service.

The need for violence services is noteworthy. Despite the fact that only 8.7% of respondents needed this service, sadly, none of them, received this service.

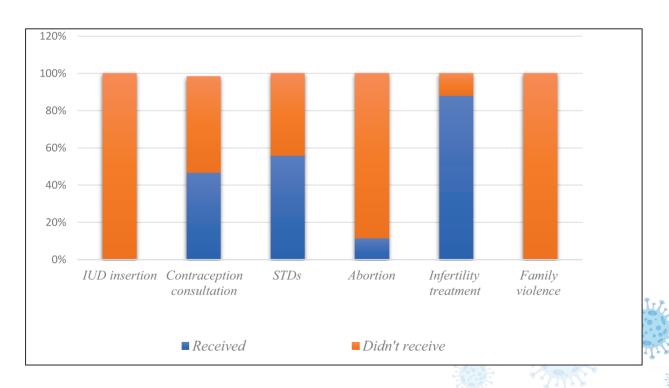
All respondents noted that they received timely assistance for such obstetric complications as bleeding, preeclampsia, childbirth and obstetric care.

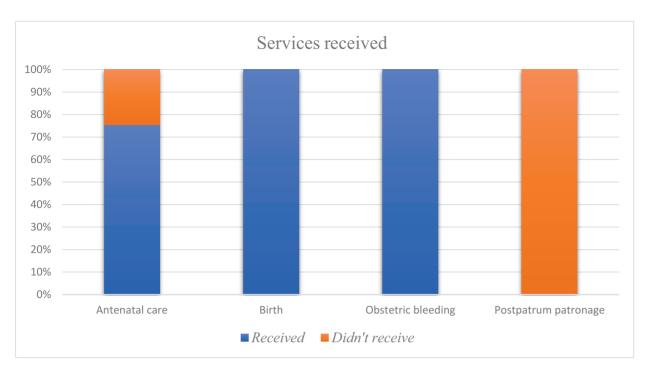


## The need in SRH services.

Table #2

Services	Were in no service	Have not received		
	Abs.	Rel.	Abs.	Rel.
Contraception (IUD insertion)	18	9,8	18	100
Contraception consultations	35	19,1	18	51,4
STIs and HIV prevention, diagnosis and treatment	52	28,4	23	44,2
Unwanted Pregnancy and Abortion	52	28,4	46	88,5
Infertility treatment	17	9,3	2	11,8
Domestic Violence	16	8,7	16	100
Pregnancy care	162	88,5	45	24,6
Childbirth and delivery care	132	72,1	0	0
Obstetric hemorrhage	7	4,8	0	0
Preeclampsia	7	4,8	0	0
Issues related to dangerous signs during pregnancy	44	23,8	9	20,5
Postpartum care	3	1,6	3	100





The main reason why services were not received was the recommendation of a medical worker not to leave home (40%), most often this was indicated by patients who need counseling on the prevention, diagnosis and treatment of STIs and HIV, unwanted pregnancy and abortion, counseling on contraception, least of all inantenatal care(Fig. 4). 32% of respondents noted that they could not receive the service because of the block posts, with most of this indicated by women who needed counseling on contraception and termination of unwanted pregnancies. 14% of respondents admitted that they themselves were afraid to go to see a medical professional. 14% of respondents noted lack of money as a reason for receiving services. There were practically no barriers to accessing childbirth and emergency obstetric care (EOC) services.

Thus, the analysis of the answers to this set of questions showed that in the provision of services, the prioritization was made for childbirth, obstetrics and EOC. In the case of pregnancy, the health worker recommended staying at home, given that the patient was in a satisfactory condition. However, the assessment of the patient's condition was carried out by the woman herself.

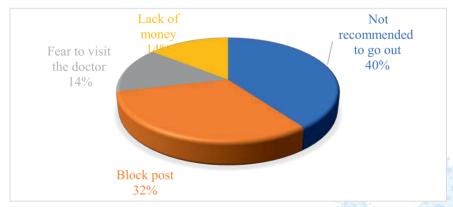


Fig. 4. The obstacles for services provision

When studying the availability of laboratory and diagnostic services, it was found that the greatest availability was in the study of urinalysis and CBC (Complete blood count). The needs for chest CT, consultation with a therapist and COVID-19 test were 100% met. These results are possibly due to the fact that the study was conducted in specialized maternity hospitals accepting patients

with COVID-19. Along with the above, attention is drawn to the fact that the need for the study of smears on flora was satisfied only by 30%.

