Effects of COVID-19 on Sexual and Reproductive health

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ABSTRACT

The outbreak of novel coronavirus disease was first reported in China in December 2019, and WHO declared the coronavirus pandemic on 11 March 2020. Since then, all the continents have observed a fast-growing upward trend in number of confirmed cases. During the epidemics, Sexual and reproductive health (SRH) and rights became a monumental public health issue. The novel coronavirus (SARS-CoV-2) is new to humans and there is only some experimental data available to describe the sexual and reproductive health (SRH) effects of COVID-19 disease, including clinical appearance and consequences of COVID-19 infection during birth, or for people with STI (sexually transmitted infections) or HIV-related immunosuppression. We should not neglect the bearings at the level of the health system and delays or interludes in the routine availability of SRH facilities outside the therapeutic reach of SRH, such as pre-and postnatal tests, safe abortion, contraception, HIV/AIDS, and sexually transmitted infections. In addition, other factors warrant consideration, such as the possible rise in gender-based violence and domestic abuse and the consequences of COVID-19-related stigma and prejudice and their effect on SRH customers and health care providers. Therefore, the research community has an immediate requirement for the creation of all-inclusive clinical, epidemiological, and psycho-social behavioral ties between COVID-19 and SRH and the effects of rights. A comprehensive systematic literature search of the databases of PubMed, Web of Science, Embase, Medline, Cochrane and MedRxiv, was carried out.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is a communicable disease caused by Coronavirus 2 (SARS-CoV-2) which causes Extreme Acute Respiratory Syndrome (Mayo Clinic, 2020). In Wuhan, Hubei, China, it was first identified in December 2019 and has since led to an emerging pandemic (Hui et al., 2020). In Hubei, the main case was traced back to 17 November 2019 (World Health Organization, 2020a). On 30 January 2020, the outbreak of COVID-19 was declared as a Public Health Emergency of International Concern (PHEIC) and WHO declared a pandemic on 11 March 2020.

There's been a prompt rising toll in verified number of cases on all continents across the globe. More than 22 million cases across 216 countries and territories have been recorded as of 21 August 2020, resulting in more than 788,503 deaths (World Health Organization, 2020a). More than 9.26 million
people have recovered. In several countries, including the US, Italy, Iran and India, there is an increasingly growing trend in the number of reported cases being observed (World Health Organization, 2020b).

While COVID-19 was first recognised as a pulmonary disorder, it is now considered a systemic pathology, as it may affect multiple processes (Pan et al., 2020). New disease problems, such as related fertility repercussions and the implications of aided and normal pregnancies in the presence of acute COVID-19 infection and during patient recovery, are now emerging (Eisenberg, 2020).

In its study roadmap for COVID-19 (World Health Organization, 2020c; Ossola and Frost, 2020), the WHO and the Human Reproduction Programme (HRP) have outlined sexual and reproductive health (SRH) as part of the overall WHO response to the outbreak (World Health Organization, 2019, 2020c).

Effects on Sexual Health
Covid 19 pandemic and lockdown has influenced the sexual health in innumerable ways. There is not enough evidence available on sexual health effects of Covid 19. Studies vary from country to country. Just 24 percent said that the coronavirus epidemic had a positive effect on their sex lives in a poll of over 9,000 NBC News individuals (28 percent were neutral and 47 percent said it had affected them negatively) (Ossola and Frost, 2020).

In Bangladesh, India & Nepal, a study on lockdown conditions and their effects on sexual behavior found that participants’ sexual activity rose by 3.3 percent from 1 to 5 days a week to more than five times a week (Arafat et al., 2020).

The inequalities in countries are related to the degree of progress, the literacy rate, and culture. But in general, Covid 19 has influenced human sexuality. Due to continuous lockdown and, people have gone out jobs and they are forced to stay at home without any constructive tasks. They face financial difficulties which is followed by all the stress, anxiety and depression. This has indeed induced a significant change in sexual behavior (Ossola and Frost, 2020); as explained by the fact that stress often increases libido.

Based on current data, coronavirus, the virus that causes COVID-19 disease, is not spread through vaginal or anal contact.

To establish intimacy between partners, it requires physical contact like kissing and sharing of saliva; which definitely impedes with the recommended social distancing, and may cause spreading of infection. Because of this there has been tension and anxiety which also adds up to avoidance of intimacy even with a healthy partner.

However, experts have stated that it is fine to have sexual relationship among people sharing households like married couples or live-in partners, and to refrain from multiple sexual partners and casual sex with unfamiliar people. Thus, stating monogamous relationships as safe.

