

COVID-19 across Countries: Situation and Lessons for Pandemic control

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Abstract

In the context of rapid worldwide spread of COVID-19 pandemic, many facts and issues are coming up. Some are general across borders while some others specific to particular context. We intend to review situation (condition, trend) and lessons (observations, and messages) from 9 different countries across the continents (in brief as contributed by respective authors). We have, here, the accounts and observations from Nepal, India, Japan (Asia); Norway and United Kingdom (Europe); United States of America (North America), Ecuador (South America), Australia and South Africa. General fact is that all need to maintain social distancing, adequate testing, aggressive contact tracing and treatment along with strategies to limit movements and crowds (e.g. lockdown). This pandemic has again shown that there is no border for disaster and pestilence. Borders are artificial. We all human being and whole world is a single unit. We have certain weaknesses, drawbacks and deficits as well as strengths that we need to understand and positively stand together in the battle against this pandemic.

Key Words: Corona, COVID-19, Situation, Lesson, continents, countries

Introduction

The whole world has been struggling with Coronavirus disease 2019 (COVID-19) that has caused a death toll of 513,186 and infected 10,577,756 people in the world by the end of June 2020.¹ It started with an outbreak of pneumonia caused by a beta group of coronavirus in Wuhan City, Hubei Province, China in late December 2019 and was reported to the World Health Organization (WHO) on December 31, 2019, which confirmed its

concern on 12th January 2020. This particular coronavirus was first named as 2019 novel coronavirus (2019-nCoV) but later changed to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) as this virus is to some extent similar to SARS-CoV-1 that was responsible for SARS epidemic in 2002/3 and Middle East respiratory syndrome (MERS) starting in 2012. The WHO declared this as a Public Health Emergency of International Concern on January 30, 2020 but WHO later changed it to a pandemic on 11th March 2020 as COVID-19 started to affect many countries at the same time.² It has now spread to all over the world with a great morbidity and death toll.

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Though majority of the infected people present with fever, cough and shortness of breath; some develop severe pneumonia, renal and multi-organ failure requiring Intensive Care Unit (ICU) management.^{3,4} The pandemic has wide range of effects in different walks of human life and society, mainly health, including physical, mental⁵ and social; and warranted for many strategies including modification in health service delivery. The effects of COVID-19 are felt beyond health. COVID-19 has brought the global economy to a halt. People have either lost their source of income or their income has reduced significantly. This COVID-19 pandemic is probably the most terrorizing and devastating catastrophe for human race of this modern generation. We have heard of other bigger pandemics causing loss of more lives, but very few have heard of the experience from survivors of that time. So we humans, with too much confidence on our knowledge and advances of science and technology, didn't even imagine of such a disaster we are facing now. Thus, we were not at all prepared for this kind of threat. Even the countries with the most resources and best health care services have been drowned by this pandemic. Communities and countries with poor socio-economic statuses, especially most countries in Asia and Africa were already struggling to fulfill their basic needs of life and minimal health services. While we are counting and comparing the numbers infected and lives lost all over, lives affected and even lost indirectly from this pandemic due to hunger and lack of essential health services will be much more and will fall behind the shadow. This is likely to be more severe in most of Asian and African countries with limited resources, fear and inappropriate or

shifted prioritization of already deficient health services.

Many countries have started relaxing lockdown restrictions but are being urged by the WHO to continue widespread testing and remain vigilant. At the moment, main focus all over the world has been in limiting the spread of this infection by all means including restrictions on movements and socializing. We know that human beings are very social creatures. So, the impact of imposing social distancing can be very negative in general population as well as those who are already vulnerable. Most of these ongoing attempts are very likely to give rise to several psychosocial problems once we come back to normal life which in itself is likely to take several months. Psychosocial impact of this crisis is going to be huge and beyond our imagination. In China, several studies have reported high level of stress, distress and traumatic stress symptoms in general populations during the pandemic crisis⁶⁻⁸ as also reported in earlier epidemic or pandemic crises. On the other hand, this crisis has also been interpreted as an opportunity for social transformations.⁹ It has also been criticized for not learning from earlier two pandemics caused by coronaviruses.¹⁰ There is currently no cure for COVID-19. Research teams around the world have joined the race to develop treatment with safe and effective vaccination.

This article intends to summarize about scenario (situation, condition, challenges, endeavors made) and message (observations and lessons) of some nine countries across the borders and continents that might give some insights into the control of the COVID-19 pandemic.

Nepal

Nepalese context and Situation

The first case of COVID-19 was detected in January 23, 2020 in Nepal in a person who had returned from Hubei of China.¹¹ The trend of infection/ morbidity and mortality was a bit slow initially but rapid in later parts of the pandemic so far (Table. 1).¹¹ Though the speed seems a bit different with some local realities and factors (need to investigate into the role of some local factors; people point out: geographical altitude, weather, foods, ingredients like- spices with anti-oxidants and others, habits, behavior pattern like culture of 'Namaste' instead of handshake or hug for greeting, exposure to infections, malaria, immunity inherent in dwellers of Nepal, and others), its pattern is same as in other countries. Constant news and updates of ever increasing morbidity and mortality of the pandemic in all sorts of media (television, radio, FM, newspaper, social media, WebPages mainly and some authentic resources, e.g. WHO, CDC, MOHP etc.) touched people and raised their concern, awareness and knowledge on one hand and on the other, affected people to the extent that they started becoming anxious.^{12,13} Though many Nepalese abroad workers are still outside, some workers returned home then and apparently they were less health literate. Even if people heard, they mostly did not seem to follow health rules, e.g. social/ physical distancing, avoiding large gatherings/ parties/ crowds, self quarantine, hand hygiene or so as media reports of some initial positive cases revealed. Overall knowledge, attitude and practice of the people are apparently mixed and this situation when all need to follow them in this pandemic made them a threat for other people from infection point of view. Likely with

ignorance, fear and preoccupation; the pandemic could not remain free from the color of racism, discrimination and judgment in Nepal too.

