

# Impact of Hygiene Processes Followed By Various Countries on Spread of Covid-19 Infection

Nishchal, Deepak Aggarwal, Nitin Kumar

*Corresponding Author: Nishchal*

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**ABSTRACT:** The aim of this article is to promote and spread awareness about the pandemic in 2020 due to corona virus or simply known as COVID-19. The novel coronavirus (SARS-CoV-2) is a beta coronavirus that infects the humans with initial symptoms like fever, cough and dyspnea. As the virus is spreading vigorously all around the globe there is a need of more hygiene and cleanness around our surroundings to protect our self by maintaining and strictly following several WHO guidelines. In this article we will also talk about the impact of hygiene process followed by various countries to minimize the spread of covid-19 infection and track the current conditions like number of confirmed cases along with morbidity rate of several countries besides this we will also talk about the strictly followed precaution should be taken by health care workers (HCWs) as they are at the front-line of the COVID-19 outbreak, and their constant exposure to infected patients and contaminated surfaces put them at highest risk of acquiring and transmitting the infection. SARS-CoV-2 transmitted from person-to-person through respiratory droplets and close contact, as previously seen in severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV), are the two other zoonotic coronaviruses. In healthcare settings, this highlights the necessity of practicing respiratory hygiene and hand hygiene, and usage of appropriate personal protective equipment. Additional airborne precautions such as N95 masking should be used by HCWs during aerosol-generating procedures when caring for COVID-19 patient.

## I. INTRODUCTION

Likewise many other respiratory issues/problems, corona disease (covid-19) are also a newly introduced deadly respiratory disease which is rapidly spreading worldwide. It is caused by a novel corona virus which is also known as severe acute respiratory syndrome corona virus-2 (SARS-CoV-2). The initial symptoms involved

coughing, fever, difficulty in breathing or more likely pneumonia like symptoms are seen. This disease is first identified and confirmed in wuhan city, hubei province china on 31st December 2019. Besides all of this, on 30th January 2020 who declared covid-19 as a global health emergency whereas on 11th march 2020 who declared covid-19 as a global pandemic. The vast majority of confirmed cases worldwide are considered as mild, involving mostly cold like symptoms to mild pneumonia, according to the latest and largest set of data on the new coronavirus outbreak released on February 17 by the Chinese Center for Disease Control and Prevention.

According to WHO censes report 80% corona cases are mild or asymptomatic whereas 15% cases are severe infectious involving serious pneumonia and shortness of breath and remaining 5% cases are critically infectious requires ventilation due to developed respiratory failure, septic shock, and/or multi-organ failure—what the agency calls “critical cases” potentially resulting in death[1].

In several countries which is majorly hit by corona virus adapted various method and techniques to overcome the transmission of this infectious virus by maintaining and sequencing hygiene everywhere in hospitals, offices, institutes, using alcohol based hand sanitizer, surface disinfectant and many more.

## INTERIM GUIDANCE TO OVERCOME THE VIGOROUS SPREAD OF COVID-19 VIRUS

WHO stated the interim guidance supplements “the infection prevention and control documents (IPC)” in order to guide sanitation practitioners and health care providers to manage the water, sanitation and health care waste relevant to viruses, including corona virus. This guidance is intended for every sanitation practitioners/providers and health care providers who want to know more about water, sanitation and hygiene (WASH) risks and practices.

The provision of safe water, sanitation, and hygienic conditions is essential to protect human health from all infectious disease outbreaks, including the COVID-19 outbreak as well. Ensuring good and consistently applied WASH and waste management practices in communities, homes, schools, marketplaces, and health care facilities will help prevent human-to-human transmission of the COVID-19 virus[2].

**SOME OF THE MOST IMPORTANT GUIDELINES AND INFORMATION REGARDING HEALTH, HYGIENE, SANITIZATION AND WASH FOR COVID-19 VIRUS IS GIVEN BELOW.**

- Frequent and proper hand hygiene is one of the most important measures that can be used to prevent infection with the COVID-19 virus. WASH practitioners should work to enable more frequent and regular hand hygiene by improving facilities and using proven behavior-change techniques.
- WHO guidance on the safe management of drinking-water and sanitation services applies to the COVID-19 outbreak. Extra measures are not needed. Disinfection will facilitate more rapid die-off of the COVID-19 virus.
- Many co-benefits will be realized by safely managing water and sanitation services and applying good hygiene practices.

Currently, there is no evidence about the survival of the COVID-19 virus in drinking-water or sewage. The morphology and chemical structure of the COVID-19 virus are similar to those of other human corona viruses for which there are data about both survivals in the environment and effective inactivation measures. This document draws upon the evidence base and WHO guidance on how to protect against viruses in sewage and drinking-water [2].

