

Impacts of Covid-19 on low- and middle-income countries' maternal and public health**Muhammad Torequl Islam***

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Abstract

Thousands of lives have calmed due to the coronavirus disease 2019 (Covid-19) worldwide. It has surrounded the earth with all its might in all dimensions, affecting population and public health as well. Low- and middle-income countries (LMICs) face relatively more obstacles due to their delicate health management systems. Covid-19 has largely reduced access of non-Covid-19 patients to the physicians and other health care providers, these include - pregnant women and children. Contrarily, various government and non-government social and field level health activities have also downturned. Covid-19 has already led to an increase in child labor, family strife, abuse of women and children, child marriage (especially girl child), anxiety and depression, and emotional turmoil; on the other hand, decrease in breastfeeding, physical activities, education and social activities in LMICs. Beside these, the use of non-prescription or self-prescribed medications has been increased along with the negligence of mild to moderate diseases. This paper offers an overall negative impact of Covid-19 on the maternal and public health in LMICs.

Keywords: SARS-CoV-2; Covid-19; maternal care; public health

The devastating severe acute respiratory distress syndrome coronavirus 2 (SARS-CoV-2) has already calmed thousands of lives around the world, including many teachers, researchers, physicians, political leaders and celebrities. How many more lives, it will take in the coming days is a matter of concern. It has been able to put a black hand in all aspects of economic, social, religious and political spheres. It also has a great impact on the public health. In addition to death from the infection, a fragile public health status, thereby, an increased human mortality rate might result in future. For example, more than 2.6 million stillbirths, 2.5 million neonatal deaths and 2.8 million post-neonatal (children <5 yrs) deaths occur yearly worldwide. About 98% stillbirth occurs in low- and middle-income countries (LMICs). Stillbirth is usually caused by a lack of adequate labor and maternity care.

The pregnant women in rural, low-resource, and fragile conflict-affected settings are at the greatest risk for stillbirth. The SARS-CoV-2 infection has led to a further deterioration in their health management (McClure et al., 2020).

A reduction of breastfeeding has been found to upturn child morbidity, mortality, and malnutrition (Chou et al., 2020). Universal breastfeeding prevents approximately 8,23,000 child deaths per year. Limitations in the availability of skilled health workers and increased reluctance of women to use the health system could lead to lower coverage of antenatal and postnatal cares, facility and community-based lactation support, and counselling. Many mothers have stopped breastfeeding their newborns due to SARS-CoV-2 transmission fear, thereby, declining in early initiation of breastfeeding after birth - missing the child's first natural vaccine (colostrum) and many essential nutrients.

For an example, vitamin D status of a

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newborn is dependent on its mother body's vitamin D status level. This vitamin has been evident to play important immunological roles in coronavirus disease 2019 (Covid-19) patients. Moreover, Covid-19 is also affecting the maternal and child mortality in LMICs by reducing the provision and use of reproductive, maternal, newborn, and child healthcare services, which might considerably increase in maternal and child deaths (Busch-Hallen et al., 2020).

How many mothers are able to breast-feed their babies during this detention period is still a matter of investigation, per contra, the Covid-19 pandemic is already indirectly threatening breastfeeding practices (e.g., early initiation, exclusive and continued breastfeeding) as it has a direct effect in LMICs, due to disruption of routine health care and decreased access to adequate food. In LMICs with fragile healthcare systems, Covid-19 has disrupted essential maternal and neonatal services. The low testing capacity, delays in obtaining results, constraints in infrastructure, along with staffing shortages are some factors those are influencing public health and public satisfaction in the current pandemic. Adequate measures should be taken for testing and providing results for pregnant and lactating women as well as children. At the same time, other members of this category families need to be brought under the test and results quickly to avoid the risk of infection, morbidity and mortality. Covid-19 symptoms may mimic obstetric emergencies, triaging women with concomitant complications might be delayed (Dmello et al., 2020). Unfortunately, the child labor and family strife have already increased due to scarcity in some LMICs. For an example, in the last 5 months (until July 2020), the number of child marriages has increased along with child labor and family strife in the South Asian country Bangladesh. Child marriage, especially girl child marriage is one of the major obstacles to maternal and child health; it also plays an important role in increasing malnutrition and infant mortality (Maniruzzaman et al., 2018; Melnikas et al., 2020).