This country with one of the poorest development index status has been panic stricken due to certain realities and challenges, e.g. resource deficiencies for facility directly related to COVID-19, e.g. Testing, Contact tracing, Isolation, Quarantine, hospital service, ventilators, PPE, masks, sanitation measures etc. There is a need of reach to real needy people while central government report claims mobilization and use of huge monetary resources. Public are afraid government should not limit its role to mere lockdown; it should pay attention to other essential measures as laid down by the WHO for pandemic control.¹⁴ When lockdown is still going on, its pros and cons were being evaluated and the need for exercising caution is being highlighted.¹⁵ Though evidences are in its favor for infection control, it affects people in many ways. Remarkable sections of population were devoid of basic needs like- food, water and room when all industries, economy/ business/ service/ income activities came to a halt. Except meager instances; monitoring, regulation, support packages are nil; government officials warn people of raising taxation; anti-socials enjoy theft, corruption and fishing in dim water! Though some experts warn regarding the price of sidelining other equal or even bigger preexisting health problems, e.g. infections (e.g. Dengue, TBc, HIV), malnutrition, psychosocial issues (e.g. domestic violence, human trafficking), suicide; currently, they seem in Nepal the unseasonal croak of a frog! Impact is beyond imagination, e.g. education, developmental process, economy, social life etc.

Observations and message from Nepal

Almost together with its bordering country India, Nepal government also declared for nationwide lockdown in March 24, 2020 which was later extended in phased manner. Some favorable observations made in Nepal during pandemic lockdown included: revising modes of celebrating various festivals and occasions to limit gatherings (e.g. Buddha Jayanti, Bisket, Machchhindranath festivals); awareness raising materials from individuals, clubs, specialty organizations, government side, even school children in their premises and posts- creative and proactive; singers/ creators self coming up with positive messages; food/ water distribution for hungry, thirsty and needy people; hand washing spots; returnees mending walls and old schools; webinar, educational programs from Nepal Medical Association, Psychiatrists' Association of Nepal, other professional organizations, WHO and MOHP-Nepal encouraging update and training on essential skills and capacity, guidelines, materials, reviews, updates and modifications and its media coverage of revision in modality of health services, e.g. help lines,^{12,13} telemedicine etc. The activities and efforts were largely influenced by the world trends and waves!

Greatest challenge at national level is to transparently and wisely channelize the resources, efforts and mechanisms in organized way to address specific needs of various sections of populace by proper need assessments; action planning and project execution to the monitoring, including solid science based future direction for the return to usual routine by gradual release of constraints. Nepalese society needs to preserve its healthy culture like: 'Namaste' for greeting (Table. 2), purity in mind (peace in solitude), body (with its

space), home (surrounded by boundaries) and environment (walls) (for safety but not for discrimination and attitudinal distance, i.e. physical distance but not emotional) for holistic health as guided by our tradition and help people in need. At individual level, need to maintain social distancing but keeping emotional connection, avoid crowds/ body to body contact ways of social interaction and greetings, use mask and soap/ sanitizer as per need, maintain hand and body hygiene, regular exercise, and remain alert to internet abuse and domestic violence.

India

Indian context and Situation-

The number of COVID-19 cases was increasing exponentially, globally including South-East Asia. As the situation report released by World Health Organization (WHO), by 16th of June 2020, India had 343,091 confirmed COVID-19 cases with 10,667 deaths.¹⁶ As per this report, among the South-East Asian countries, India is having highest number of confirmed COVID-19 cases and highest number of deaths related to it. India accounts for 70.5% of total confirmed cases and 79.55% of total deaths in South-East Asia.¹⁶ As per the data by 18th May 2020, 5.93% of the total individuals tested for COVID-19 were found to be positive for the disease.¹⁷ Similarly, the mortality rate in India is 3.31%, which is lower than the death rate reported globally.¹⁷ The global death rate is 5.32%.¹⁷

