ORIGINAL ARTICLE ASIAN JOURNAL OF MEDICAL SCIENCES

Changes of trends in contraception in pandemic – A hospital-based study

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Submission: 21-04-2022 Revision: 29-09-2022 Publication: 01-11-2022

ABSTRACT

Background: With the onset of COVID-19 pandemic, the life of humankind had changed a lot. With a change in health-care approach, contraception became a non-essential service and faced a downfall. **Aims and Objective:** This study objective is to find out the changes in contraceptive usage in a tertiary care center. **Materials and Methods:** The study is a retrospective observational study, in which contraceptive usage was compared between 2019 and 2020. Data obtained from record section of the institute were used as source. Attendance in Gynecological Outpatient Department, admission in maternity ward, and delivery rates were also compared between 2 years. **Results:** Total contraceptive usage was decreased by 11.1% in 2020. Long-acting reversible contraceptives or short-acting both types were decreased in 2020, but maximum decrease was barrier method condom by 25.1% and oral contraceptive pills by 24.9%. Hospital maternity ward admission was less by 7% and delivery rates by 2.4%. Only medical termination of pregnancy showed an increased trend in 2020. **Conclusion:** Pandemic also had caused a toll in family planning, and thus, overall decrease in usage was seen which can be detrimental to population control.

Key words: COVID-19; Contraceptives; Delivery; Hospital

Access this article online

Website: http://nepjol.info/index.php/AJMS

DOI: 10.3126/ajms.v13i11.44578

E-ISSN: 2091-0576

P-ISSN: 2467-9100

INTRODUCTION

The SARS-CoV-2 viral pandemic has taken a heavy toll on lives, assets, resources, health workforce, and infrastructure all over the world ever since the first case was reported on 8th December 2019 in Wuhan, China.[1] The World Health Organization (WHO) was notified about this outbreak and it designated the latter as a Public Health Emergency of International Concern by January 30, 2020.[2] By May 20, 2021, there have been 165,662,068 coronavirus cases with 3,434,025 deaths all over the world.[3] The first case of coronavirus was reported on January 27, 2020 in India from Thrissur, Kerala. With the huge population density, the transmission of the virus has since then been rampant with the number of cases surging up to 2.5 Crores with 2.87 lakh deaths in the country as on May 20, 2021.[4]

The first tier of response was actively instituted by aggressive contact tracing, strict quarantine protocols of the confirmed cases, and community surveillance through extensive testing. Soon after, it was obvious that the virus has spread across the community. Schools, colleges, and other educational institutions were closed down. Closure of workplaces, community facilities, restrictions on roads, railways and air travel, mass awareness campaigns for orientation of public on social distancing, and personal hygiene measures like wearing a mask and washing hand[5] were propagated far and wide.

The United Nations sexual and reproductive health agency conducted a research and projected that more than 47 million could lose access to contraception resulting in approximately 7 million unintended pregnancies worldwide as a result of the coronavirus pandemic T.[6]

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The unfortunate consequence of unintended pregnancies is a hike in maternal and neonatal morbidity and mortality due to increased unsafe abortions, self-induced abortions, pregnancy complications, HIV and other sexually transmitted infections, as well as disturbed psychological balance manifesting as post-traumatic stress, suicide, depression and intimate partner violence.[6] With a hugely populated country like India, this lack of access to contraception would cause a seriously devastating scenario in the reproductive health of the country with an already burdened health care system. Data from the WHO studies in pre-pandemic time show that 1 in every seven maternal deaths worldwide is due to unsafe abortion, which also causes approximately 5 million women to be hospitalized in developing countries.[7] Moreover, hospitals have reallocated the inpatient resources due to the pandemic and it would be difficult to accommodate the rising number of cases with life-threatening consequences of unsafe abortions.

Further, rural Indian population is still pretty much sceptic about implants, injections, and intra uterine devices and grossly rely on the oral contraceptives and barrier contraceptives disbursed free of cost by the Government of India through various health centers at different levels. This supply has also been hampered due to the pandemic and the lockdown imposed by the Government to contain the viral transmission, thereby restricting public vessels for travel that serves as the main mode of transport for the masses.