#### Need for laboratory and diagnostic services

Table #3

Services	Were in need of service	Receiv	ed service
	Abs	Abs	Rel
Urinalysis	150	138	92,0
CBC (Complete blood count)	103	87	84,5
Flora smear	60	18	30,0
COVID-19 test	47	47	100
Chest x-ray	32	19	59,3
Chest CT scan	28	28	100
Consultation with a general practitioner	32	32	100

They survey showed that b ased on their companison with previous experience, 78.7% of respondents noted that they needed presence of their partner during childbirth.

#### The level of COVID -19 awareness.

According to the respondents the two main sources of COVID -19 information are television (32.5%) and mass media (radio, TV, newspapers) - 20%. A medical worker as a source of information was mentioned by 15% of respondents.

72.3% of respondents did not know the answer to the question of whether skin-to-skin contact is possible if their mother is suspected or confirmed to have coronavirus. 88.9% of respondents answered that they did not know if breastfeeding was possible if mom was suspected or confirmed to have coronavirus. In addition to the above, all female respondents showed good awareness of preventive measures and risk reduction for coronavirus infection.

#### **CONCLUSIONS**

- 1. It can be assumed that lack of contraception counseling led to unwanted pregnancies and the birth of unwanted children.
- 2. The main obstacle in receiving services was the recommendation to stay at home during the period of isolation.
- 3. Setting the priority of obstetrics and emergency obstetric careover SRH services made other services unavailable.

#### MEDICAL WORKERS 'SURVEY RESULTS

On October 6 and 7, 2020, 63 medical workers were interviewed in maternity hospitals and FMC/FDGs of Osh and Bishkek in the framework of one-stage full-length study. The average age of the respondents was 39.6 years and ranged from 22 to 63 years. Of all respondents, 82.5% (52) of health workers had worked or are currently working in the red zone.

For the most part, health care providersindicated that they received information from a variety of sources. Thus 100 % of respondents indicated the National clinical protocol, but 81,8 % of them indicated their colleague as a source of professional information along with the National clinical protocol; in 40 % - CP of other countries, mainly Russia and Republic of Kazakhstan. 60% of medical workers considered the received information to be highly useful, 33.3%, assessed it as average and 6.7% indicated it as of low use (Fig.5).

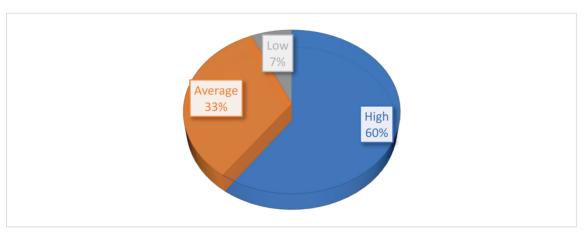


Fig. 5. The assessment of information received

82.5% of health care providers indicated that they were trained in the management of patients with COVID-19. The main form of training was online.

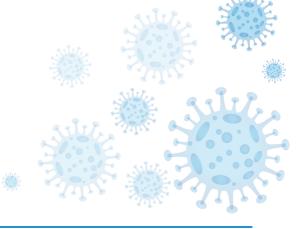
In spite of the above, 79.4% (50) of respondents indicated that they lacked knowledge in their work. 81% (51) of medical workers outlined two types of tasks as the most difficult: the procedure of patient triage and differential diagnosis of COVID-19 with other conditions, which may be accompanied by fever, respiratory complications, etc.

All respondents said that the quality of services would have been different if COVID -19 had not been present, pointing out that all factors related to the pandemic interfered with the work. Thus, multiple services such as lung CT, fetal ultrasound, abortion, postpartum contracepton (IUD), transfer to another HO and counseling by a psychologist became highly difficult to provide. The impossibility to have partners' presence at birth was particularly noted as a disadvantage.

All respondents noted a shortage of medical staff.

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## Questionnaire for client/citizen

I represent the patient survey Covid-19 research group. You were randomly selected for this interview. If you will allow me, I would like to ask you a few questions. The information received from you will be used only in a generalized form. You can refuse to answer any of the questions. You can end the interview at any time. You can also opt out of the study. The interview will last approximately 15 minutes.