Observations and message from India

The Indian government is pro-active to control the spread of COVID-19 pandemic. The government of India, enforced lockdown countrywide since 21st March 2020. Phase wise there were changes in the restrictions as the lockdown progressed. The Central government

officials of India held series of meetings with the chief ministers of all the states and union territories (UTs) of the country to discuss about the region-specific updates and specific strategies to deal with the challenges. The ministry of health and family welfare (MoHFW) has launched helplines to address the queries of general public related to COVID-19.¹⁸ The Indian government has introduced an app in the name of *Arogya Setu*, which contains information related to COVID-19.¹⁷ It also helps in self-monitoring of the individual and gives directions on the basis of responses of the individual on the screening questionnaire. It also alerts the individual, when an COVID-19 infected person comes closure to the index person (if both the individuals have activated the above app). The government of India, periodically updates the guidelines related to COVID-19 testing, management of patients infected with COVID-19, isolation and quarantine procedures and disposal of dead bodies of COVID-19 patients.¹⁷ The resource materials for the training of medical and paramedical personals and awareness of general population are developed by the experts and updated periodically in accordance to the international evidence based guidelines.¹⁷ The government had also taken initiatives to bring the Indians staying in other countries, who want to return back to the country. Similarly, the migrant workers working in different parts of the country are provided transports to return to their home places in a phase wise manner. The government had expanded the number of beds allotted to COVID-19 patients. To motivate the healthcare workers and police personals in the country, various initiatives were taken by the government of India.¹⁸ The initiatives taken by

the Indian government was appreciated by the global leaders.¹⁹

Japan

Japanese context and Situation

In Japan, sporadic infections were suppressed for some time after the first case was confirmed in mid-January, but an increase in the number of cases in some areas has been noticeable since late March. For this reason, the government declared a state of emergency in some areas on April 7. As a result, the affected areas were asked to refrain from going out for non-essential reasons, cancel large events, close schools, and close all but a few industries, such as medical and food services. On April 16, the emergency measures were expanded to cover the entire country because of the spread of the infection. Initially, the emergency measures were scheduled until May 6, but were postponed and the emergency measures were lifted on May 14 in all but a few areas. By May 21, there were 16,385 positive PCR tests, 3,165 in-patients (210 of whom were critically ill), and 771 deaths.

Observations and message from the Japan

Although Japan's emergency measures are not legally enforceable, many people have followed them, partly because of the national character of the country, and the number of patients has started to decline. We believe that the exponential increase in the rate of infection was suppressed by the fact that people were highly hygienic and had a habit of washing their hands and wearing masks. In addition to general infection prevention measures such as washing hands and wearing masks, the government has emphasized the avoidance of 'three C', which are Closed spaces with poor ventilation, Crowded places with many people nearby, and Close-contact settings such as close-range

conversations, based on research by Professor Nishiura of Hokkaido University that shows that the overlap of three densities is 18.7 times more likely to result in infection than without them.²⁰ Another feature of Japan is the counter measures against clusters. A characteristic feature of the new coronavirus is that in many cases, the infected person did not transmit the infection to the people around them, and in some cases there was a suspicion that the infection had spread from a particular person to many people around them. These small outbreaks are called clusters, and a cluster task force was set up on February 25. This task force played a central role in countermeasures against clusters by detecting cluster outbreaks at an early stage and identifying and tracking concentrated contactors through active epidemiological investigations. In addition, the early closure of all schools (March 2) is one of the characteristics of Japan, but the effectiveness of this closure in preventing the spread of infection remains to be verified. Some people have criticized Japan's low number of deaths as being due to the limited number of PCR tests, but this criticism is unfair, since the positive rate of 7.4% of the 218,744 cases in which PCR was performed was not high compared to other countries, and there was no increase in the number of excess deaths.

Norway

Context and Situation of Norway and Nordic countries

Europe became the second hot region for COVID-19 after China where several countries like England, Italy, Spain and France were the most badly affected. Nordic countries which have many things similar including their unique and universal healthcare and welfare system, adopted different strategies to fight against this pandemic. Sweden, as we all know, was unique

country in the world which never implemented a lockdown but let the life go with some preventive measures by focusing on elderly and those in high risk. This is the reason why Sweden suffered the least all over the world regarding the financial loss and the burden associated with this pandemic although the death rates in Sweden were slightly higher than in neighboring countries like Denmark, Finland and Norway.

In Norway, the first case was reported at the end of February 2020 in those who had spent their winter vacations in Italy and Austria. By June 16, 2020, it has caused 242 deaths and 8,655 positive cases of COVID-19. It was Denmark which first decided to take hard measures by declaring a partial lockdown.^{21,22} Norwegian government followed the similar approach and decided to close down all the kindergartens, schools, colleges, Universities, and prohibited all kinds of social activities and arrangements including restrictions in travels and movements from 13th March until medio April.²¹ However, all the public transportations and most of the groceries including few shopping centers were open during that partial lockdown. All the hospital and health care professionals were actively working and planning to take care of severe cases of COVID-19. Health Minister, Prime minister, heads of the Directorate of Health and Norwegian Public Health Institute were organizing almost a daily press conference to update about the corona situations in the country. As the people in Norway and Nordic countries have high trusts in their governments and their decisions, people really followed the advices from the authorities. Most of the teachings and some of the consultations (e.g. General Physician and psychiatric consultations) were done online. Several nursing homes which

are run by the state for taking care of old people were converted to centers for taking care of COVID-19 patients after they got discharged from the hospitals. At a time, almost 20% of the hospital staffs were in quarantine or isolation that jeopardized the health care services.

