



Reproductive birth control after the coronavirus pandemic

Nina E. Rusanova¹

¹ Branch of the Federal State Budgetary Scientific Institution Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences, Moscow, 117218, Russia

Received 11 May 2022 ♦ Accepted 28 September 2022 ♦ Published 31 December 2022

Citation: Rusanova NE (2022) Reproductive birth control after the coronavirus pandemic. *Population and Economics* 6(4): 178-188. <https://doi.org/10.3897/popecon.6.e90355>

Abstract

Changes in measures and instruments of birth control are one of the consequences of the coronavirus pandemic in all countries with increased significance of reproductive components, i.e. concerning physiological capabilities of conception, gestation and childbirth. Pandemic-associated measures had diverse impacts on restrictive (aimed at reducing fertility) and expansionary (aimed at increasing fertility) methods of reproductive regulation: it did not take methods of pregnancy prevention and artificial termination of pregnancy long to adapt to the new conditions without changing the established trends, while assisted reproductive technologies, following administrative bans of the first days of mass lockdowns, demonstrated new development directions upon removal of bans.

Against the background of the progress in the medical component, increasingly bringing in- vitro fertilization closer to natural conception, the scale of state funding and the number of free of charge programs for patients have increased, however, due to anti-epidemic control, cross-border reproductive care or fertility tourism, relevant for surrogacy and reproductive donation, has become more complicated. In Russia, this has intensified public discussions and contributed to further elaboration of reproductive legislation.

Keywords

medicalization of fertility, abortions, contraception, assisted reproductive technologies, in-vitro fertilization, public health

JEL codes: J13

Introduction

On March 11, 2020, The World Health Organization (WHO) announced that the COVID-19 epidemic has acquired the status of a global pandemic. This has quickly and radically changed organization of reproductive care and provision of reproductive health services,

primarily contraception and abortion: in the first weeks of the pandemic, more than 5.5 thousand inpatient and mobile reproductive clinics in 64 countries were closed (IPPF 2020). Although there were no official recommendations to refrain from conception anywhere, several professional international associations of fertility specialists have immediately called for a moratorium on programs on medically-associated reproduction (MAR) and assisted reproductive technologies (ART) to avoid potential COVID complications in infertility treatment, pregnancy, childbirth, as well as to save personnel and resources for possible COVID-associated repurposing (British Fertility Society 2020; ESHRE News; ASRM 2020).

The coronavirus pandemic has highlighted problems concerning reproductive characteristics of fertility as a basic process of demographic development. They are related to regulation of the individual number of births, and are aimed both at limiting births through abortions and contraception, and increasing births through medicalization of the processes of conception and pregnancy. Despite different goals, almost all methods of reproductive regulation are legal only within the framework of the public health system, and therefore, during the pandemic, they turned out to be dependent upon COVID restrictive policies. Epidemiological control measures have differently affected the pre-COVID trends in the number of births: some recovered a few months after removal of the most severe restrictions, while others were modified to a varying degree.

The final results are yet to be determined, since, for example, data on the ART results become available two years upon completion of the current cycles of in-vitro fertilization (IVF), however, new trends have already been outlined; the purpose of the study is to identify those new trends. The study used the following sources of information — official and industry statistics (Russian Federal State Statistics Service (Rosstat) of the Ministry of Health of the Russian Federation, Russian Association of Human Reproduction (RAHR), European Society of Human Reproduction and Embryology (ESHRE)), as well as materials of sociological surveys conducted in 2020-2022, published in open access or conducted with participation of the author.

Major goals and methods of reproductive birth control prior to the COVID-19 pandemic

Reproductive birth control is an impact on biological components of reproductive and self-preserving behavior to limit or stimulate fertility through prevention, termination and stimulation of pregnancy. Historically, the beginning of such regulation has been legalization of abortions and widespread of effective contraception in order to reduce the number of births, however, introduction of ART into public health practice has made it possible to address the opposite problem of increasing fertility and changing the reproductive dominant in society from reduced reproductive opportunities for demographic development to their expansion. If we are to evaluate reproductive policy through the ratio of the number of abortions and ART cycles performed, even if they did not result in live birth, the reproductive dominant shows what society really strives for - reducing reproductive opportunities for demographic development (abortions predominate) or expanding them (ART predominates).