Sex $M$ $F$			
Your age Your national ity	Your education:  Incomplete secondary ed.  Secondary  Vocational school  Incomplete higher ed.  Higher education		
Marriage status :  • Single • Married • Widow • Divorced	You reside in :  Perman  1.The capital  2.Oblast town  3.District center  4.Village		emporary
•	following services from March to date (answ	ver on eac	ch line
please)	Service	Yes	No
Contraception (IUD insertion)	Service	103	110
Receiving contraceptives			
Preventing, diagnosing, and treat	ing STIs and HIV		
Unwanted Pregnancies and Abor			
Infertility treatment			
Domestic Violence			
Antenatal care			
Childbirth and delivery care	*		
Obstetric hemorrhage			
Preeclampsia			
Issues, related to dangerous signs	during pregnancy		
Postpartum cardpatronage			

2) Have you received the service?

Contraception (IUD insertion)  Contraception consultation  Preventing, diagnosing, and treating STIs and HIV  Unwanted Pregnancies and Abortions  Infertility treatment  Domestic Violence  Antenatal care	Service	Yes	No	Other
Preventing, diagnosing, and treating STIs and HIV  Unwanted Pregnancies and Abortions  Infertility treatment  Domestic Violence  Antenatal care	Contraception (IUD insertion)			
Unwanted Pregnancies and Abortions Infertility treatment Domestic Violence Antenatal care	Contraception consultation		مإيان	
Infertility treatment  Domestic Violence  Antenatal care	Preventing, diagnosing, and treating STIs and HIV	-		
Domestic Violence Antenatal care	Unwanted Pregnancies and Abortions		Silve	sile.
Antenatal care	Infertility treatment			THE STATE
	Domestic Violence		All.	STATE OF THE
	Antenatal care			
Childbirth and delivery care	Childbirth and delivery care			silve of
Transportation to HO	Transportation to HO			

Issues, related to dangerous signs during pregnancy		
Postpartum carépatronage		

3) If you received a service, indicate who provided it to you and mark with «X»:

Service	Private	Public clinic	Other
	clinic		
Contraception (IUD insertion)			
Contraception consultation			
Preventing, diagnosing, and treating STIs			
and HIV			
Unwanted Pregnancies and Abortions			
Infertility treatment			
Domestic Violence			
Antenatal care			
Childbirth and delivery care			
Issues, related to dangerous signs during			
pregnancy			
Postpartum cardpatronage			

4)	Are you insured	(mark with	« <b>X</b> »)
	<i>Yes</i>		
	<i>No</i>		

5) How did you receive the service during lock -down (please mark with «X»)

Service	Online (on the	Offline (during
	phone)	the visit)
Contraception (IUD insertion)		
Contraception		
Preventing, diagnosing, and treating STIs and HIV		
Unwanted Pregnancies and Abortions		
Infertility treatment		
Domestic Violence		
Antenatal care		
Childbirth and delivery care		
Obstetric hemorrhage		

5) Indicate why you think you did not receive services you needed (please mark with «X»)?

The service was received	Received	«X»
with delay		
Contraception (IUD)	I couldn't get through to the health care provideron	
	the phone	37
	The health care worker advised not to leave the house	de F.
	I could not get through a block post	3
	I was afraid to go to the appointment myself	
	I had no money	1.8
	Other	9979
Contraception	I couldn't get through to the health care provideron	
consultation	the phone	5.00
	The health care worker advised not to leave the house	
	I could not get through a block post	

	I was afraid to go to the appointment myself	
	I had no money	
	Other	
Preventing, diagnosing,	I couldn't get through to the health care provideron	
and treating STIs and	the phone	
HIV	The health care worker advised not to leave the house	
,	I could not get through a block post	
	I was afraid to go to the appointment myself	
	I had no money	
r r , 1	Other	
Unwanted pregnancy and	I couldn't get through to the health care provideron	
abortion	the phone	
	The health care worker advised not to leave the house	
	I could not get through a block post	
	I was afraid to go to the appointment myself	
	I had no money	
	Other	
Infertility treatment	I couldn't get through to the health care provideron	
	the phone	
	The health care worker advised not to leave the house	
	I could not get through a block post	
	I was afraid to go to the appointment myself	
	I had no money	
	Other	
Family violence	I couldn't get through to the health care provideron	
	the phone	
	The health care worker advised not to leave the house	
	I could not get through a block post	
	I was afraid to go to the appointment myself	
	I had no money	
	Other	
Intenatal care	I couldn't get through to the health care provideron	
	the phone	
	The health care worker advised not to leave the house	
	I could not get through a block post	
	I was afraid to go to the appointment myself	
	I had no money	
1 , 1 ,	Other	
ssues, related to	I couldn't get through to the health care provideron	
dangerous signs during	the phone	99
pregnancy	The health care worker advised not to leave the house	7. 7.
	I could not get through a block post	16 3
	I was afraid to go to the appointment myself	
	I had no money	1.
	Other	
Postpartum	I couldn't get through to the health careprovider on	924
care/patronage	the phone	
	The health care worker advised not to leave the house	00
	I could not get through a block post	
	I was afraid to go to the appointment myself	
	1 was ajraia io go io ine appoiniment myseij	
	23	6 . 7