Another factor that has significantly hampered the contraception services is the shortage of healthcare workers to staff the clinics. Before the pandemic, a large percentage of the rural Indian population depended village level healthcare workers for contraceptive services and reproductive care. However, due to the inadequate availability of personal protective equipment, it is seen that these peripheral health workers are genuinely hesitant to provide those services during the pandemic. Women in rural areas are particularly at risk of being affected negatively due to limited provisions.

Amidst all these constraints, this study tries to focus on how the trends in contraception have changed during this pandemic over a year, from the domain of a tertiary health center in Eastern India.

Aims and objectives

To find out the changes in trend of contraceptive use during covid pandemic. Overall usage of different contraceptive methods during the study period.

MATERIALS AND METHODS

This study was a hospital-based retrospective study, in which data were obtained from hospital record section. The study was conducted in a semiurban tertiary college of West Bengal. This government hospital caters to patients from nearby rural areas. A retrospective observational study was conducted from January 2019 to December 2020. An Institutional Ethical Clearance (F-24/PR/COMJNMH/IEC/63) was taken for accessing the data from record section and conducting the study. All women who availed contraceptive services during the time period were included. Data were obtained regarding use of different contraceptive methods and compared between the pre-pandemic and COVID pandemic year. In the above institution, different methods of contraception were offered to women of reproductive age groups according to their choices. Modified Pomeroy's technique is the preferred method after a medical termination, planned sterilization or during caesarean section operation.a permanent method of contraception female sterilization surgery is preferred either in the form of interval sterilization or during caesarean section by modified Pomeroy technique. Male sterilization facilities were not available in the set up. Other contraceptives available were long-acting reversable contraceptives (LARC) such as intrauterine contraceptive devices (IUCD) and Injectable contraceptives (DMPA) depot medroxy progesterone acetate. Both injectable contraceptives DMPA and postpartum IUCD are made available to all well counseled women seeking contraceptive care. Subdermal implants are not available in the institution. Barrier contraceptives such as condoms and oral contraceptive pills (OCP) are dispersed from family planning section. Medical termination of pregnancy (MTP) by medical or surgical interventions were compared between 2019 and 2020 among outpatient department (OPD) based or admitted patients. Attendance in OPD and admission in maternity ward were also compared between these 2 years. Delivery rates of vaginal and caesarean section were also retrieved. Data obtained from hospital record section were put in excel sheet and comparison between 2 years was done by simple statistical test finding out rates and percentages.

RESULTS

Total amount of patient seeking contraceptive care in 2019 was 11,383 and in 2020 was 9108 which is decline of 11.1%. Usage of LARC in 2019 was 1482 and 2663 in 2020. This was mainly due to vigilant implementation of PPIUCD policy of Government of India in 2020 by healthcare workers in the institution. IUCD insertion was mostly postpartum (PPIUCD) which showed an increasing trend in the year 2020. Obtained data showed that interval IUCD insertion was only four cases in 2020 and 21 cases in 2019. Observation revealed a slight decrease in number of sterilization cases (621) in 2019 as compared to 662 cases

in 2020 (Figure 1). This was possibly due to the fact that most sterilization procedures were carried out during cesarean section, while interval sterilization is quite low in the institution. OCPs distribution was decreased as per the study. Four hundred and forty-four strips in 2019 and 214 strips in 2020 were distributed from the family planning clinic which is a 34.9% decrease in usage. Dispersion of OCP use was also decreased by 24.9% and condom dispersion by 25.1%. Injectable contraception showed reduction in 2020 (231) than 2019 (319) which is again a 16% decrease than previous year. MTP cases showed a marked rise in 2020. There were 608 MTPs in 2019 and 634 cases in 2020 (Table 1).

Admission of patients in maternity ward decreased in 2020 and both new and old patient attending Gynecology and Antenatal OPD also decreased markedly in 2020 compared to 2019 (Table 2 and Figure 2).