Until the beginning of the XXI century, Russia exemplified prevalent negative reproductive dominant, which was associated with both peculiarities of contraceptive behavior, abortion traditions, and underdevelopment of the ART market, however, in 1995-2019 the degree of negative influence decreased almost two hundred times (from 749.7 abortions per ART cycle to 3.76), which was due to changes in the state demographic policy priorities (Fig. 1). Contracep-

tion has always been less controlled by the state, except for methods actually aimed at terminating births - sterilization and intrauterine devices legally installed only in medical institutions, which have developed a steady downward trend by the beginning of the pandemic (Fig. 2).

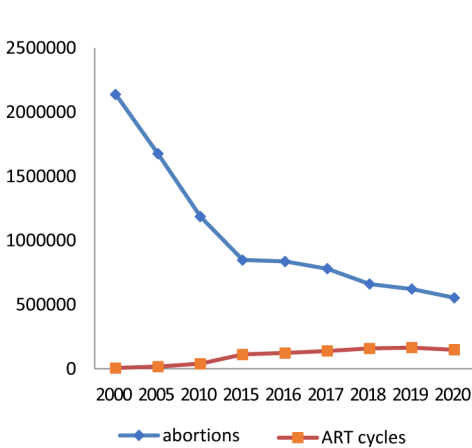


Fig 1. Dynamics in ART cycles and abortions conducted in Russia in 2000-2020, unit. Sources: (Demograficheskij... 2021: 71; Zdravoohranenie... 2021: 59; Registr VRT... 2022).

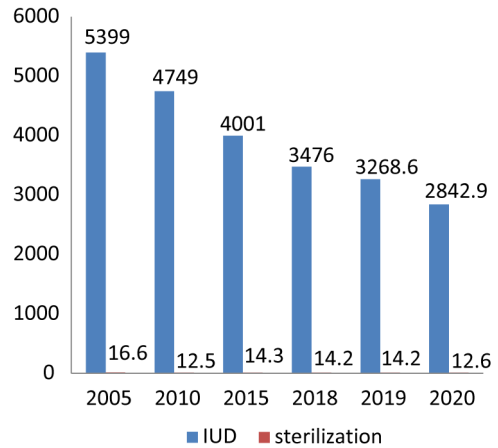


Fig 2. Dynamics in the use of intrauterine devices (IUD) and sterilization in Russia in 2005-2020, unit. Sources: (Demograficheskij... 2021: 71; Zdravoohranenie... 2021: 59; Registr VRT... 2022).

Restrictive trends did not fundamentally change at the beginning of the pandemic, although in the first weeks of quarantine, the problem of abortion as an invasive manipulation, often not allowing for a long wait, was actualized. In Russia, since the beginning of quarantine, abortions have been tacitly included in the number of planned surgeries, that were postponed until stabilization of the epidemic situation resulting in permission to terminate pregnancy under Compulsory Health Insurance (CHI) policies only as an exceptional case. The situation has stabilized fairly quickly, and the number of abortions at active reproductive age continued to decline (Table. 1), including due to intensification of totally negative attitude towards abortions – up to 13% (VCIOM 2022).

Abroad, the first reaction was also restrictive, yet taking into account national specifics: in conditions of increased epidemic danger, some U.S. states completely banned abortions in March, in France they transferred medical abortions to the telemedicine system, in the UK they decided to provide pills for medical abortion to everyone, and from April 14 to May 10, 2020, almost half of all abortions were performed “online” (Church et al. 2020).

Table 1. Some indicators of the abortion dynamics in Russia in 2019 and 2020.

years	total	Including					Among primigravida
		Females aged:					
		0-14	15-17	18-44	45-49	50 +	
2019	621652	440	5141	609617	6359	90	52150
2020	553495	447	3862	542409	6673	104	50581

Source: Rosstat.