	I ha	d no money				
	Oth	er				
	d to receive the		iagnostic and advisory s	services for the	he p	eriod fro
Service Service	present (answe	er for each i	me, please)		Yes	No
Urinalysis					res	INO
	te blood count)					
<u> </u>	elvic organs, pre	panancy)				
COVID-19 te	0 1	gnancy)				+
Chest x-ray	<u> </u>					
Chest CT sca	 n					
	with a general pr	actitioner				
) Did you rec	eive, the following	ng diagnosti	c and advisory services	when need	ded ?	
Service		Yes	No (Why?)		Othe	r
Urinalysis						
	od count (CBC)					
Flora smear						
COVID-19 te	st					
Chest x-ray						
Chest CT sca						
	with a general					
practitioner						
•	v the answers to t	he followin	g questions :			
Question				<u> </u>	Yes	No
	vou have any war					
	vou go into labor.					
	ou contact after a eding, lower abdo		you have problems (feve etc.)?	?r,		
What happens	if you give birth	during the p	period of self-isolation?			
Can I transmi	t the coronavirus	to my baby	?			
Will I be able	to stay with my b	aby (skin -te	o-skin) if I am suspected	lor		
	nave coronavirus:		, ,			
Will I be able	to breastfeed my	baby if I an	n suspected or confirmed	d to have		
coronavirus?						
If you have	previous experier	nce of partne	er delivery, please an	swer the foll	owing c	luestions
<b>№</b> Question			•		Yes	No
	need your partne		<u> </u>	2		7.79
		ne presence	of a health care profess	ional		
	he birth?		3		ALL.	
3. Are you	satisfied with you	ır delivery?		311/	20 4	9

a dilitar		4	
7	Silve		
		71178	- A - O

10) From w hat sources did you obtain information on Covid -19?

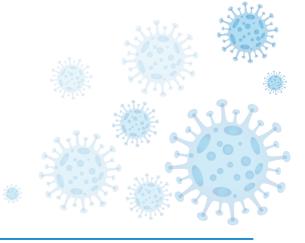
Medical worker Television Press

Relatives	
Acquaintances	
Others	

11) Please indicate w hat can you do to reduce the risk of contracting the coronavirus?

No	Action	Yes	No
1.	Wash your hands regularly		
2.	Use tissues when you or someone in your family coughs or sneezes,		
	throw it away and wash your hands		
3.	Avoid contact with someone who is showing symptoms of		
	coronavirus. These symptoms include high fever and/or the occurrence		
	of a new and persistent cough.		
4.	When possible, avoid using public transportation unnecessarily		
5.	Work from home when possible		
6.	Avoid large or small gatherings in public places		
<i>7</i> .	Social distancing (1.5m)		
8.	Avoid meeting with friends and family. Stay in touch using remote		
	technology such as the telephone, Internet, and social media.		
9.	Use phone or online services to contact your therapist or other		
	important services		

12) Rate your mood on a 5	-point scale (1-ver	y bad, 5-very good)



# Questionnaire for medical workers

I represent the Covid-19 research group. You were randomly selected for this interview. If you will allow me, I would like to ask you a few questions. The information received from you will be used only in a generalized form. You can refuse to answer any of the questions. You can end the interview at any time. You can also opt out of the study. The interview will last approximately 15 minutes.

