



Research Article

Sociology of Pandemics: Social Inequalities and Biomedical Response in Wake of COVID 19

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Abstract | Inequalities across several key domains of life, including employment and ability to earn, family life and health. The outbreak of the corona virus plunged the world in a state of chaos and uncertainty. As fear and anxiety built up, governments around the world responded to the pandemic by imposing long, nationwide lockdowns in an attempt to “flatten the curve”—a term that refers slowing down the spread of the disease in order to prevent healthcare facilities from being overwhelmed by too many new patients. However, lockdowns and related strategies designed to minimize the spread of the pandemic, like early detection, isolation of confirmed cases, and social distancing, were build and implemented on the assumption that COVID-19 is simply a health emergency that demands solutions from the life science alone. They failed to take into account structural inequalities present in societies that affect the ability of an individual to cope with this medical condition and follow the recommended strategies. As Geoffrey Rose (1992) concluded his seminal monograph ‘The strategy of preventive medicine’: Pandemics are social, economic, and biological phenomena. By taking an approach that considers not only the biological but also the sociological aspects of a pandemic, better preventative strategies could have been devised. In this review paper we look at the COVID-19 pandemic from inequalities perspective to explain why health issues and related preventive measures are hard to separate from socioeconomic gradients.

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1. Introduction

The outbreak of COVID-19 plunged the world into a state of chaos and uncertainty. As fear and anxiety grew, governments around the world responded to the pandemic by imposing long, nationwide lockdowns in an attempt to flatten

the curve, a term that refers to slowing down the spread of the disease in order to prevent healthcare facilities from being overwhelmed by too many new patients. However, lockdowns and related strategies designed to minimize the spread of the pandemic, like early detection, isolation of confirmed cases and social distancing, were structured and implemented

on the assumption that COVID-19 is simply a health emergency that demands solutions from the life sciences alone. They failed to take into account structural inequalities present in societies that affect the ability of individuals to deal with this medical condition and follow the recommended strategies.

Existing data reveals that the spread, exposure and outcomes of COVID19 are divided along social, economic and racial lines. Thus we can say that it is a social disease. However, the response and intervention to deal with COVID-19 are primarily focused on technical and biomedical solutions of this inherently social disease. Policy leaders fail to acknowledge the role of social context in formulating, evaluating, and implementing various interventions. Need to integrate health; social, and economic responses have been highlighted in the pandemic's wake.

Thus, pandemics are not only biological phenomena but also social and economic (Geoffrey *et al.*, 1992). By taking an approach that considers not only the biological but also the sociological aspects of a pandemic, better prevention strategies could have been devised. In this paper, we look at the COVID-19 pandemic from the perspective of inequalities advanced by various strands of sociological research to explain why health issues and related preventive measures are hard to separate from socioeconomic gradients. Social inequalities refer to unequal rewards and opportunities available to different groups of people occupying different positions on the social ladder. There are four important domains of inequality: socioeconomic, health, political, and cultural inequality. Sociological research on inequalities and social stratification analyzes the institutions and processes that might generate, maintain and change the system of social inequalities in all these domains (Stehr, 1999). We specifically focus on social stratification (Weber, 1947), as a significant feature of contemporary societies, to track disproportionate risks and the consequences of COVID-19. In his theory of social stratification weber argued that social stratification has an important economic dimension along with two other very important dimensions namely; status and political power. Social stratification is not limited to an analysis of class; rather it includes all forms of inequalities based on gender, age, race, ethnicity and political power.

Here we pay particular attention to a broad sociology

of pandemics and argue that the pandemic has increased existing economic and gender inequalities. The major aim of this paper is to provide empirical evidence for the claim that the pandemic is more than a health and sanitary crisis. We acknowledge that the life science plays an important role in reaching a better understanding of the virus itself, developing a vaccine and treating patients. However, due to the social nature of this disease, a more collaborative response from natural and social scientists is required to deal with the pandemic.

1.1 History and origin of COVID-19 pandemic

SARS-CoV-2, the virus responsible for the COVID-19 pandemic, was first detected in Wuhan City, Hubei Province of China, in December of 2019. Initially, it was reported as a respiratory illness, though its etiology was not known. The symptoms of the disease included fever, malaise, dry cough, and dyspnea. Although it had not yet reach epidemic potential, the virus caused the onset of a respiratory illness outbreak in China. As documented in existing studies, the virus was present well before its epidemic explosion. The outbreak remained localized and limited in its effect, the virus remained dormant till it encountered favorable conditions.