The problem of contraception was associated with logistics, border closures and lockdowns, due to which there were interruptions in the supply of contraceptives, lasted for an average of 3.6 months. Although they decreased during the first pandemic year, 12 million women in different countries reported lack of access to family planning services and 1.4 million of them faced unplanned pregnancy (UNFPA 2021).

ART in different countries during the pandemic

On the eve of the pandemic, ART has been widely considered the most effective method of infertility treatment, which was diagnosed in 10–12% of the population in the developed countries. Technological features of these programs contributed to higher demand even in case of subfertility and absence of any health disorders (for example, in case of social infertility). As a result, laws were adopted to define relevant scope of work of the national regulatory authorities, and the ART development at the beginning of the pandemic turned out to depend upon the general epidemiological situation, characteristics of public health systems, as well as patients' age and diagnosis.

In countries where strict quarantine was not declared (for example, Belarus), actions to curb the COVID-19 spread were limited to strengthening special sanitary and hygienic measures, but envisaged the possibility of temporary closure of reproductive centers in case of significant deterioration of the epidemiological situation and their repurposing as COVID hospitals.

Restrictive requirements were binding for public medical institutions only, therefore, private Swedish clinics continued to implement ART programs. In Belarus, only clinics in the areas with hard epidemiological situation were temporarily closed in full or in part; and already on May 18, 2020. Decree of the President of the Republic of Belarus No. 171 "On social support for certain categories of citizens" ensured one free IVF try. The program eligibility requirements were approximately similar to the first Russian free quotas: procedures could be carried out only by state organizations with medical indications and lack of medical contraindications determined by the Ministry of Health, only for couples where both spouses are citizens of the Republic of Belarus and a woman is aged under 40 (Tishkevich 2021). Thus, ART from a highly specialized method of infertility treatment became an instrument of the state pronatalist demographic policy, funded through the budget.

The absolute majority of countries have introduced nationwide quarantines and reduced direct contacts between patients and doctors as much as possible, completely stopping ART protocols in January–February 2020 in China, in March - in Spain, the U.S. and Australia (except for cases of oncologic fertility) and making consultations distant. The cycles that had been already initiated were completed, all received eggs and embryos were frozen, all transfers were canceled until a state permit to resume planned IVF, which was granted as new cases of COVID-19 were reducing.

Where the state did not impose a complete ban on ART, professional associations of reproduction specialist focused on the ESHRE recommendations, specifics of the national health system and ART program structure: the Kazakhstan Association of Reproductive Medicine (KARM) has transferred almost all reproductive centers online, while in Georgia, ART programs were performed only by small private clinics (up to 500 cycles per year) and were not subject to the state restrictions on planned medical care. Attendance in person of the program participants turned out to be a problem, since most of them focused on repro-

ductive donation and surrogacy for foreign patients. There was no direct ban on performing ART in the UAE, but the total number of patients decreased by about 60% due to state quarantine measures. (Lokshin et al. 2020a).

A selective approach was demonstrated by Israel, a country with the highest frequency of ART per capita in the world, where 5% of all births in the country are associated with IVF. Israel proceeded from the fact that suspension of treatment puts infertile couples in unequal conditions compared to those who can spontaneously conceive a child, since the population was not recommended to refrain from pregnancy during the pandemic. Recommendations served needs of patients of older reproductive age, especially those aged over 40 and any delay in treatment could be fatal: in the first weeks following activity resumption, priority was given to patients over 39 years old, who accounted for about 50% of all cycles; interests of same-sex couples were also considered (Lokshin et al. 2020b).

In Russia, by 2019, the need for and availability of ART differentiated by region, but generally reflected positive trends in the growth of ART contribution to fertility (in 2019 and 2020, 2.4% of all Russian newborns were born due to IVF) (Table 2). Negative impact of the pandemic was manifested in a one-quarter decrease in detection of infertility as a medical diagnosis. However, it remains unknown how many potentially infertile patients were not registered due to COVID restrictions on planned outpatient medical care, including with the use of ART since the spring of 2020; it is also impossible to assess to what extent an almost 10% reduction in the total number of ART cycles was associated with such restrictions, however, the negative contribution of this factor is obvious (Registr VRT... 2022).