Observations and message from Norwegian context

Almost after 2 months, it was observed that the severe cases of COVID-19 were much less than expected and the death rate was also relatively low. Norwegian people are known to keep social distancing from before as they prefer to be alone and in peace. Even before COVID, in trains and busses, one notices that Norwegian people prefer to find a vacant seat as they do not like to be disturbed by others. Moreover, it is a relatively large country with small population so that low population density, well established health care system with universal coverage, better trust on government and committed politicians and authorities are some reasons behind the success in Norway. As the infection rate fallen down, Norwegian government decided to change the strategy in line with what they did in Denmark though Sweden has been practicing a sort of herd immunity approach. Schools, kindergartens, colleges and Universities were gradually opened after 20th April; this has already started to show a positive effect towards getting control over infection rates and admission of severely ill patients in hospitals. According to the latest analysis done by the Norwegian Institute of Public Health, the infectivity rate (R0) has come down to 0.7.²²

United Kingdom (UK)

UK context and Situation

First cases of COVID-19 in the UK were reported on January 31, 2020. Subsequently, cases started increasing rapidly.²³ Many were

asymptomatic and majority with mild symptoms. The main symptoms, like in other countries, included fever, myalgia, cough, breathlessness, change in smell/ taste and gastrointestinal upset. Main complications reported in the UK critical care setting, like other nations, are Acute Respiratory Distress Syndrome (15-33%), Venous thromboembolism (pulmonary embolism or deep vein thrombosis) in 20-31%; acute myocardial injury (in 7- 20%), Acute Kidney Injury (3-19%), deranged liver function (19%), neurological complications including acute Ischemic Stroke (up to 36%) and sepsis. Rare complications include Paediatric multisystem inflammatory syndrome in children (MIS-C), DIC, Autoimmune haemolytic anaemia, Immune thrombocytopenia and subacute thyroiditis.²⁴

The UK's lockdown decision came a little late (23rd March, 2020). However, as soon as Continental Europe was crippled, UK hospitals, anticipating similar worse situations, began planning ahead. Visitors were banned from hospitals and care homes to limit the spread. All non-urgent surgeries were postponed.²⁵ Clinics were done remotely via audio/video calls. Hospitals discharged patients as soon as medically stable to create capacity; operating theatres and recovery rooms were converted into critical care areas. Hospitals were divided into COVID and non COVID areas, alongside the hospital staff to minimise cross infections. National guidelines were formulated to manage these patients taking into account available scientific evidence. Only those needing hospital care were admitted, the rest (majority) self-isolated and were managed at home. Realistic medicine was practised; only the critically unwell patients who were likely to benefit went to critical care beds. Treatment escalation plans

were put in place after multi-disciplinary team discussions. Staffs were redeployed to meet the needs and service demands. Several temporary NHS 'Nightingale' hospitals were opened to manage the surplus of COVID-19 patients.²⁶ Fortunately; NHS hospitals still had enough capacity and critical care beds even during the peak of the pandemic, thanks to extensive planning.

Observations and message from the UK

This is a crisis that does not discriminate. Everyone from the general public to the Prime Minister and Royal family are on equal footing. The NHS has been under severe strain and there have been shortages of critical supplies such as PPE. This has meant that a vast number of health workers have been infected. Frail elderly people, those with comorbidities and BAME (Black, Asian and Minority Ethnic) groups got hit the hardest. Obviously, frontline healthcare workers are at high risk. Contributor of this section (CKP) himself wasn't spared, and his family also falling ill as a result. Many of health care professionals and workers were affected and were forced to self isolate, leaving a depleted workforce. Health and social care staff have paid the ultimate price. The pandemic has claimed the lives of approximately 200 frontline workers, over 35 of whom were doctors.²⁷

The economy has come to an abrupt standstill. The Government has introduced relief packages for businesses and individuals; it has borrowed in excess of 62 billion pounds so far to deal with the consequences of COVID-19. Various industries have been tasked with manufacturing PPE and other companies have started producing ventilators. The UK Government has now adopted 'Test, Track and Trace' strategy and testing 100,000/day by PCR method in an effort to keep the 'R' number below one in order

to prevent a second surge of the pandemic.²⁸ UK officials are easing lockdown further once the rate of infection drops significantly and over a consistent period. Schools in England are opening after 1st of June as evidence suggests children are significantly less likely to catch/spread COVID-19 than adults. As of May 2020, three deaths have occurred in children under 15.²⁹

There are 41 'nationally prioritised' studies being funded in the UK alone - as doctors prepare for the possibility of the virus returning in a second surge. Professionals at Oxford are working day and night to get the vaccine in market by September 2020. They have vaccinated over 1000 volunteers in its Phase I trial and follow up is underway. Up to 10,260 adults and children are getting enrolled in phase II/III of the trial.³⁰ But, it still remains difficult to predict whether there will be a safe and effective vaccine for the near future. So, the best we can do at the moment to save lives is to remain alert, maintain social distancing and practise hand hygiene.