SARS-Co-2 is part of the *Coronaviridae* family, a subfamily of *Coronavirinae* RNA viruses. There are other subfamilies such as alpha, beta, gamma, and delta coronaviruses. Apart from SARS-CoV-2, two others corona viruses have previously infected humans: SARS-CoV, which caused the SARS outbreak of 2002–2003; and MERS, which was responsible for the Middle East MERS CoV outbreak of 2012. Figure 1 shows the time line of pandemics following the 1918 Spanish flu (H1N1). According to Plato *et al.* (2021). The distant origin of SARS-Co-2 is linked with decreased biodiversity caused by the changes in ecosystem due to increased human economic activities. Increasingly growing contact between humans and animal reservoirs, which are a potential source of pathogens including SARS-CoV-2, has increased the risk of such diseases. One such example is the conversion of forests into farmlands, which has disrupted the delicate balance of the ecosphere. Human activities, such as animal farming, hunting and uncontrolled urbanization, have interfered with the dilution effect caused by increased biodiversity. Resultantly, the risk of all types of pathogens has increased. In case of SARS-CoV-2, bats were the

source of transmission and potential reservoir for this pathogen. Bats have long been host to corona and other zoonotic viruses. Evolution has gradually shaped their metabolism and their immunological system to make them insensitive to the dangerous weapons of pathogenic coronaviruses, making them important reservoirs of them

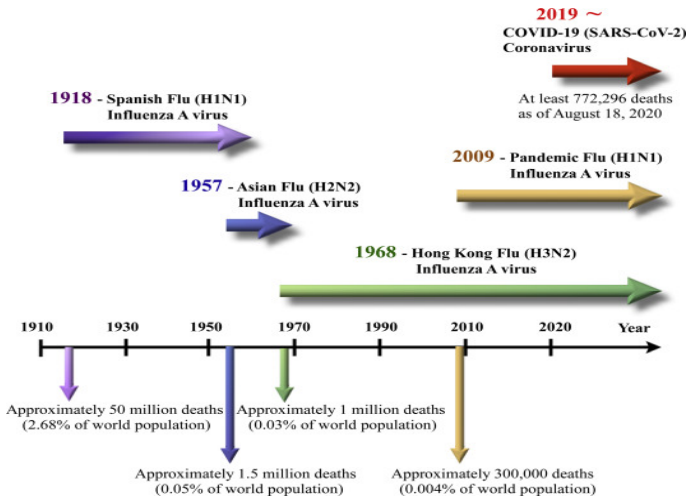


Figure 1: A timeline of five pandemics since 1918.
Source: Chin Liu et al., 2020.

On 31 December 2019, China officially informed the WHO about the spread of this novel disease in Hubei Province. In January 2020 SARS-CoV-2 virus had already reached epidemic level in Wuhan. On 7th January 2020, it was identified as a new type of corona virus and, later on, Chinese health officials shared the genetic sequence of SARS-CoV-2 for countries to use to develop diagnostic kits. Due to the human-to-human transmission ability of SARS-CoV-2, it is highly contagious and rapidly spreads and continues to evolve in the human population. As of now it has already affected 115,003,510 (worldometer.info) people around the globe. It has become the fifth pandemic after the 1918 flu pandemic (Figure 1).

The waves of suffering due to COVID-19 have shocked the global community. To protect the health of people, Governments across the globe responded to pandemic by imposing various containment measures such as lockdown and social isolation, which has brought social and economic life to a halt. Many industries were closed resulting in job loss and unemployment for many people- an abrupt disruption of the labour market. Although the disease itself does not discriminate, individuals in societies are not equally placed and their ability to comply with restrictions affects their chances of exposure to the virus. Cases in

point are low wage, front-line, essential workers such as delivery persons, cleaners, paid domestic helpers, and garbage collectors. The International Monetary fund has issued a warning that if proper measures are not put in place “growing disparities will lead to long-lasting grievances and ultimately to social unrest” (Georgieva and Gopinath, 2020). This is a crossroads for the biology and sociology of pandemics.

1.2 How the virus interacts with already existing societal inequalities

In mainstream media, COVID-19 has often been called a great equalizer, which transcends all forms of social and economic disparities (Mein, 2020). However, the history of pandemics shows that when epidemics or pandemics hit, they usually hit the poor first and worst (Daniels et al., 2000). Research into the 1918 Flu pandemic found that it caused a 6% fall in world GDP and an 8% decline in consumption. Similarly, during its SARS (Severe Acute Respiratory Syndrome) pandemic, Hong Kong experienced a 2.63 percent drop in real GDP (Kabeer et al., Forthcoming). Pandemics do not only cause severe economic damage; they also often lead to and increase wealth inequality (Furceri et al., 2020). A number of studies indicate a close association between income and social inequalities and health outcomes (Milyo and Mellor, 1999). Considering this, it is not surprising that lower income groups are suffering the brunt of COVID-19. Recent studies (Patel et al., 2020) also indicate that the biology-focused approach to the pandemic has especially done a disservice to the lower strata of society.