**• WASH in health care and personal care settings**

1. Hand hygiene practices
2. Sanitation and plumbing
3. Toilets and the handling of faeces
4. Holding tanks, and transporting excreta off-site
5. Cleaning practices
6. Safely disposing of grey water or water from washing PPE, surfaces and floors
7. Safe management of health care waste [2].

**• Considerations for WASH practices in homes and communities**

1. Hand hygiene

2. Treatment and handling requirements for excreta [2].

**WHO recommendations:**

1. One or several hand hygiene stations (either for hand washing with soap and water or for hand rubbing with an alcohol-based hand rub) should be placed in front of the entrance of every public (including schools and healthcare facilities) or private commercial building, to allow everyone to practice hand hygiene before entering and when leaving it.
2. Facilities should be provided at all transport locations, and especially at major bus and train stations, airports, and seaports.
3. The quantity and usability of the hand hygiene stations should be adapted to the type (e.g. young children, elderly, those with limited mobility) and number of users to better encourage use and reduce waiting time [3].

**HEALTH CARE FACILITIES**

Individuals with respiratory symptoms should: Wear a medical mask while waiting in triage or other areas and during transportation within the facility; Wear a medical mask when staying in areas dedicated to suspected or confirmed cases; Not wear a medical mask when isolated in single rooms, but they should cover their mouth and nose when coughing or sneezing with disposable paper tissues. Tissues must be disposed of appropriately, and hand hygiene should be performed immediately afterwards [4].

Health care workers should: Wear a medical mask when entering a room where patients with suspected or confirmed COVID-19 are admitted; Use a particulate respirator at least as protective as a US National Institute for Occupational Safety and Health-certified N95, European Union standard FFP2, or equivalent, when performing aerosol-generating procedures, such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy[4].

Additional precautions are required by health care workers to protect themselves and prevent transmission in the healthcare setting. Precautions to be implemented by health care workers caring for patients with COVID-19 include using PPE appropriately; this involves selecting proper PPE and being trained in how to put on, remove, and dispose of it [4].

**MAJOR PROBLEMS STATED OR FACED DURING COVID-19 TIMES**

The safety of peoples and migrants from the spread of the coronavirus in our communities are our top priorities.

- Most employees have transitioned to a temporary work from home schedule with limited office access.
- All non-essential travel, including all international business travel, by Forrester employees has been suspended.
- Cleanliness and social distancing protocols are being observed in all offices [5].

**II. LITERATURE REVIEW**

**How corona virus spreads?**

Human corona viruses cause infections of the nose, throat and lungs. They are most commonly spread from an infected person through:

- respiratory droplets generated when you cough or sneeze
- close, prolonged personal contact, such as touching or shaking hands

- Touching something with the virus on it, then touching your mouth, nose or eyes before washing your hands [6].

**Ways to control the spread of corona virus**  
**Physical (social) distancing**

Together, we can slow the spread of COVID-19 by making a conscious effort to keep a physical distance between each other. Physical (social) distancing is proven to be one of the most effective ways to reduce the spread of illness during an outbreak.

This means making changes in your everyday routines to minimize close contact with others, including:

- avoiding crowded places and non-essential gatherings
- avoiding common greetings, such as handshakes
- limiting contact with people at higher risk like older adults and those in poor health
- Keeping a distance of at least approximately about 2 meters from others [6].



**Picture 1: How to maintain social distancing all the time.15**

**Hygiene**

Proper hygiene can help reduce the risk of infection or spreading infection to others:


- wash your hands often with soap and water for at least 20 seconds, especially after using the washroom and when preparing food
- use alcohol-based hand sanitizer if soap and water are not available

- when coughing or sneezing:
  - cough or sneeze into a tissue or the bend of your arm, not your hand
  - dispose of any tissues you have used as soon as possible in a lined waste basket and wash your hands afterwards
- Avoid touching your eyes, nose, or mouth with unwashed hands [6].

Cleaning

# How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the entire procedure: 40-60 seconds



Picture 2: How to maintain hygiene though washing hands repeatedly.15

Corona viruses are one of the easiest types of viruses to kill with the appropriate disinfectant product when used according to the label directions. Although they do not claim to kill COVID-19, cleaners can play a role in limiting the transfer of microorganisms. This bleach solution should be prepared according to the instructions on the label or in a ratio of 1 teaspoon (5 mL) per cup (250 mL). Directions are based on bleach that is 5% sodium hypochlorite, to give a 0.1% sodium hypochlorite solution.

These surfaces include:

- toys
- toilets

- phones
- electronics
- door handles
- bedside tables
- Television remotes [6].