United States of America (USA)

USA context and Situation

As of June 16, 2020, with over 2.1 million cases and more than 116,000 deaths, U.S. is currently the country with the highest number of cases and deaths in the world (Table 1).³¹ The majority of the deaths have been in the age-group of 85 years or higher (32%) and among male (54%).³¹ Despite initial challenges, the country has made steady progress on implementation of preventive measures, including social distancing. Testing has also improved significantly. Over 25 million tests have been reported, among which, 10% have yielded positive results.³¹ The response has been largely decentralized at the State level. Although a national-level task force was

implemented to provide directives, social distancing measures have been implemented (and lifted), largely at the behest of state governments.³²

Observations and message from the USA

Recognizing the effect that a dwindling economy has in everyday life, the U.S. government took important steps for economic relief of individuals, families and businesses. For instance, U.S. taxpayers, who earned under a pre-established income level in the previous tax year, received stimulus payments as stipulated in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act).³³

Predicting disasters such as the one brought about by COVID-19 might be challenging, but extensive planning to minimize its effect is well within reach. The Federal government has provided guidelines for opening up the country in 3 phases, which serves to aid State level officials to make decisions about opening up the economies, while ensuring adequate health protection of people at the same time.³⁴

In this global crisis, the U.S. has embraced COVID-19-related international collaborations. For instance, the Department of State is working with different countries in coordinating responses to COVID-19, which includes measures such as travel advisories, bringing Americans back to the U.S., among many.³⁵ The government, via USAID, is supporting countries all over the world in their response to COVID-19. This support has been multifaceted, including direct support to the governments, or organizations active in local communities.³⁶ For example, the U.S. government handed over a consignment of PPE to the Ministry of Health and Population on March 6, 2020 and announced an additional \$1.8 million assistance

to support the Government of Nepal's readiness and response to COVID-19.³⁷

Important lessons that can be drawn from the US are that early response, including access to testing and appropriate social distancing measures, are of utmost importance in epidemic situations like COVID-19. The US experiences also teach us that uniformed evidence-based leadership from nationally renowned organizations such as the CDC or the NIH is paramount to both guide public health/healthcare professionals and transmit calmness to the general public. Effective risk communication, after all, depends on exchange of information between the public and trustworthy sources that inform them accurately, in a timely fashion, in a manner that is acceptable to the audience.³⁸

Ecuador

Ecuador context and Situation

As of 22 May 2020, Ecuador reported 34,854 COVID-19 cases, ranking 7th in the Americas, and 2,888 COVID-19-related deaths.³⁹ The first case of COVID-19 was reported on 29 February 2020, leading the government to activate a nationally coordinated response that included progressive social distancing measures. Nonetheless, measures were not fully adhered to⁴⁰ and a widespread community transmission is suspected, especially in the large city of Guayaquil. The outbreak is more intense in coastal regions where Guayaquil is located. For instance, just Guayaquil concentrates more than 30% of all cases. Quito, the capital city of Ecuador, is the second city with highest number of cases reporting close to 5% of all cases.⁴¹ On 29 April 2020, the country announced a progressive phase-out of containment measures using a 3-colored system based on the 3 colors of a traffic light, moving from red (most

restrictive) to green (least restrictive measures).⁴¹

Observations and message from Ecuador

A report on close to 10,000 patients with COVID-19 in Ecuador reveals similarities with findings from other countries; namely, that men and elderly people are at higher risk of death by COVID-19-related causes.⁴² In terms of magnitude, the outbreak is believed to be much larger than officially reported.⁴³ Close to 1 million infections are estimated to have occurred in Guayaquil⁴⁴ where nearly 7,000 excess deaths were reported between March and April 2020 (compared to the same months in 2019).⁴⁵

As important as COVID-19 is, the concomitant transmission of other potentially deadly diseases like Dengue, are important concerns that this overstrained public health system needs to handle.⁴⁶ In addition, a recent study suggests that high-altitude populations, like Quito, a city located at 2,850 meters above sea level, report lower COVID-19 incidence.⁴⁷ The authors of that report, however, fail to account for the differential application of social distancing measures between lowlands and highlands, at least in Ecuador.⁴⁶

From Ecuador, we learned that failure to adhere to social distancing measures might result in an overwhelming outbreak, especially in countries with debilitated healthcare infrastructure and public health systems. On the other hand, the use of a 3-color scheme, based on traffic light colors, to guide reopening and progressive lifting of containment measures is a positive lesson for a few reasons. First, such a scheme, with colors that are familiar to the general population, might facilitate risk communication. In addition, similar systems have been announced in Pennsylvania, India and France, to

mention some. For Nepal, Ecuador's experience suggest that more important than being located at high elevations (in cities like Kathmandu, Pokhara, or regions like Mustang), it is crucial that social distancing measures are enforced evenly and fully adhered to, especially in highly-populated urban areas.

Africa

African context and Situation

Africa, with 16.3% of world's population, accounts for almost two thirds of deaths from common infectious diseases like HIV/ AIDS, TB and Malaria in the world.⁴⁸ With median age of 19.7 and 27.6 years for Africa and South Africa respectively, Africa, in general, lags behind on most of health parameters. There is a huge deficiency of Health Care workers, Hospital / ICU beds and many other parameters of health services in Africa. South Africa at the southern tip of Africa is considered slightly better off with both socio-economic and health parameters, with some parts of it being almost in par with developed world; there is an obviously different level of services and resources in different parts of same country. There are many countries in Africa with very few or no Surgeons, Mammograms, CT scan, radiotherapy units, ICU or ventilators for a whole or very large population of the country. While everyone is focusing on ICU bed and ventilators, even where there is no manpower to manage those services and equipment, many of basic and more urgent needs of people of this area have been ignored due to this COVID 19 pandemic. While WHO and many other organizations have predicted large number of deaths up to 300,000 in Africa, it's likely that we are going to lose much more lives from exacerbation and complications of preexisting problems, i.e. hunger, infectious diseases (mainly tuberculosis

and HIV), chronic illnesses (diabetes and hypertension), cancers and surgical conditions, mental health problems.^{49,50} So, one needs to prioritize his resources based on his own needs and capacity. Responsible authorities all over the world should observe the findings from all over and implement best strategy in their context to save more lives and reduce human suffering.