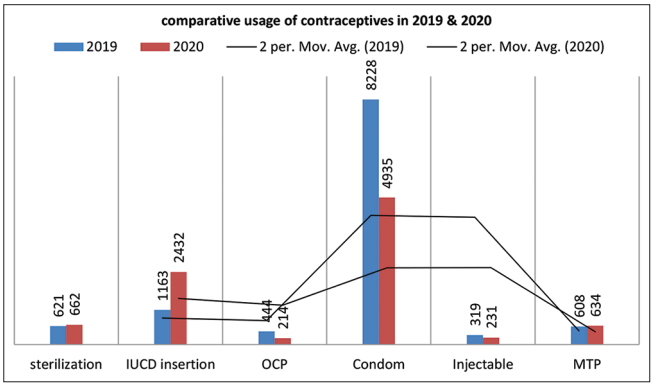

Figure 1: Comparative usuage of contraceptives in 2019 and 2020

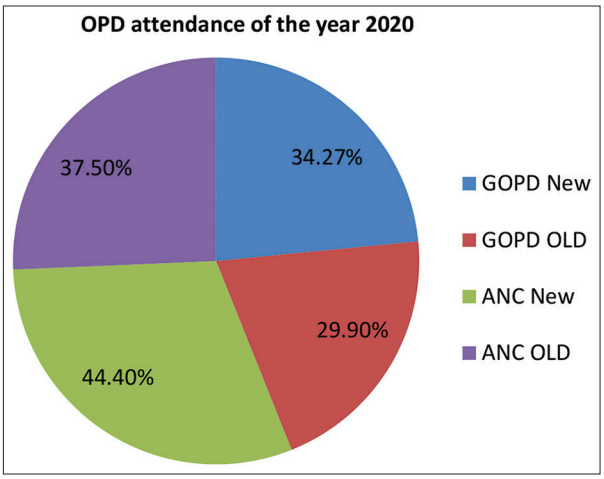

Figure 2: OPD attendance of the year 2020

Admission in maternity ward was 7% less in 2020. Total delivery in 2020 decreased by 365 less than previous year delivery which is a 2.4% decrease, but percentage of vaginal delivery was more in 2020 (51.3%) when compared to 2019 (48.6%%) (Table 3).

DISCUSSION

With the huge number of cases and the exponential transmission of the virus worldwide, the focus of health-care system has shifted to combat the emergency by procurement of resources, development of infrastructure, recruitment of workforce, and escalation of emergent medical services and research for developing novel therapy and vaccines. However, this has unfortunately hampered other essential health-care services such as access to contraception. The consequence of loss of access to contraception has been proved after COVID outbreak and even in other viral outbreaks by various studies across the globe.[8,9]

Disruption of the supply chain is one of the most important barriers to access, leading to shortage of contraceptives. India being the world's largest producer and exporter of drugs, the supply of contraceptive medications and devices is hampered due to the pandemic.[10,11] The world's largest condom manufacturer in Malaysia was forced to close in March 2020, thus limiting export of condoms.[12] Condom demands and distribution was decreased in this study; about 24.9% less condoms were used compared to the previous year. A hospital-based study do not provide the actual picture of condom contraception usage as it can be procured directly from medical stores too.

In a multicenter Italian study, significant reduction in number of admissions due to pelvic pain, vulvovaginitis, and genital bleeding in both reproductive and postmenopausal women was observed in comparison to those indications related to first trimester of pregnancy.[13] Similarly, in this hospital-based study, patient seeking MTP was increased in 2020 through hospital admission but non-emergency outpatient attendance of both antenatal and gynecology both decreased in pandemic. In this study, MTP was increased by 26 cases despite decrease in hospital attendance in general.

