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LETTER

Corona Virus Disease (COVID-19) Fecal-oral transmission: Is it a potential risk for Indians?

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Corona Virus Disease (COVID-19) emerged in December of 2019 and has spread all around the globe in a short span with deaths above 100,000 till date. The primary routes of transmission recognized so far are respiratory droplets, contaminated surfaces, and close person to person contact. Knowledge about vertical and fecal oral transmission is sparse.

As the Pandemic evolves, there is a regular influx of new insights into its pathogenesis and potential transmission routes. Gastrointestinal (GI) tract has abundant angiotensin-converting enzyme 2 (ACE2) receptors to which the virus is known to attach. Intestinal manifestations have been shown to occur predominantly in later part of the infection. However, there are studies reporting up to 10% to 14% of patients with nausea and diarrhea prior to fever and respiratory symptoms and a proportion who have GI symptoms as the only manifestation [1].

In a series of 10 infected children, seven demonstrated ribonucleic acid (RNA) in rectal swab up to two weeks after demonstrating negative nasopharyngeal swabs [2]. Similarly, Severe Acute Respiratory Syndrome Corona Virus-2 (SARS-CoV2) has also been detected by reverse transcriptase polymerase chain reaction (RT–PCR) from a single stool specimen in an asymptomatic child with a close history of contact up to 13 days after the pharyngeal swabs were negative [3]. As per the current guidelines, negative results in two consecutive nasopharygeal swabs (at least 24 h apart) by RT–PCR are considered as evidence of viral clearance. However, the recent finding of prolonged shedding of the virus in stools raises the concern of pre-symptomatic or post recovery spread of infection through feces. Discharging the patient based on oral swab results may be risky and could be the reason for potential transmission in the community.

It is still unclear whether stool PCR positivity can be equated to presence of infectious virus. To date, there have been no reports of fecal−oral transmission of the SARS-CoV-2 virus. There is an isolated report of detection of live SARS-CoV-2 virus from a stool sample of a confirmed case of COVID-19 from Heilongjiang Province in China around 15 days after onset of symptoms [4].

During SARS 2002 outbreak, viral RNA was found in the sewage water of two hospitals in Beijing, which were treating patients with SARS [5]. Subsequently, the retrieved virus was found to remain infectious for two days at 20 °C and up to 24 h at 38 *C. Similarly, MERS- COV was known to survive more than 2 days at an average temperature of 20°C and was suggested to have fecal- oral transmission [5]. Thus, going by past experience of mutated corona viruses of animal origin, it seems to be a potent source. This is an assumption, which, if proved to be true, can be problematic. Therefore, pre-emptive steps in the right direction may be fruitful. Strict hospital protocols for handling stools samples, discouraging routine tests for a few months, withholding routine surveillance colonoscopies and fecal microbiota transplantation maybe fruitful. Also, testing of patients by RT-PCR of rectal swab or feces before lower GI procedures could be considered. Isolation of critically sick patients with high viral load for additional 2–3 weeks and appropriate disinfection of sewage must be followed.

Public education regarding individual hygienic measures like frequent hand washing, covering pot after defecation, flushing, cleaning with bleach, avoiding open defecation and restricted use of public toilets need to be advocated proactively along with social distancing especially in a country like India where fecal-oral transmission of diseases is a major public health problem due to lesser degree of sanitation practices.

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Compliance with Ethical Standards

Conflict of Interest NM, and SD declare that they have no conflict of interest.

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