The most vulnerable group during this pandemic has been those who have jobs in the informal sector, a group that represents 90 per cent of total employment in low-income countries (ILO, 2018). In absolute figures, almost 1.6 billion informal workers (all over the world) are affected by the resulting economic crisis (ILO, 2020a). Being an informal worker has an adverse impact on the adequacy of earnings and occupational safety, as well as health and working conditions in general. The circumstances make it harder for many to follow current preventive measures and even when they are able to do so, these measures are less effective for them than for many other groups. For example, even when they self-isolate, informal workers are at a higher risk of infection due to overcrowded and unsanitary living conditions, a lack of access to running water, food insecurity and a lack

of personal protective equipment (ILO, 2020b). They are also known to have poor healthcare (Ruiz *et al.*, 2015).

Without aid, the future financial prospects of those with jobs in the informal sector seem bleak. Without any alternative income sources, lost income will result in an increase in relative poverty for informal workers and their families of more than 21 percentage points in upper-middle-income countries and 56 points in lower- and low-income countries (UNDP, 2020). Whereas middle and upper class workplaces are often able to save jobs by going virtual, that is not usually an option for most lower class workplaces, which generally require in-person physical labour (Blundell *et al.*, 2020). High rates of unemployment and economic strain are forecasted, especially for undocumented immigrants, who are not eligible for financial support during COVID-19 (Clark *et al.*, 2020). There is a need to research those social factors that cause disproportionate infection and death rates. The known factors can be remedied so that such an outcome can be avoided in the future. Because the current pandemic has been looked at mainly through the lens of biology, sociological blind spots in the response to this pandemic have had adverse effects. The COVID-19 pandemic cannot only infect human beings, rather it also has the capacity to weaken societal institutions. COVID-19 has disproportionately affected those situated at the margins. Morbidity rate is also high among individuals on the margin of health such as the elderly and those with underlying health conditions. The effect of COVID-19, on minorities and migrants is also an important concern as high rates of unemployment and economic strain are forecasted especially for undocumented migrants (Clark *et al.*, 2020). In the U.S. factors like the lack of accessible and affordable healthcare, lack of access to preventative medicine, and economic inequality have led to disproportionately higher death rates for migrants; the CDC (Centers for Disease Control and Prevention) also reported (www.cdc.gov) a 2.1 times higher death rate among Black or African American citizens, a 1.1 times higher death rate among Hispanic or Latino persons, and a 1.4 times higher death rate among American Indian citizens. Similarly, in the U.K., Platt and Warwick (2020) in their report found that people from ethnic minorities and migrant communities were more likely to live in areas badly affected by the pandemic; they were also found to have higher death rates compared to

the white population, despite being younger on average. There is need for more research to figure out what societal factors caused these disproportionately higher death rates and how the known factors can be remedied so that such an outcome can be avoided in future pandemics.

Valensisi (2021) has projected that globally the number of people living below US\$1.90 per day will increase by 68 million in 2020 alone and it will pose a serious setback to developing countries. Another important dimension along which COVID-19 is widening inequalities is that of gender. The concept of gender includes roles and responsibilities those are set by the society. These roles and responsibilities are not something that we genetically rather these are the duties and responsibilities that we learn to perform as part of our socialization.

1.3 The indirect impact of COVID-19 on women

Gender is an important social determinant of health. Although segregated data is not available for most countries, evidence from initial research shows a clear trend; women are at a comparatively lesser risk of severe disease and death due to COVID-19 infection. Among countries that provided sex segregated data on average mortality rate for men due to COVID-19 is 58.1 percent and 41.9 percent for women (Kabeer *et al.*, Forthcoming). The reason behind this disparity in mortality rate is not yet known but it has been posited that it is also important to acknowledge that deep-rooted societal and structural inequalities make them more vulnerable to other pandemic related challenges such as reproductive health issues, intimate partner violence (IPV), and mental health. The pandemic has the potential to exacerbate pre-existing gender disparities in social and economic systems and women are more likely to bear the brunt of social and economic aftermaths of pandemic. Fischer and Ryan (2021) in their article have documented the most glaring gender inequalities that have arisen in the COVID-19 pandemic.

Women have less income and social protection as they are mostly employed in the informal sector. Approximately 740 million women are employed in the informal sector. Two third of women from developing countries are informal workers. During the lockdowns these jobs were no longer available to these women. According to an estimate, approximately 40 percent women were employed in the hardest-

hit sectors as compared to 36.4 percent men (ILO, 2020a). Therefore, they are comparatively less capable of dealing with the economic shocks resulting from the pandemic, as most of them had no access to social protection systems that provide a social safety net in case of emergencies. Another important risk factor for women is that they occupy jobs where they are at a comparatively higher risk of exposure to infection, like those in the health care and social care sector. Women represent approximately 70 percent of these sectors (ILO, 2020a). Hence, in some cases women lost their jobs and in other they found themselves serving as front line workers. Given the shortage of personal safety equipment, frontline workers are at greater risk of exposure to COVID-19. Reports suggest that women who have managed to escape from extreme poverty during last few decades are at a great risk to fall below the poverty line again due to decline in various sources of social and economic support during pandemic (Seck et al., 2021).