According to the World Health Organization (WHO), frequent hand washing with soap/detergent or using a suitable hand sanitizer in Covid-19 is a very effective way to prevent SARS-CoV-2 infection. However,

this also raises various unwanted complications. Many unnamed (new) manufacturers have been capitalizing on this issue; adequate concerns are arising about their raw material quality, manufacturing equipments, quality control testing and supply management system. The common ingredients of hand sanitizers, such as ethanol, isopropyl alcohols and hydrogen peroxide (H_2O_2) have many acute and long-term toxicities (Box 1). From January to May 2020, the American Association of Poison Control Centers handled 9,504 cases of alcoholic hand sanitizers on children under 12 years of age. According to this organization, very small amounts of alcohol can cause alcohol-related toxicity in children, which can lead to mental confusion, nausea and drowsiness, and in severe cases, death by stopping respiratory activity (Mahmood et al., 2020). In addition, frequent use of hand sanitizers may increase the risk of other viral infections, including the development of anti-microbial resistance.

Box 1. Toxic effects of the hand sanitizer ingredients

Acute toxicity

Ethanol: Central nervous system and respiratory depression, lactic acidosis, ketoacidosis, nausea
Isopropanol: Central nervous system and respiratory depression, skin and mucous membrane irritation, lactic acidosis, ketoacidosis, nausea
H₂O₂ (3%): Mild gastrointestinal and mucosal irritation, vomiting, skin irritation

Chronic toxicity

Ethanol: Cardiac arrhythmia, acute liver injury, myoglobinuria, hypokalemia, hypomagnesemia, hypocalcemia, hypophosphatemia, cardiac arrest and even death
Isopropanol: Ketosis, osmolal gap ketonemia, rhabdomyolysis, myoglobinuria, acute renal failure and even death
H₂O₂ (3%): Air embolism and even death (in rare cases)

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A reduced access of many patients, especially those with mild to moderate diseases, to doctors and other health providers might increase in the intensity of such diseases and risk related to other diseases and comorbidity in Covid-19. There is also a growing tendency to seek medical care in an unscrupulous way or to leave it due to waiting and negligence; many patients are turning to non-prescription or self-prescribed medications, which might be one of the major challenges in the future. Moreover, many non-Covid-19 patients are not getting proper treatment in time due to inability of health management. Besides other facts, the financial crisis is one of the main reasons behind this, as many people in LMICs are still used in traditional medicines for their disease management.

To date, doctors are generously treating patients with some drugs, including chloroquine, hydroxychloroquine, chloroquine phosphate, azithromycin, lopinavir-ritonavir, interleukin-6 inhibitors, favipiravir and dexamethasone. Although these are not specific therapies for coronaviruses, including SARS-CoV-2 and there is no scientific evidence behind them that they can reduce mortality rates among Covid-19 patients. Physicians have not adopted any controlled, approved or specific approach in this regard. Some people's lives may be saved, but in the near future due to irrational treatment, there may be a detailed misery, including irrational and misuse of drugs and anti-microbial resistance.

Lockdown has made people family-centric, they have enough time to give their family members; but, on the other hand it is again creating family strife, especially in poor, uneducated and poorly educated families. Basically, we are going through an uncertain time now; it is the time to reign in anxiety and depression. In Covid-19 the financial resources of some people are not working at a serious level, on the other hand, due to lack of money, some people are not even getting food. Bringing the overall situation in harmony seems to be a huge challenge, even after a long time of Covid-19 goodbye. Unemployment, idle time pass, inadequate physical activity and mental stress can increase the incidence of various diseases, including obesity, diabetes, hypertension, neurological

diseases and disorders on the one hand, and on the other hand many new cases can also be increased. Young generations are spending their lazy time on internet-based social media, from which they can fall prey to misleading and criminal activities in addition to useful information. For example, skyrocketing of fake news, misinformation, misconception, conspiracy theories about Covid-19 and other relevant matters, tick-tock activities, and so on.

Conflict of interest

None declared.

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