Sex				
Ag	e our education :	You reside in :		
Y	<ul> <li>Incomplete secondary ed.</li> <li>Secondary</li> <li>Vocational school</li> <li>Iincomplete higher ed</li> <li>Higher education</li> </ul>	1.Capital 2.Oblast town 3.District center 4.Village	Permanent	Temporary
1)	Have you worked in the Red zone  Yes No	?		
2)	Do you work in red zone at the moments Yes No	nent?		
3)	Which sources did you use to obtain	n necessary professional	information about	COVID -19?
Ì	Medical worker/colleague			
7	Television Television			
1	Press			
(	Clinical protocols of our country			
(	CPs in other countries			
(	Others (please specify)			
4)	How did you evaluate the information with <b>«X»</b> )  High  Average  Low	on you received and was	s it useful to you?	(please, mark
5)	Have you been trained in managing <i>Yes No</i>	pregnant women with	COVID -19?	
6)	Have you been trained in managin YesNo	g patients with COVII	D -19?	
7)	Please indicate how you have been to Online Offline	trained?		
8)	If you have been trained, how wou HighAve rageLow	uld you evaluate the usef	fulness of informat	ion received ?
9)	Was this information helpful to you	in your everyday work?	The sale	6.00
7)	Yes	in your everyday work?		E 87 2. ( )
	100	2.5		4 91199

<i>No</i>
10) Have you experienced any lack of knowledge in your work?
<i>Yes</i>
<i>No</i>
11) Please evaluate your current COVID -19 knowledge
Sufficient
Insufficient
12) Please indicate what kind of information you are missing most at present?

# 13) After the spread of COVID -19

No	Have you experienced difficulties in accessing the	Major	Some	No
	following services while providing assistance	difficulties	difficulties	
10.	COVID -19 lab diagnostics (in your institution)			
11.	Lab diagnostics of the following in your healthcare			
	organization:			
	Urine			
	CBC			
	Blood coagulation system			
	Biochemical Blood Analysis			
	D-dimer			
	C-reactive protein			
	Procalcitonin			
12.	Diagnostics:			
	Chest X-Ray			
	CT			
	Ultrasound			
13.	Differential diagnosis of COVID -19 and pregnancy			
	complications:			
	PTS			
	Pyelonephritis			
	Chorioamnionitis			
	Influenza			
14.	Medical supplies (please supply)			
15.	Abortion			
16.	Postpartum contraception(IUD insertion)			
17.	Interval IUD management			
18.	Delivering a baby through the natural birth canal			
19.	Carrying out a Caesarean section			
20.	Personal protective equipment			
21.	Triage point			
22.	Resuscitation assistance			
23.	Shortage of equipment			
24.	Insufficient medical staff			الد
25.	Lack of knowledge		99812	2.60
26.	Getting advice from senior colleagues (obstetrician-			
	gynecologists, anesthesiologists)	silv.		31
27.	Receiving an online consultation from a related		63,846.0	
	specialist (pulmonologist, internist, etc.)	34.00	9.7.	
28.	Getting advice from a psychologist		Sisk a	9772
29.	Communication/connection	- 9	3::5	. 0

14) After the spread of COVID -19

No	Have your patients had difficulty accessing the following services	Major difficulties	Some difficulties	No
1.	Lab diagnostics of COVID -19 (in your institution)			
2.	Lab testing:			
	Urine			
	CBC			
3.	Diagnostics:			
	Chest X-Ray			
	CT			
	Ultrasound			
4.	Medical supplies			
5.	Abortions			
6.	Postpartum contraception(IUD insertion)			
<i>7</i> .	Interval IUD			
8.	Antenatal care			
9.	Postpartum patronage			
10.	Childbirth with the partner			
11.	Referral to another HO			
<i>12</i> .	Consultation with psychologist			
13.	Knowledge of the danger signs of pregnancy/partum			
	and the postpartum period			
14.	Knowledge of signs of infection characteristic of			
	coronavirus			
15.	Other			

15) Have your patients been informed about the following:

№	Question	Yes	No
1.	What happens if you give birth during the period of self-isolation?		
2.	Can I transmit the coronavirus to my baby?		
3.	Will my child be tested for Coronavirus?		
4.	Will I be able to stay with my baby (skin -to-skin) if I am suspected		
	or confirmed to have coronavirus?		
5.	Will I be able to breastfeed my baby if I am suspected or confirmed		
	to have coronavirus?		

16) Do you think that in case of COVID-19 absence the quality of services would have been
different (mark with "X" and provide your comments below, please):
«No»
«Yes», explain why