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## Sexual and Reproductive Health in the Era of Covid-19

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**Abstract**

**Background:** Since the starting of the pandemic caused by the COVID-19 virus, it has caused many health problems, apart from so many deaths. Because of its high morbidity and mortality, there has been an aura of fear among the people and the countries. Among the various health issues, sexual and reproductive health is one that needs attention. The virus affects the genitourinary system as well apart from the respiratory and the gastrointestinal systems. It attaches to the angiotensin-converting enzyme 2 and causes secondary changes. The effects on semen, vaginal secretions, vertical transmission, sexual and reproductive health and the psychology of the individual person will be discussed here.

**Methods:** A literature review was performed to identify papers and analyses that discussed the outcomes of SARS-CoV-2 on the sexual and reproductive health, semen quality, modes of transmission, impact on the methods of sex, psychological aspects, etc. All the work related to COVID-19, sex and the sexual health were included in this review.

**Results:** Various effects of SARS-Cov-2 on sexual and reproductive health include: The virus is found in semen, but no case of transmission has been recorded. It causes mild scrotal discomfort. No cases of transmission through vaginal secretions are noted. Only one case of vertical transmission noted in an infant in India. Take all standard precautions needed to protect the infant from the virus during breast feeding. Standard precautions should be taken to prevent spread during sexual intercourse, keeping in mind the need of physical distancing as advised by the WHO and ICMR. There are chances of increase in the gender-based violence and domestic abuse.

**Conclusion:** The pandemic of COVID-19 has led to more and more medical and health related issues. Once it is over or the lockdown is released completely, we need to address the issue of post-traumatic stress disorders, depression, sexual health related issue, etc.

**Keywords:** Sex and COVID-19; Sexual and Reproductive Health in Covid-19 era; Sexual problems in COVID-19; Role of Urologist in COVID-19; Role of Gynaecologist in COVID-19.

**Introduction***Background*

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified as the cause of severe pneumonia very early at the beginning of the

year 2020, although the disease started in December 2019. World Health Organisation (WHO) on 11th March, 2020 declared it as a pandemic and Public Health Emergency of International Concern. As of now there are more than 20 million confirmed cases in the world with 216 countries affected with the COVID-19.<sup>1</sup> Our country India also crossed

the 2 million mark recently. As part of the overall response to the outbreak WHO and Human Reproduction Programme have highlighted sexual and reproductive health in the research roadmap for the COVID-19.<sup>2,3</sup>

The novel COVID-19 virus is a novel and highly sensitive issue to humans. There is only limited data and scientific evidence to know the impact of the disease COVID-19 on sexual and reproductive health (SRH). Various issues related to this are - effect on fertility, transmission through sexual route, mother to foetal transmission, effect of breast feeding, gender-based violence, emotional and mental issues related to lockdown, effect on sexual behaviours of the individuals and the couples, domestic abuse, assisted and natural conception in the presence of COVID-19 and effects of stigma and discrimination associated with COVID-19 and their effects on sexual and reproductive health (SRH) of patients diagnosed with COVID-19 and the health care providers involved in the care of the patients.

Many treatment options are utilised till now but there is no definitive and effective treatment available at present. The treatment options available are use of hydroxychloroquine, protease inhibitors, steroids, anti-coagulants, use of monoclonal antibodies, etc. The death rates are decreased a bit but the fatality rates are not decreased. The strategy of quarantine, isolation, and social and physical distancing remain the best strategy to deal with this highly serious condition.<sup>4</sup>

#### *Pathologic features of SARS-CoV-2*

SARS-CoV-2 is a single-stranded RNA virus. It can infect humans as well as other animals and birds. It is mainly a respiratory disease but may cause hepatic, gastrointestinal, and neurologic and genitourinary tract diseases.<sup>5</sup>

SARS-CoV-2 infects the humans by attaching to the angiotensin-converting enzyme 2 (ACE2). This enzyme is found in the alveoli, myocardial cells, oesophagus, ileum, proximal convoluted cells of kidney, urothelial cells of urinary bladder, Leydig cells and seminiferous tubular cells of testis.<sup>6,7</sup> This is the most probable way for the virus to infect the genitourinary tract. Though the transmission of the virus is via the droplet and close contact, sexual and vertical transmission routes are also being considered and various studies have been started.<sup>8,9</sup>