Observations and message from African context

With about one third of all documented COVID-19 cases in Africa, South Africa has the most number of cases in the continent. While most of other countries in the region may not have done enough testing to document all cases or still at early stage of the disease, we have been hailed as one of the countries with the least case fatality rate of around 2% among the countries with large number of infection.¹⁷ Early and prolonged lockdown followed by phase wise easing is considered to be responsible for slow down of spread of infection in the country giving enough time to prepare and strengthen health system and improve awareness on public. Also early mass screening, testing and contact tracing helped with identification of hotspots of infection with extra focus on those areas, widespread testing was not feasible as there was huge backlog of tests to be done for some time. Early formation of Ministerial Advisory Committee (MAC) of experts on different related fields and government following their advice with regular updates was probably on best interest of country at this situation. With hospitals in major centers starting to fill up with COVID patients recently, many patients with other medical conditions are being deprived of their care due to fear, stigma, shifted priority and limited resources. With highest number of

people living with HIV / AIDS (7.7 Million) and with largest Anti Retroviral Treatment (ART) program in the world⁵⁰ along with many other health related problems of both poor and developed countries, like other infectious diseases, interpersonal violence and trauma, obesity, diabetes, hypertension, cancers and mental health problems; there is a concern that discontinuity of their care will have a bigger effect on health and lives lost along with economic impact of pandemic and its preventive measures. With 30% and 40% overall and youth unemployed respectively prepandemic, and up to 7.2% documented and probably more undocumented emigrants, mostly depending on informal sector of economy, the later group are likely to be affected the most along with the denial of any kind of social and health support and as victims of xenophobic attacks if that happen.^{51,52} With unique issues of a country or a region, this pandemic is going to give us a common problem of human loss and suffering that need combined efforts of all.

With closure of most of informal economic activities due to COVID-19, the immigrants get neither any support from their employer nor from government, and are exposing themselves in a desperate situation. With current situation, many of business will probably never open again leading to more job losses. With previous experiences of many violent xenophobic incidents in the country, one can predict they can happen again as this pandemic pushes everyone to poorer level with lack of jobs and basic needs, the unfortunate migrants are likely to be the first target as they live and work close to poor and disadvantaged community. While it needs national and international community to act swiftly to rescue those high risk groups, we need more awareness and strong international

coordination and legislation to prevent this modern age slavery in future. COVID-19 has exposed our problems and weaknesses. It's time to start working on them.

Australia

Australian context and Situation-

The first Australian case of COVID was reported on January 25, 2020. It was a Chinese citizen who arrived from Guangzhou on 19 January. The patient was tested and received treatment in Melbourne. On the same day, three other patients tested positive in Sydney after returning from Wuhan. This was possible as the biosecurity officials began screening arrivals on flights from Wuhan to Sydney from 23 January. Nine cases were recorded in January. From 31 January, foreign nationals returning only from China were required to have spent two weeks in a third country before being allowed into Australia. There were 14 new cases in February, bringing the number of cases to 23.

The month of March generated massive anxiety in all Australian. It resulted in panic buying of basic essentials leading to empty shelves in many supermarkets. There was a first Corona related death on 1st of March. It was a 78 years old man in Perth. During this month, COVID-19 gradually spread to all states and territories in Australia.

March was the month when all domestic and international flights were suspended except rescue flights which brought many stranded Australians home from overseas. All schools, universities, religious places, and businesses were closed to enable strict social isolation and screening. Those people who came from overseas were kept for two weeks in isolation in major hotels of state capital cities under medical supervision. During these isolation periods they were provided regular medical checkups and

PCR was available widely. Cases who were identified as COVID positive were monitored more carefully and were only brought into hospital if they needed acute medical care. There was a temporary shortage of non-perishable foods which was quickly brought under control.

The Australian Government's health response to the COVID-19 outbreak had four main aims: to minimize the number of people becoming infected or sick with COVID-19, minimize the mortality rate, manage the demand to the health systems and help people to manage their own risk and the risk to their family and community. With the strict implementation of social distancing, easy availability of PCR testing, contact tracing and active isolation of positive cases and their contacts, the curve started flattening from mid to late April and has completely came down in May. The total number of cases till 23rd of March was 7095. Among them, there are 101 deaths and 6479 cases have fully recovered.

The Government has now decided to reopen the business and lift restrictions gradually with a careful approach not to have a second spike. A COVIDSafe app was developed as a mobile app for contact tracing. A National COVID-19 Coordination Commission (NCCC) was established as a strategic advisory body for the national response to the pandemic to revive post-pandemic life in Australia. It has adopted a stepwise process of loosening the restrictions to open the economy gradually in 3 stages. At the moment, different states and territories are in different stages of lifting restrictions.