Since the beginning of the pandemic, decisions on the sanitary and epidemiological situation in a particular region were made by the Chief public health officer of this region, therefore, reproductive clinics were unevenly getting back on track. There is no trend towards pandemic selectivity in assisted reproduction in Russia, however, practice has shown increased number of patients aged over 35 under embryo defrosting (ED) programs (by 5.44% among patients aged 35-39 and by 1.39% among those aged 40 and over), and pre-implantation genetic testing (PGT) (13.06% and 27.48%, respectively), as well as by 1.48% among patients aged 40 + under "classic" IVF (calculated on the basis of the Russian ART Registry. 2020 Report). At the same time, efficacy of the programs, calculated through the ratio of the number of births and initial manipulations, has hardly changed (Fig. 3).

One of the ART programs that has been particularly affected by the COVID-associated restrictions is surrogacy, which is required in cases of habitual miscarriage or inability of the genetic mother to give birth. Surrogacy can be gestational and traditional. Gestational surrogacy (also known as full surrogacy, IVF surrogacy or host surrogacy) means that an embryo from biomaterial of one or both parents is implanted into a surrogate mother; the embryo can be donated, biologically foreign to both the intended parents and the surrogate mother. Traditional surrogacy (also known as natural or partial) is one where eggs are the surrogate mother,

Table 2. Some indicators of ART demand and availability in Russia on the eve and at the beginning of the pandemic

#	indicators	2019	2020
1	Number of females with newly diagnosed infertility, thou. people	83.3	63
2	Number of IVF cycles	165463	148660
3	Number of newborns due to IVF	36008	34250

Sources: (Registr VRT... 2022; Zdravoohranenie... 2021: 56)