#### *Impact on Males*

In males, there is evidence of presence of the virus

in the semen<sup>9</sup>. It may also lead to viral orchitis and may present as scrotal discomfort which is comparable to that of orchitis.<sup>10</sup> This is the reason that route of sexual transmission is considered as a possible route of transmission. Any direct effect of the virus on the seminal/sperm quality is yet to be assessed. Whether it affects the seminal quality like the mumps virus affects is also under evaluation.<sup>11</sup>

#### *Impact on females*

When it comes to females, there are more problems than, anyone can think. Few among these are as follows. First is the unavailability of safe sexual practices due to unavailability of physical methods of contraception like male and female condoms. There is also decrease in the availability of injectable contraception, oral pills and intrauterine contraceptive device (IUCD) insertion.<sup>12</sup> Secondly, above problems will lead to increase number of unintended pregnancies. Thirdly, this will further lead to decrease in the safe medical abortions and increase in the number of surgical problems which may lead to further surgical problems. All this will affect the family planning services and will further increase the burden.

#### *Vertical transmission and exposure to the new born*

There is inconclusive evidence of vertical transmission for mother to child during pregnancy, childbirth or during breast feeding. But there are few cases of neonatal COVID-19 where children have symptoms of the virus.<sup>13,14</sup> Recently first case of vertical transmission was reported in India at Sasson Hospital in the Pune district of Maharashtra province. In that case mother's RT-PCR for COVID-19 was negative but the baby's swab from nose, umbilical cord and the placenta were tested positive. Both developed antibodies against the virus though, higher in the mother and lesser in the baby.<sup>15</sup> Whatever the virus does doesn't matter. It is important here to note that we have to take all standard precaution to protect the women and the children so that the virus should not be transmitted knowingly or unknowingly.

The baby can also get infection post-natally because of breast feeding or from fomites. So utmost care should be taken during breast feeding and baby should be prevented from any exposure.

#### *Impact on artificial reproductive techniques*

Now if we consider artificial reproductive techniques (ART), then we have to be careful as

there is an inherited risk associated the techniques specially the intracytoplasmic sperm injection (ICSI). First, the risk of transmission via semen or spermatozoa in a patient who is already under stress of infertility or who has developed COVID-19 induced orchitis/scrotal discomfort.<sup>16</sup> The chances of crossing the blood-testis barrier increases here. Artificial reproductive techniques, though, use washing and repeated dilution of the semen sample, there are theoretically chances that virus particles could transmit through intracytoplasmic sperm injection.<sup>17</sup>

#### *Negative aspects of COVID-19*

There are also chances of increase in the gender-based violence and domestic abuse. This could be because of the lockdown that the women being, or who are at risk of being, abused are forced to spend more time at home with their abusers. Because of the lockdown there are also economic issues in the families. This can lead to economic abuse and because of more staying at home this may lead to intimate partner violence.<sup>18</sup>

#### *Common queries and their solution*

##### *How dose COVID-19 spread through sex?*

The answer to this question lies in the basics of the precautions taken during the current times. The COVID-19 virus spreads through the respiratory droplets, saliva, and fluids from the nose. During the foreplay phase of sex all these can occur. So utmost care should be taken care to avoid the contact. As of now 6 feet distance is recommended to avoid exposure. It is not social distancing now; it is physical distancing that is recommended by WHO and the ICMR. These are the same things that we do during the common cold or seasonal flu that has the potential to spread during sexual contact, and now COVID-19 as well. Though the virus is found in semen samples as stated above, there are still no cases of transmission via sexual route (10). Neither there is evidence of transmission through the vaginal secretions (19).

##### *How to continue healthy sexual life in this COVID-19 time?*

Following are the recommendation given by Centre for Disease Control and prevention (CDC) considering social distancing (minimum of 6 feet) as your best defence against COVID-19 (20).

- You are your own safest sex partner. Self-

pleasure is a very good option and is a sure shot way to prevent the spread of COVID-19. Thus, masturbation will help a lot.