### Wearing masks

Medical masks, including surgical, medical procedure face masks and respirators (like N95 masks), must be kept for healthcare workers and others providing direct care to COVID-19 patients. Wearing a non-medical mask (for example a homemade cloth mask) in the community has not been proven to protect the person wearing it. Strict



hygiene and public health measures, including frequent hand washing and physical (social) distancing, will reduce your chance of being exposed to the virus.

**WHO guidelines for staying healthy with maintaining proper hygiene process**

The COVID-19 pandemic means that many of us are staying at home and doing less in terms of social interactions and exercise. This can have a negative effect on your physical and mental health.

Below is advice to help you and your family to stay healthy at home during this period of confinement.

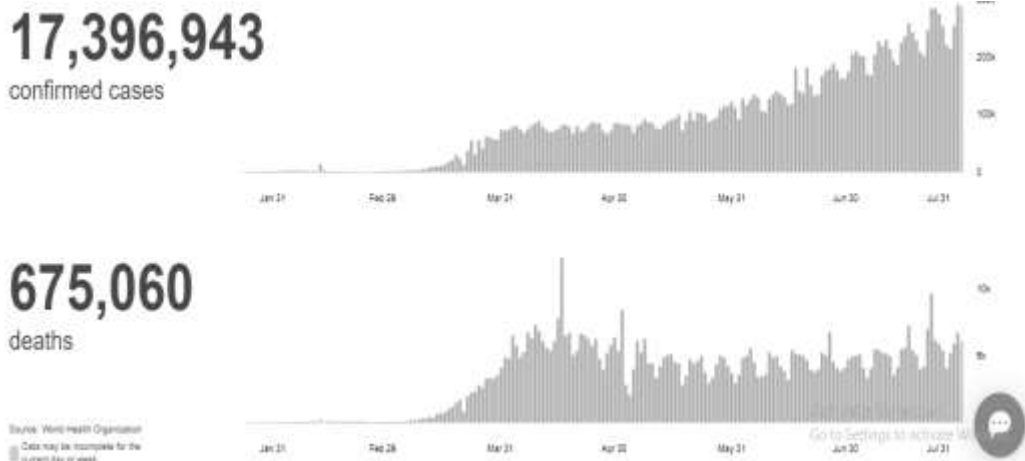
**1. Staying physically active**

2. **Looking after our mental health**
3. **quitting tobacco**
4. **healthy parenting**
5. **eating healthy**

**III. RESEARCH DESIGN & DATA COLLECTION**

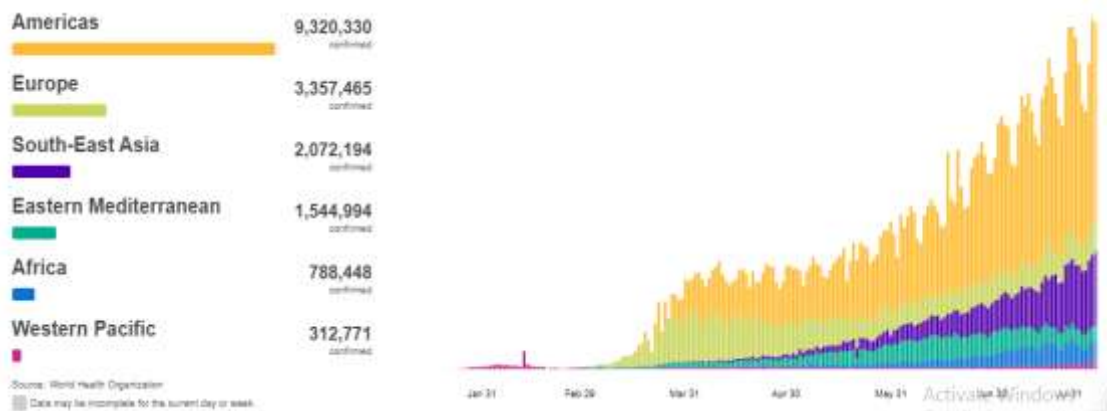
According to the updated data till 31th July 2020 there were approximately about 17,396,943 Confirmed Cases worldwide with 675,060 number of Morbidity across the globe.

We compared countries that never had in place a hygiene policy with countries that have Good hygiene policy.



Picture 3: Number of confirmed cases and number of deaths till 31st of July 2020.16

**CONDITIONS OF SOME OF THE MAJORLY HIT COUNTRIES AND NUMBER OF CONFIRMED CASES**



Picture 4: Number of confirmed cases in several countries.16

### 1. USA vs China

In USA there is delay in lockdown process and most of the no. of patients and no. of death occurring in USA. According to data the severity of covid-19 in USA is after mid of March and according to the reports the USA taken it very lightly.

The covid-19 was started from the china from the city Wuhan With few confirmed cases and china taken it very seriously and takes some strong step and closed the constant number of patients after some efforts.