Observations and message from Australian context

This is a prime time for governments around the world to learn from one another. Though

different in many ways, Australia and Nepal are both federations, in which the powers of government are divided between the federal government, and state and territory governments. The responsibilities for health are also shared across federal and state governments, making cooperation between them necessary to achieve optimum health goals. To stop the spread of COVID-19, federal, state, and local governments must work together to facilitate access to treatment and minimize the social and economic impact. Decision-making in a pandemic is tough, but in federations like Nepal, it is even tougher because of the multiparty nature of the political system and lack of vertical integration of the health and human resources. Yet, success will only come through coordinated, whole-government, whole-nation approach.

In perspective, there are several areas to learn from Australian COVID-19 response. Australia responded to the pandemic by establishing a national cabinet to coordinate and deliver a consistent response to COVID-19. It had a power of 'wartime' cabinet which met regularly through video-conferencing to make decisions about health, education, public safety, social services, and infrastructure. All major political parties agreed to work together as a united team to protect the lives of Australians. It allowed a coordinated approach on policies such as testing criteria, limits on indoor and outdoor gatherings, visitor restrictions to aged care facilities, suspension of elective surgeries, mandatory quarantine for international travelers, and self-quarantine obligations for people with COVID-19, and the conditions under which any state can adopt additional measures. It also made decisions of converting some of its factories to produce COVID related materials like ventilators and

PPEs. Number of ICU beds and ventilators were increased significantly. They trained more nurses to up-skill their knowledge to work in ICUs. The national cabinet created a forum for governments to discuss critical issues and resolve them quickly, collaboratively and, for the most part, consistently. There was some scope for local level variation- closing state borders or schools, for example- but the onus is on leaders to demonstrate to the increasingly nervous public why exceptions might need to be made in one part of the country. Respective state premiers made regular, almost daily appearance on the prime time television with their respective chief medical officers to provide daily update on total number of cases, new infections, their sources, measures taken and the response of government for days and coming weeks. People were asked to come forward for testing so that the number of cases as well as asymptomatic carriers can be identified and isolated in the community. Australia's high-test rate is helping to reduce community transmission. The testing is now easily available through Medicare, without any cost to the public and people are encouraged to get tested if they are worried with flu like symptoms, even they may not have symptoms related to COVID-19.

It is still possible for Nepal to have a national decision-making body to coordinate the current pandemic response. All Nepalese who are stranded overseas can be brought home and quarantined in major hotels in Kathmandu or any other cities in Nepal. The testing needs to be made easily available and free of costs to people. Cases with asymptomatic positive results should be isolated at home or in a safer place out of hospital with regular medical monitoring and admitted to hospital only if they need medical care. There needs to be a public

private partnership and during this pandemic all private health institutions should work closely with the public system.

It is quite obvious that Nepal's best chance for recovery relies on reviving the spirit of cooperation: within and across its own federal, state, and local governments as well as timely decision to look after its own vulnerable population, particularly elderly people with physical comorbidities and stranded migrant workers overseas.

Conclusion

Over all so far, COVID-19 pandemic is spreading though out the world (Table. 1) with some differences across continents (Figure. 1). We need to adopt healthy strategies like social distancing, hand hygiene, enhancing immunity, contact tracing, testing and restriction in movements in general and pay due respect to context based strategies like 'Namaste' (Table. 2).

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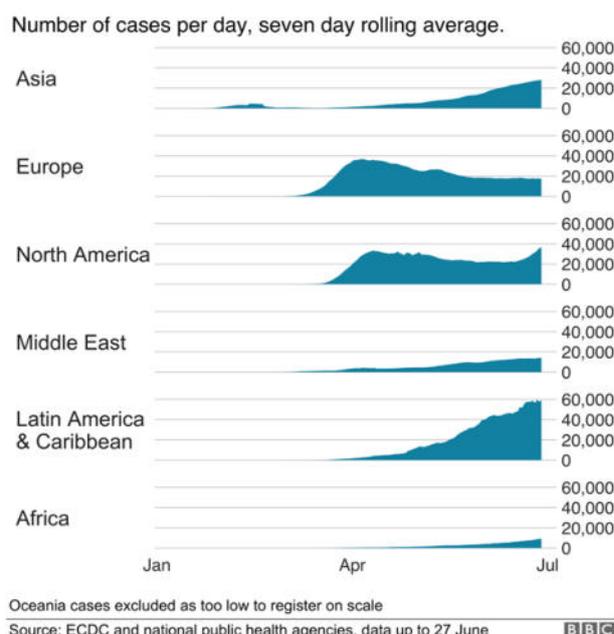


Figure 1: COVID-19 cases compared by continents

Table 1: Trends of Mortality, Recovery and Mortality across Countries (Source: COVID-19 CORONAVIRUS PANDEMIC- worldometer)