The WHO also advises that innovative strategies are developed to ensure as many eligible people as possible can

Table 1: Contraceptives

	sterilization	IUCD insertion	OCP	Condom	Injectable	MTP
2019	621 (48.4%)	1142+21 (32.3%)	444 (67.4%)	8228 (62.5%)	319 (58%)	608 (48.9%)
2020	662 (51.59%)	2428+4 (67.6%)	214 (32.5)	4935 (37.49%)	231 (42%)	634 (51.04%)
Total	1283	3570+25	658	13163	550	1242

Table 2: OPD attendance

	GOPD New	GOPD OLD	ANC New	ANC OLD
2019	19461 (65.7%)	15178 (70%)	4695 (55.5%)	13485 (62.47%)
2020	10148 (34.27%)	6489 (29.9%)	3762 (44.4%)	8100 (37.5%)
Total	29609	21667	8457	21585

Table 3: Admission and delivery

	Mat admission	Vaginal delivery	Cesarean Delivery
2019	11225 (53.8%)	3607 (48.6%)	3984 (53.8%)
2020	9612 (46.12%)	3810 (51.3%)	3416 (46.12%)
Total	20837	7417	7400

access information and contraception during this period, including use of mobile phones and digital technologies, and reduction of restrictions on the number of repeat issues of prescription of hormonal contraceptives.[14] There was a decline in hormonal contraception use, which was likely due to unwillingness to attend health-care facility only for the purpose of procurement of contraceptives temporarily.

LARCs are the ideal ones for use as failure rates of these methods are less than 1% per year, thus making them popular choices worldwide. However, the initiation of usage of the LARC necessitates a visit with the medical practitioner which has been curtailed during the pandemic. Based on the modeling study by Riley et al., it is estimated that a 10% decline in the use of short and long-acting reversible contraceptive measures due to reduced access would result in an additional 59 million women with unmet need for contraception and an additional 15 million unintended pregnancies in developing countries over the course of 1 year.[15] In our study, dispersal of condoms and contraceptive pills both had decreased. Injectable contraceptives uses had also decreased though IUCD insertion has increased. This is due to increase in postpartum insertion of IUCD in the institution than in 2019.

While physical distancing remains in place, it is recommended that much of the contraceptive consultation process continues to be done remotely. LARC benefits outweigh risk of COVID-19 transmission.[16] LARC usage was increased among hospital attending patient in this study due to proper counseling of patient and implementing ongoing contraceptives Government programs with utmost sincerity.

During the beginning of the pandemic as advised by Indian Council for medical research, the routine care was curtailed to minimum number of visits keeping in mind that can reduce in exposure of patients and stop the spread.[17] The present study showed reduction in OPD attendance and Maternity ward admission in 2020. Maternity ward admission was 7% less than previous year.

In a study conducted in Sub Saharan Africa, it was found that most women did not modify their contraceptive status during COVID-19 (68.6% in Burkina Faso and 81.6% in Kenya) and those who changed were more likely to prefer another different method (25.4% and 13.1%, respectively) than to discontinue (6.0% and 5.3%, respectively). Most women who switched contraceptives were using methods more effective than their pre-pandemic contraception. Economic instability related to COVID-19 was associated with increased contraceptive protection in Burkina Faso but not in Kenya. Altogether, 14.4% of non-contraceptive users in Kenya and 3.8% in Burkina Faso identified COVID-19-related reasons for non-use.[18] In this study, it was observed that short term methods showed more reduction than LARC. There was 11.1% decrease in contraceptive use in 2020.

Limitations of the study

Many a times couples avail over the counter contraceptives like condoms and combined oral pills which do not require prescription. These missing data is a limitation in this study.

CONCLUSION

Contraception services have been considered non-essential by some policy makers and clinics that rendered that these services have been directed to halt operations. In those that are functional, appointments for contraception have been re-scheduled. Patients are themselves afraid to avail services and have not been attending clinics due to the fear of contracting the infection as well as limited transport services. Thus, social taboo in usage of various methods together with an unusual pandemic situation has led to increased risk of failure of family planning in our country.

ACKNOWLEDGMENT

The authors would like thanks to Mrs. Debjani Basu data entry operator of COMandJNM H Kalyani Nadia.

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Authors' Contributions:
SS- Concept and design of the study, prepared the first draft of the manuscript; **BB-** Interpreted the results and reviewed the literature; **JM-** Concept, coordination, and revision of manuscript; **RRC-** Statistical analysis and interpretation, revision of the manuscript; and **AA-** Data collection and preparation.

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Source of Support: Nil, **Conflicts of Interest:** None declared.