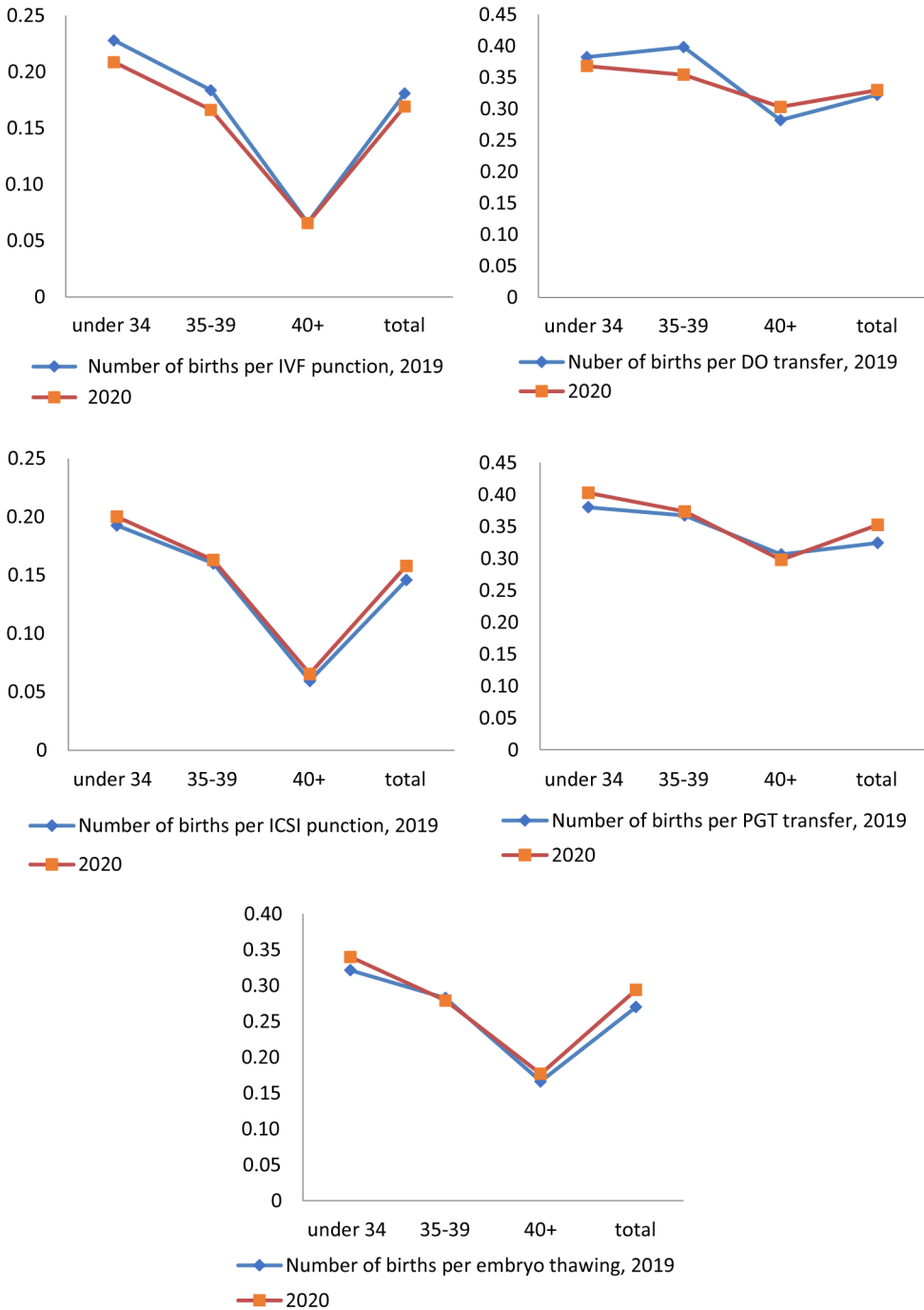


Fig 3. Age-specific efficacy of some ART programs in Russia in 2019-2020

and this fact a priori morally and legally many-fold complicates this program. According to the International Federation of Fertility Societies (IFFS), gestational surrogacy has been prevalent during the pandemic with the monetary compensation to the surrogate mother either not allowed or limited to reimbursement of time and expenses. Many countries have banned any forms of compensation or allowed only reimbursement of expenses because of the fear of commodification of children and reproductive exploitation of women.

Such cross-country differences have increased the importance of cross-border reproductive care of fertility tourism (CBRC) when citizens travel from their country of residence to another country to receive ART or related services, or there is a reproductive donation wherein germ cells are imported or exported across national borders. Although border closures and mandatory vaccination requirements have further restricted CBRC, in many cases it has remained the only way to access ART. The IFFS-2021 survey showed that the pandemic failed to provide any fundamental impact on inbound flows due to marketing goals (price-quality ratio), but did contribute to reduced inbound flow of target groups of consumers of reproductive donation services (Table 3).

In 2021, outbound flows associated with participation in surrogacy more than doubled the inbound flows associated with participation in gestational surrogacy programs (67% and 27%) and four times for participation in traditional surrogacy (51% and 13%), in 2018 these ratios equaled to 57% and 28%; 46% and 19%, respectively. This growth is largely due to insufficient legal regulation of CBRC, resulting in problems related to the transfer of newborns from surrogate mothers to their legal foreign parents. Increased number of CBRC outbound trips may reflect changes in the national access requirements for reproductive donation and surrogacy caused by the pandemic.

In Russia, the problems of surrogacy have been under discussion since 2017, and especially actively during 2019-2021. "Round tables", "press conferences", "meetings and discussions" were repeatedly organized at various venues, including the State Duma, Federation Council, Public Chamber, on major television channels and other information platforms of the country. Surrogacy is legally supported, in particular, the Federal Law 323 reads that a single woman can use the surrogacy program if there are medical indications, but a single man is not eligible since he does not have any medical indications for surrogacy. Interest in surrogacy among population of younger reproductive ages persisted during the pandemic, which is confirmed by a local survey of student youth in the spring of 2020 (Isupova, Rusanova 2021).