Country	Date of 1 st case	By end of January 2020			By end of February 2020			By end of March 2020			By end of April 2020			By end of May 2020			By end of June 2020		
		Case	Recovery	Death	Case	Recovery	Death	Case	Recovery	Death	Case	Recovery	Death	Case	Recovery	Death	Case	Recovery	Death
World	19.12.2019	9826			85403			750890		36405	3090445		217769	5934936		367166	10,577,756	5,790,762	513,186
China	19.12.2019	9720		213	79394		2838	82545		3314	84373		4643	84570		4645	83,531	78,469	4,634
Nepal	23.1.020	1	1	0	1	1	0	5	1	0	57	16	0	1572	220	2	13,564	3194	29
India	30.1.2020	1	0	0	3	0	0	1071		29	30050		1074	182143		5164	585,792	347,836	17,410
Japan	mid-Jan	13	0	0	242	31	5	2235	456	66	14427	3964	432	16908	14333	892	18,593	16,631	972
Norway	End Feb	0			6		0	4226		26	7667		202	8411		236	8,879	8,138	250
UK	31.1.2020	2	0	0	23	23	0	25,150	22,725	2,425	171,253	144,482	26,771	274,762	236,273	28,489	312,654	NA	43,730
USA	20.1.2020	6			62		0	140640		2398	1003974		52428	1716078		101567	2,727,853	1,143,334	130,122
Ecuador	29.2.020	0			1	0	0	2302	58 discharge	79	24934	1558	900	39098	3900	3358	56,432	27,594	4,527
South Africa	5.3.020	0	0	0	2	0	0	3786		77	24713		938	100610		2554	151,209	73,543	2,657
Australia	25.1.020	9		0	24		0	4359		18	6746		90	7185		103	7,836	7,008	104

Table 2: COVID-19 Strategies, Challenges and Lessons across Countries

Country	Main strategy	Challenge	Lesson
World	Varied widely	Varied widely	World is a single unit
Nepal	Lockdown, Namaste culture, Testing, Contact tracing, Guidelines,	Poverty, Unemployment, Ignorance, Stigma, Resource deficiencies, Poor system to transparently and effectively mobilize the resources for facility directly related to COVID-19	'Namaste' and other non-physical/ social contact culture, Corruption spoils whole system even more during such period as pandemic despite scattered efforts
India	Lockdown, Apps AarogyaSetu, Chikitsa Setu, Testing, Contact tracing, Guidelines, Safe transport of Indians back home	Migrant workers, Religious ceremonies, Natural calamities during COVID-19, Loss of job, Stigma, Violence against healthcare workers and police	Close liaison of central government and Union territories, Use of technology in teaching, training and treatment
Japan	Movement restriction, Hygiene, masks, Avoid 3Cs, Wide spread Testing, Counter measures against clusters, Early closure of all schools	Aged population, High mortality rate in comparison to other countries in East Asia.	The cluster task force was particularly effective in the early stages.
UK	Lock down with national slogan, 'Stay at Home, Protect NHS, Save Lives'; Relief packages for businesses and individuals (Furlough scheme); manufacturing PPE and ventilators; Test, Track and Trace' strategy, Funding 'nationally prioritised' COVID-19 studies	Inadequate supply of Test kits, PPEs, medical equipments like ventilators. Sickness in NHS and other frontline workers leading to manpower shortages. Economic and psychosocial impacts of the disease.	Timely lockdown and adequate testing in initial phase would have prevented the spread of the infection; Need to be self-sufficient in supply of PPEs and vital medical equipments like Ventilators. Timely prioritization of vulnerable population like Care home residents
Norway	Partial lockdown, Gradual lifting of the restriction, Hand hygiene, Daily press conference to update		Nature of Norwegian people, Robust health system and Faith of people in leaders, Health system actively work and plan to take care of severe cases of COVID-19
USA	National-level task force directives to be implemented at behest of State governments; Guidelines for opening up country in 3 phases; COVID-19-related international collaborations; Early response, including access to testing and appropriate social distancing measures; Exchange of information	Balancing privacy with digital contact tracing; Motivating people for continued adherence to social distancing measures and wearing masks	Early response, including access to testing and appropriate social distancing measures are essential
Ecuador	Progressive phase-out of containment measures using a 3-colored system	Densely populated residences	Failure to adhere social distancing measures result in overwhelming outbreak, 3-color schemata guide reopening and progressive lifting of containment measures
South Africa	Early lock down, preparation and strengthening of health system, involvement of private sector on diagnosis and management, Formation of Ministerial administrative committee (MAC), Update the public regularly. Increased social support and financial rescue of affected poor and small business, Early mass screening, Testing and contact tracing to identify hotspots.	Neglected basic and more urgent needs due to COVID-19, Economic disparity, Poverty, More unhealthy population due to Malnutrition, HIV/ AIDS, Tuberculosis and other infectious diseases, High violence, trauma and common chronic diseases e.g. obesity, Diabetes, hypertension, cancer, Large backlog of Testing, Exhausted health system with COVID-19 and non-COVID-19 conditions.	Early strict lockdown, Prepare for health services empowerment, Awareness about COVID-19, Mass and workplace screening. Effect on economy and livelihood is huge and will take long to recover. Local need based strategy.
Australia	Isolation in major hotels of state capital cities under medical supervision, COVIDSafe app, National COVID-19 Coordination Commission (NCCC) to revive post-pandemic life, High-test rate.		Coordinated, whole-government, whole-nation approach; Regular meeting via video-conferencing for decisions on health, education, public safety, social service and infrastructure; All major political parties agreed to work together as a unit

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