- Communicating with the partner virtually (cybersex or sexting) is a very good alternative that maintains the social distancing recommendation.
- Infact, the use of pornography has increased a lot in the time of COVID-19 (21).
- Avoiding sex with anyone outside of your own household. If you have sex with anyone outside of your household, have as few partners as possible.
- You have to talk with your partner(s) and you have to make your own plan on how you can limit the risk for COVID-19.
- All these things will help to relax and releasing your stress.<sup>22</sup>

##### *What if two people who are COVID-19 negative indulge in sexual activity?*

Here comes the role of asymptomatic patients who could be COVID-19 positive and those who are COVID-19 RT-PCR negative. Some people will never show symptoms of COVID-19 before passing it to their partner(s). So, it will be better to skip sex if you or your partner(s) are not feeling well. You have to talk with your partner(s) and discuss how COVID-19 spreads. Then both of you take a judgment. (23) Remember it is always about limiting the risk of getting the disease.

If you are at home all the time due to lockdown or work from home means that you may indulge in sex with your partner more frequently. This may benefit you in making or improving your relation with your partner and this will further reduce the stress. But then also you should take routine precautions to avoid sexually transmitted diseases and other measures for family planning.<sup>24</sup>

##### *Does oral sex limit the risk for acquiring COVID-19?*

As the social distancing norm of 3 feet is now physical distancing of 6 feet, oral sex may still put a person at risk of acquiring COVID-19. Use of condoms during oral sex may reduce contact with fluids but fingers coming in contact with infectious droplets can transmit the virus<sup>23</sup>. So, it would still be better to avoid this also. COVID-19 also spreads through faeces, so any form oral sex involving anus should be avoided.<sup>24</sup>

*What if someone uses mask and gloves during sexual activity?*

These can be used but better to wash private parts and hands with soap and water for at least 20 seconds. If someone is using sex toys then it should also be washed well.<sup>23</sup>

*What if my partner is far away from me?*

- Here comes the role of sexting and cybersex. You can become sexually active with each other virtually through text, photos, or video, if the consent of partner is taken.
- Virtual dating – whatever you do in a dating routinely can be done virtually online during lockdown. You can go online together for coffee, dinner, see a movie together or play a game together.
- You can read a sexy or a romantic story or you can write up your own story.
- This all will help in following the social and physical distancing norms<sup>24</sup>.

*What to do when the partner is symptomatic?*

If the partner is symptomatic then people should follow World Health Organisation (WHO) and Indian Council of Medical Research (ICMR) guidelines. Partner should self-quarantine for upto 7-14 days. During this time there should not be any intimacy or bed sharing. This should be followed till the partner is symptom free completely or he/she should be free of all medications or there should not be any fever for 3 days at least<sup>25</sup>.

*What to do if the partner is health related or any other frontline worker?*

Here comes the knowledge about COVID-19. How much are you aware of the modes and methods of spread of the disease is important. Among these are the hospital staff, police staff, delivery personnel and people who are involved in essential services. All the decisions should be mutual among the partners – symptomatic or asymptomatic, whether to become intimate or not. There are no evidence-based guidelines for this but consent of the partner is very important.

For those who have started new relationships or just got married should know the necessity of physical distancing. digital sexual practices, masturbation, phone or video sex, pornography, and sex toys becomes essential to discharge the sexual desire and reduce the anxiety.<sup>26</sup>

## Conclusion

The current COVID-19 pandemic has resulted in an era of anxiety and some psychological distress. It also has some impact on sexual and reproductive health. Sex in itself means the period of emotional binding apart from physical binding as well. In the present times of COVID-19 and its resultant lockdown, there has been an increase in the period of sexual abstinence or an increase in time a couple being together and involved in sexual activities. Both these situations may lead to either high risk behaviour, compulsive self-gratification, substance abuse, pornography use, etc or increase in the overall pregnancies, increased rate of abortion, etc. Due to this reason, physician and modern medicine practitioners of different specialities and sub-specialities should counsel the patients and increase their awareness in identifying and solving these problems and also help people in learning safe sexual practices in present COVID-19 era. The long term sequelae may include a long unending list like post-traumatic stress disorders, adjustment disorders, pathological grief, depression, etc.<sup>27</sup>

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