Table 3. Share of respondents participating in different types of cross-border reproductive care, %

#	Trip purpose	Inbound trips		Outbound trips	
		2018	2021	2018	2021
1	Services at lower price	71	75	53	65
2	Services of higher quality	79	79	51	61
3	Services unavailable at home	72	66	51	57
4	Donor egg	57	47	57	73
5	Donor sperm	55	51	55	62
6	Donor embryos	40	37	40	57
7	Gestational surrogacy	27	28	57	67
8	Traditional surrogacy	19	13	46	51

Source: (IFFS, 2022)

Peculiar features of surrogacy in Russia are the fact that its social significance considerably exceeds its actual contribution to fertility: the share of births under surrogacy programs in 2005–2019 is rather stable adding up to 1.4–1.7% of all those born with IVF (Calculated on the basis of the Russian ART Registry. 2019 Report). The issue of surrogacy is so popular; it is a favorite topic of literary and movie; in September 2021, the Russian Public Opinion Research Center (VCIOM) conducted an online survey among Russians on their attitudes towards surrogacy, which was timed to coincide with the release of “Container”, TV series with a surrogate mother being the main character. The survey results showed that over 80% of the respondents consider that they are aware of surrogacy procedure, while 78% name a certain state of health that does not allow giving birth in another way as its indication.

The pandemic has not changed the opinion about eligibility of surrogacy in a situation where there is no other possibility to give birth — 70% of the respondents are in favor versus 60% against in 2013, and 42% favored legislative regulation of this program (VCIOM 2021).

Changes in reproductive regulation associated with the pandemic

Development of reproductive medicine within the public health system during the pandemic was influenced by problems not directly related to reproductive regulation. It was the lack of clear legal norms that resulted in a situation when, due to pandemic restrictions, children born to Russian surrogate mothers could not be taken abroad from Russia, and telemedicine consultations in some countries failed to cover medication abortion and self-administration of injectable contraceptives. The pandemic has significantly complicated the process of receiving non-epidemic medical care, therein, issues related to segregation of mandatory health care and medical services that clients receive by their own choice have become relevant. The segregation criteria depend upon organizational specifics of national healthcare and differ by country: for example, in Spain, problems with ART were due to the healthcare system collapse rather than impact of the coronavirus as such (Lokshin et al. 2020a), while in Russia, increasing availability of ART through non-governmental clinics that render services under compulsory health insurance remains relevant. Despite the urgency of anti-epidemic objectives, changes in the birth rate already during the first pandemic year showed that a long-term cancellation of both restrictive and incentive measures could negatively affect demographic indicators.

To regulate the situation, WHO issued recommendations that helped determine general directions for delivering compulsory health care and receiving affordable medical services related to reproductive health, they related to artificial termination of pregnancy and consulting on contraception (WHO 2022). Countries have been analyzing performance of reproductive centers and summarizing best practices; thus, performance of private clinics in Nepal showed the value of routine programs on medication abortion at home, as well as the importance of attributing reproductive health services to the “necessary” ones even under quarantine (Horan et al. 2022). Specific organizational problems of ART during the pandemic were associated with repurposing of some reproductive centers with inpatient departments into COVID hospitals. Since such centers, as a rule, were part of multidisciplinary state clinics, they were made to suspend admission of ART patients who had to apply to private medical institutions: according to the Federal Compulsory Health Insurance Fund, in Russia, private reproductive centers conducted one-and-a-half times more IVF cycles than the state ones during the first pandemic year (Kolesnikova 2022).

Priority infertility treatment remains a general direction, since the risks of contracting coronavirus in older reproductive ages, which have the highest demand for ART, are significantly lower than the risks of never-parenthood. Here comes the issue of defining conditions for “futile treatment”, which are associated with the number of years of life, adjusted for quality that has changed after COVID, and shifting the age limit after which infertility treatment with ART becomes a medical service rather than free medical care.