On one hand many, women lost their jobs and on the other hand those who have formal employment are bearing a double burden under proposed prevention regimes. Working women reported longer work hours as compared to men. In wake of pandemic working from home and online schooling has become a new normal for everyone. Approximately 800 million children and young people are affected by these measures (UNESCO, 2020). This new normal of online work is built on the assumption that households can be smoothly converted into workplaces. However, how these new ways of working from home interact with the existing gender inequalities at the household level, especially the unequal gender division of household work, remained invisible. It is more difficult for women to balance their household responsibilities along with their job demands and parenting responsibilities. Rather it has a crucial social dimension.

Lockdowns and closure of educational institutions have increased the burden of unpaid work for women, as they are the primary caregivers in their families. Due to closure of educational institutions children were also at homes, thus care demands and household responsibilities have multiplied for women who were trying to maintain a balance between their paid and unpaid work (Naz et al., 2021). Due to the closure of educational institutions, most educational institutions have suddenly shifted from in-class to

online education to prevent the complete disruption of academic activities. This sudden shift has created stress for teachers, students and parents as all of them were expected to shift to new mode of teaching and learning. However, this shift from physical classrooms to home requires some support and training. Though some institutions have provided training to their staff most of universities did not. Technical difficulties and gender relations at a household level have made it difficult for university teachers to maintain their quality of life. The stress that resulted from conflicting demand has also affected interpersonal relations, producing many secondary affects. These views are echoed in existing literature (Frone, 2003; Kalliath and Brough, 2008; Sirgy and Lee, 2018; Awan and Naz, 2022).

The private sphere of home in this case was closely interconnected with the labour markets and has helped families to absorb the economic and psychological shocks caused by pandemic. However, as mentioned earlier, stay at home regime has increased unpaid care work for the women. As reported by Seck et al. (2021) this increased physical and psychological burden on women have many secondary health outcomes for women such as deterioration of mental health and emotional wellbeing. The earlier feminist research on how women agency affects their health seeking behaviour and domestic violence has gained a new resonance during COVID-19 crisis as increased cases of domestic violence has been reported (UN, 2020). According to Campbell (2020) there is a close association between natural calamities and domestic violence. More research is desired to examine intra-household relations during COVID-19 to shed light on faulty line between health, medicine and society.

Conclusions and Recommendations

COVID-19 has highlighted how health and social care are deeply connected and can only be delivered affectively in combination. The waves of suffering due to COVID-19 have shocked the global community. Mass social suffering caused by the pandemic demands more collaborative efforts to control the waves of suffering. Overestimating the efficiency of technological solutions to pandemic devalues the need for social care. There is differential impact of COVID-19 on different group people and in different geographical regions. Finding amicable solution and robust response is not possible without paying due

attention to the underlying systems that structure, stratify, and sustain such risk. Although COVID-19 is a health issue, it has also raised legitimate concerns about societal inequalities. Therefore, a sociological perspective, which balances public health priorities with economic and social activities, is crucial when devising guidelines, policy responses or recovery plans. Taking inequalities into consideration can contribute to preventing the spread of epidemics and pandemics now and in the future.

The failure to gather and analyze data about inequalities based on gender, age, race, ethnicity and political power might mislead the policy debate. A multi-dimensional approach that incorporates a sociological perspective in its decision-making process is required. The social aspects of pandemics need to be better researched. When devising guidelines or implementing prevention plans, the needs and abilities of especially vulnerable groups (like informal workers) need to be considered. To deal with this pandemic a far broader and more integrated approach is desired that should be based on social, economic and biological dimensions simultaneously. In order to avoid future recurrence of pandemics, it is the need of our time to promote interdisciplinary cooperation, through modern scientific methods and by sharing insights from disparate research domains. This could help to deal with the consequences of the pandemic in a more effective manner. Although collaboration between medicine and social sciences sound intuitively promising there is scarce work that integrates the health sciences and social sciences to understand the COVID-19 outbreak (Naz *et al.*, 2021). Through review of existing literature, it can be safely concluded that it makes a logical sense to blend various perspective on COVID-19 through interdisciplinary collaboration.

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Novelty Statement

This article provides a unique multidisciplinary perspective on COVID-19 pandemic by using insights from social, economic and biological sciences.

Author's Contribution

Farah Naz: Made substantial contribution to the concept and design of the study.

Asad Umair: Contributed in extensive review of literature

Ghazala Noureen: Made important contribution in overall improvisation of manuscript

Conflict of interest

The authors have declared no conflict of interest.

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