The coronavirus, however is transmitted by communication with droplets from the mouth and nose, or an infected person’s saliva, which can arise by direct contact with others. This indicates that if one person has the virus, there is a considerable chance of transmission of COVID-19 by kissing and physical contact.

Likewise as results of self-isolation and social distancing some individual suffer from low mood; this disrupts brain chemicals that play a role in fostering libido in males and females. To relieve their discomfort and depression, some persons resort to taking anxiolytics and antidepressant medications. People on antidepressant drugs such as SSRIs (Selective Serotonin Reuptake Inhibitors), can suffer from reduced libido due to rising levels of the serotonin in the plasma due to inhibition of Serotonin reuptake which results in increase plasma levels of Serotonin (Bahrick and Harris, 2009).

At this point, story of COVID-19 interlinking with sexuality does not end. As an entry point for invading the respiratory system, COVID-19 uses the Angiotensin-Converting Enzyme-2 (ACE2) receptors. This indicates the likelihood of testicular activity in certain patients and a reduction in testosterone secretion, a hormone that has recently been shown to defend against COVID-19 (Di, 2020). Tests have shown that the level of testosterone rises on the 7th day of abstinence, but by intercourse in males, this is not significantly affected (Jiang et al., 2003). Thus, sexual intercourse might prove protective for females as compared to males.

It is to be noted that considering the given scenario there is an upward trend in people who are promoting self-sexual gratification by masturbation and use of webcams for virtual sex as a secure measure to satisfy their libido in times of lockdown, self-isolation and social distancing.

Effects on Reproductive Health
Reproductive programs such as maternal health-care services have been adversely affected by the COVID 19 pandemic lockdown. Even though medical facilities and retail chemists were exempted from the lockdown, self – isolation and risk of infections among patients and health care providers resulted in lower than usual availability of health care ser-
One such example being pregnant women started avoiding coming for routine checkups, resulted in lesser antenatal routine scans like anomaly scan which has resulted in many missed fetal anomalies.

While national and provincial health authorities released policy directives at the beginning of February 2020 to safeguard the access of pregnant women to maternity services (Di, 2020; Jing, 2020), the lack of health care professionals from their original roles has tended to interrupt the regular distribution of healthcare facilities, such as important SRH services such as pre-and postnatal check-ups, healthy abortion, contraception, HIV/AIDS and sexually transmitted infections.

There is not enough evidence to endorse vertical transmission or transmission through breast milk, of COVID 19 infection. Preliminary studies from China indicated that intratuerine vertical transmission was impossible, based on the findings of real-time polymerase chain reaction (RT-PCR) assays for the detection of extreme acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Rasmussen et al., 2020). It is unclear whether COVID-19 can transmit through breast milk, but the limited evidence available indicates that it is unlikely to be transmitted through breastmilk. According to CDC (Centres for Disease Control and Prevention), a confirmed case of COVID-19 can feed her baby after taking all the necessary precautions. However, expressed breast milk is preferred to prevent infection from spreading to the child.

Other emerging issues require special attention, such as whether SARS-CoV-2 causes serious disease and death in pregnant and postpartum women disproportionately, similar to what we encountered during other severe acute respiratory infection (SARI) outbreaks, where evidence raised questions yet given very few responses (Siston, 2010). Is infection associated with an increased risk of intratuerine fetal mortality and medium to long-term adverse neonatal outcomes during pregnancy? Can infection impact the incidence of disease development and reproductive effects at various stages of pregnancy, such as in subsequent pregnancies?

Decrease trends of institutional deliveries; due to risk of exposure has resulted in increased maternal and fetal morbidity and mortality.

It has also been implied by Lockdown that access to and use of contraceptives is largely compromised.

In compliance with the Ministry of Health and Family Welfare, as instructed by the Government of India, public facilities suspended the provision of sterilization operations and the insertion of intrauterine contraceptive devices (IUCDs) during lockdown. Movement restrictions in urban areas have made it difficult for ASHA staff in rural areas to access counter contraceptives (OTCs), condoms, oral contraceptive pills (OCPs) and emergency contraceptive pills (ECPs) (Motihar, 2020).

As a consequence of the rise in sexual activity and reduced access to contraception; it has resulted in increase in the number of unwanted pregnancies. It has been even hard to provide women with safe and early abortion services. Reasons include shutdown of private clinics, disruption in supply of essential drugs, redeployment of COVID-19 care facilities and personnel, lack of transportation facilities and restricted mobility across districts. Because of the delay, many women are coming to hospitals seeking second trimester abortions which obviously is not as safe as first trimester abortions. Also, women in despair are often pursuing unsafe abortion that can potentially lead to dire outcomes.