Conclusion

The pandemic has been developing in an uneven manner and affected different countries at different times and to different degrees, mirroring differences in resources, political and cultural attitudes and measures according to the national socio-demographic situation. The demographic and social consequences of the pandemic have just started to manifest, but changes in reproductive components of fertility are obvious. This requires modification of traditional directions and measures of reproductive regulation, the new model of which has been developed based on best practices in different countries which have made reproductive services more accessible and safer for the population. In this sense, the exceptional status of the pandemic can be seen as a window of opportunity that will make a difference in the future.

The restrictive direction of reproductive regulation in Russia has been hardly affected by the pandemic: access to artificial termination of pregnancy was quickly restored after the first few months of severe restrictions, and the dominant barrier contraception remained always available. Despite rather strict and long-term anti-epidemic measures, state intervention in the sphere of family planning is negatively perceived by the majority of the population, and as a method of birth control can be effective only if individual reproductive intentions are considered. Expansionary reproductive regulation was strongly influenced by the pandemic, as it turned out to be dependent upon health of patients, medical specifics of reproductive care, and organizational work specifics of healthcare institutions during the pandemic.

By and large, the pandemic has affected the general trend in ART development as well as strengthened the trend towards its transition from an effective method of infertility treatment to the category of policy instruments to increase fertility. Assisted reproduction programs have differently responded to the new conditions with the surrogacy being affected the most, causing acute public debate, but making a minimum contribution to fertility. State regulation of proven effective programs (mainly IVF and Intra Cytoplasmic Sperm Injection (ICSI) in the post-COVID era is aimed at further improving their availability and bridging the gap due to decline in the number of births caused by the pandemic restrictions.

List of references

- Church K, Gassner J, Elliott M (2020) Reproductive health under COVID-19 — challenges of responding in a global crisis. *Sexual and Reproductive Health Matters* 28(1). <https://doi.org/10.1080/26410397.2020.1773163>
- Horan C, Palmer M, Shrestha R, Porter Erlank C, Church K (2022) The impact of COVID-19 lockdown on abortion care: a time series analysis of data from Marie Stopes Nepal. *Sexual and Reproductive Health Matters* 30(1). <https://doi.org/10.1080/26410397.2022.2079185>

- Isupova OG, Rusanova NE (2021) Vospriyatie vspomogatel'nykh reproduktivnykh tekhnologiy rossiyskoy studencheskoy molodezh'yū [Perception of assisted reproductive technologies by Russian student youth]. *Narodonaselenie* [Population] 24(4): 34-46. <https://doi.org/10.19181/population.2021.24.4.3> (in Russian)
- Lokshin VN, Korsak VS, Feldberg D, Smirnova AA, Koloda YuA, Ershova A (2020a) VRT v usloviyah pandemii. Mezhdunarodnaya vstrecha ekspertov [ART practice during COVID pandemic. International expert meeting]. *Reproduktivnaya medicina* [Reproductive medicine] 42(1): 51-8. <https://doi.org/10.37800/rm2020-1-7> (in Russian)
- Lokshin VN, Korsak VS, Feldberg D, Smirnova AA, Koloda YuA, Ershova A, Shurygina OV (2020b) VRT v usloviyah pandemii: organizatsiya deyatelnosti laboratorij VRT [ART practice during COVID pandemic: performance organization of ART laboratories]. *Reproduktivnaya medicina* [Reproductive medicine] 43(2): 61-7. <https://doi.org/10.37800/RM2020-1-18> (in Russian)
- Tishkevich OL (2021) Pravovye aspekty i protivorechiya primeneniya VRT v respublike Belarus'. [Legal aspects and contradictions of ART in the Republic of Belarus]. In: *Reproductive technologies today and tomorrow. Proceedings of the XXXI Annual International Conference of the Russian Association of Human Reproduction, Sochi, September 2020*, p.19-22. URL: https://rahr.ru/d_pec_h_mat_konf/tez2021.pdf (in Russian)

Other sources of information

- ASRM, American Society for Reproductive Medicine (2020) Patient Management and Clinical Recommendations During the Coronavirus (COVID-19) pandemic. URL: <https://www.asrm.org/globalassets/asrm/asrm-content/news-and-publications/covid-19/covidtaskforceupdate1.pdf>
- British Fertility Society (2020) Guidance for the care of fertility patients during the Coronavirus COVID-19 Pandemic. URL: <https://www.britishfertilitysociety.org.uk/2020/03/18/guidance-for-the-care-of-fertility-patients-during-the-coronavirus-covid-19-pandemic/>
- Demograficheskij ezhegodnik Rossii 2021 [Russian Demographic Yearbook 2021]. Rosstat, Moscow. URL: <https://rosstat.gov.ru/storage/mediabank/dem21.pdf> (in Russian)
- ESHRE News. URL: <https://www.eshre.eu/Press-Room/ESHRE-News#COVID19P2>
- IFFS Surveillance-2022 URL: <https://www.iffsreproduction.org/our-journal/iffs-surveillance/>
- IPPF, International Planned Parenthood Federation (2020) COVID-19 pandemic cuts access to sexual and reproductive healthcare for women around the world, 09.04. URL: <https://www.ippf.org/news/covid-19-pandemic-cuts-access-sexual-and-reproductive-healthcare-women-around-world>
- Kolesnikova V (2022) Myagkoj podsadki: na chto mogut rasschityvat' chastnye kliniki VRT, operiruyushchie na rynke goszakaza [Soft planting: what are private ART clinics operating on the state order market to expect] // *Vademecum*, 21.02. URL: https://vademec.ru/article/myagkoy_podsadki_na_chto_mogut_rasschityvat_chastnye_kliniki_vrt_operiruyushchie_na_rynke_goszakaz/ (in Russian)
- Registr VRT v Rossii. Otchet za 2019 gg. [Russian ART Registry. 2019 Report] (2021) URL: https://www.rahr.ru/d_registr_otchet/RegistrART2019.pdf (in Russian)
- Registr VRT v Rossii. Otchet za 2020 gg. [Russian ART Registry. 2020 Report] (2022) URL: https://www.rahr.ru/d_registr_otchet/RegistrVRT_2020.pdf (in Russian)
- Russian Association of Human Reproduction, official website. URL: <https://rahr.ru>
- UNFPA (2021) Impact of COVID-19 on Family Planning: What we know one year into the pandemic, 11.03. URL: https://www.unfpa.org/sites/default/files/resource-pdf/COVID_Impact_FP_V5.pdf
- VCIOM (2021) Surrogatnoe materinstvo: za i protiv. Analiticheskij obzor VCIOM [Surrogacy: pros and cons. VCIOM analytical review], 15.09. URL: <https://wciom.ru/analytical-reviews/analiticheskii-obzor/surrogatnoe-materinstvo-za-i-protiv> (in Russian)

VCIOM (2022) Preryvanie beremennosti: za, protiv i kakova rol' gosudarstva. Analiticheskij obzor [Termination of pregnancy: pros and cons and what's the role of the State. VCIOM Analytical review], 07.06. <https://wciom.ru/analytical-reviews/analiticheskii-obzor/preryvanie-beremennosti-za-protiv-i-kakova-rol-gosudarstva> (in Russian)

WHO, World Health Organization (2022) Abortion care guideline. World Health Organization. URL: <https://apps.who.int/iris/handle/10665/349316>

Zdravoohranenie v Rossii. 2021 [Healthcare in Russia. 2021] (2021) Rosstat, Moscow. URL: <https://rosstat.gov.ru/storage/mediabank/Zdravoohran-2021.pdf> (in Russian)

Information about the author

- Nina E. Rusanova — Doctor of Economics, Leading Researcher, Institute of Socio-Economic Studies of Population, Branch of the Federal State Budgetary Scientific Institution Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences 32 Nakhimovsky prospekt, Moscow, 117218, Russia. Email: ninrus238@mail.ru