It is also necessary to note that concerns of reproductive health may not be limited to women, but that men may also have to endure the consequences. As an input receptor, SARS-CoV2 uses the angiotensin-converting enzyme II (ACE2) to infect alveolar epithelial lung cells (UNAIDS, 2020). In lung defense, ACE2 plays a role and can therefore deregulate the lung’s protective pathway through viral binding to this receptor (Li et al., 2020). It is worthwhile to note that some studies have shown ACE2 as a constitutive product of adult-type Leydig cells (Douglas et al., 2004), thus this implies a role in the function of the testicles and indicates the likelihood of testicular involvement in patients infected with COVID-19, a factor that can influence the secretion of testosterone.

Infection with SARS-CoV-2 may have an increased risk of testicular tissue damage (Jing, 2020) and may lead to infertility caused by the male factor. We are still not completely aware of the implications for the male SRH of COVID-19. It is also important to explore the long-term consequences.

The epidemic of COVID-19 has resulted in an unprecedented response, causing hospitals and healthcare staff to be overwhelmed as they look after patients with COVID-19. Lockdowns in cities have resulted in people living with HIV not being able to return to where they live and receive their regular HIV services; including treatment from their usual health-care providers.

While the vast majority of the respondents (82%) said that they had the information they needed to assess personal risks and take preventive measures
against COVID-19, almost 90% said they wanted more information on specific protective measures for people living with HIV. Many of the respondents (more than 60 percent) said they did not have enough personal and household protective equipment, such as face masks, soap or disinfectant, medical alcohol or gloves, comparable to the general population. During the COVID-19 outbreak, nearly a third reported becoming nervous and seeking psychosocial help (UNAIDS, 2020).

SRH and rights are also a major concern for gender-based and domestic violence, and the effects of enforced self-quarantine or mandatory quarantine policies to control the outbreak are unclear. Substantiation indicates quarantine period has a detrimental psychological effect on people, including symptoms of post-traumatic stress, confusion and agitation (Brooks et al., 2020). Quarantine and lockdowns due to COVID-19 has increased the frequency of domestic abuse and gender-based violence.

**Recommendations**

1. Until normality is restored, different virtual networks can be created for therapy & counseling in these times about sexual and reproductive health in relation to COVID-19.

2. Establish forums where patients can determine whether or not their reproductive health care requirements constitute an emergency, in order to reduce the burden on health services.

3. This would ensure the availability of drugs such as methods of continuous contraception, emergency contraception, antiretrovirals, and STI treatments.

4. To help to continue to provide safe abortion services to women and regular antenatal checkups.

5. Care facilities should also be made available in order to alleviate anxiety and support through online resources to make timely decisions.

Emerge with such social services that can help provide emergency response and admission to victims of domestic abuse or at risk individuals and provide them with sanitary shelters, supervised apartments and safe accommodations, as well as providing them with psychological, legal and social remote assistance (by telephone or through other channels).

**Key Messages**

1. Knowledge is important; people in quarantine need to understand the situation.

2. Rapid & efficient communiqué is crucial.

3. Safe effective contraceptive measures should be provided to couples in quarantine.

4. Regular Counselling is necessary in HIV and immunocompromised groups to alleviate anxiety and fear in the context of the COVID-19 pandemic.

5. Regular prenatal health checkups should be carried out in a secure and easily accessible environment.

6. Officials of public health should emphasize the altruistic choice of self-isolating.

**Conclusion**

If we have the realization that COVID-19 is here to stay, we need to build such health facilities which can function in proper synchronization with COVID-19 pandemic. As far as sexual transmission of the virus is concerned, there is insufficient evidence to recommend that asymptomatic couples abstain from sex to protect themselves from being infected by the virus. During outbreaks, sexual and reproductive health and rights are a major public health issue and should be given precedence. If the pandemic continues to grow, there is an immediate need for the scientific community to establish good clinical, epidemiological, and psycho-social correlations between the findings of COVID-19 and SRH and rights. There is a clear need, in particular, for timely preparation and intervention to conduct epidemiological research and surveillance of key vulnerable groups of women and adolescents and to evaluate their immediate and long-term impact on their SRH. Perhaps more critically, during the outbreak, we need to improve organizational tactics, design plans and actions to protect SRH and the rights of women, young people and susceptible communities. This needs not only scientists and physicians to function in synchronization, confidence, and harmony, but also politicians, community groups, and foreign agencies.

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**Conflict of Interest**

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