In china to enforce sweeping quarantine measures over vast areas of the country, China has turned to a medley of low- and high-tech measures. Citizens are also financially rewarded for reporting those who fail to follow quarantine orders. These methods reflect a decades-long history of social control now being mobilized on an unprecedented scale. Researchers say it is too early to determine what effect these measures have had in containing the outbreak. A lack of accurate screening measures and a delayed response to the virus likely have blunted the efficacy of quarantines [8].

### 2. Italy vs Germany

In Italy the first lockdowns began around 21 February 2020, police cars blocked roads into and out of the quarantined area and erected barriers. While residents were permitted to leave their homes with supplies such as food and medicine being allowed to enter, attending school or going to workplaces was not allowed, and public gatherings were prohibited. Early on Sunday 8 March 2020, Italian Prime Minister Giuseppe Conte announced the expansion of the quarantine zone to cover much of northern Italy, affecting over sixteen million people, restricting travel from, to or within the affected areas, banning funerals and cultural events, and requiring people to keep at least one meter of distance from one another in public locations such as restaurants, churches and supermarkets. Conte later clarified in a press conference that the decree was not an "absolute ban", and that people would still be able to use trains and planes to and from the region for "proven work needs, emergencies, or health reasons". Additionally, tourists from outside were still permitted to leave the area. Restaurants and cafes were permitted to open, but operations were limited to between 6:00 and 18:00, while many other public locations such as gyms, nightclubs, museums and swimming pools were closed altogether [9].

**Germany** has been under lockdown, with restaurants and most shops closed, since March 22.

With the impact of lockdown all but certain to tip Europe's largest country into recession this year, policymakers are anxious to see normal life resume. Shops will be allowed to reopen, as well as schools in select regions, though strict social-distancing measures will still be in place. Strict border controls will be relaxed, but large events and private parties will remain forbidden [10].

### 3. UK vs Spain

The UK Government gradually tightened up restrictions for the public, with all bars and restaurants ordered to close on Friday 20 March.

Shopping for basic necessities such as food and medicine, shopping trips should be as infrequent as possible. One form of exercise a day such as a run, walks, or cycle. This should be done alone or only with people you live with. Any medical need or to provide care or to help a vulnerable person. This includes moving children under the age of 18 between their parents' homes, where applicable. Travelling to and from work, but only where work absolutely cannot be done from home the government has announced strict social distancing measures, banning gatherings of more than two people [11].

**Spain** is the also worst affected country in Europe, The entire country is now under lockdown after the government implemented the measure to try to stop the spread of the disease any further. All restaurants, bars, hotels, schools and other non-essential businesses are now closed. People will only be allowed outside of their homes for essential activities, such as purchasing food and medicine, going to work, visiting medical centers and banks, or traveling to help take care of those who are young or elderly [12].

### 4. India vs Iran

PM Narendra Modi declared a 3 month nationwide lockdown starting midnight Tuesday on March 2020, explaining that it was the only way of breaking the Covid-19 infection cycle. This essentially extended the lockdown from most states and Union Territories to the entire country and provided a more definite timeline.

Modi later issued an appeal to the public to desist from panic buying as people began crowding markets to stock up before the midnight deadline. The government also issued a notification that said all essential services will remain open, as before, and all essential commodities and medicines would be available. Banks, ATMs, petrol pumps, hospitals and grocery shops will continue to function. However, all transport services — air, rail and

roadways — will remain suspended until April 14[13].

Iran will ease some social-distancing measures from April 11 and allow “low-risk” business activity to resume, Rouhani said, as the number of new daily reported cases continued to decline. Iran was late to announce a ban on travel and enforce measures against people driving between towns and provinces.

Iranians don’t have to choose between their health and their jobs, President Hassan Rouhani said, a sign that the sanctions-ravaged nation can’t afford to put the economy to sleep while it struggles to control the coronavirus. The closure of religious shrines and the travel ban between provinces will remain in place until April 18[14].

#### IV. CONCLUSION

The main motive of this review article is to specify the necessity of cleanness and hygiene in COVID-19 times as the infection is spreading so vigorously from person-to-person through aerosols methods and there is no specified treatment of this infection till JULY 2020 only hygiene and precautions are the only way we would have to minimize the spread of it and protect our self from this deadly virus. Besides the necessity of hygiene we also collect and mention the data of number of confirmed cases worldwide along with the number of morbidity and effects of hygiene level maintenance against covid-19.

There is also a mention about the country which are at the high risk because of their irresponsiveness against COVID-19 like having mass gathering, proper masking of face, hand washing, social distancing and the current conditions of those countries are worse only because they have not taken appropriate action timely ex. USA.

Lockdown in the whole country gives the best result against corona virus like in India lockdown in various countries gives much better in the beginning but it’s difficult for big countries for holding lockdown more than 3 months because it some other problems amongst which economic recession is one of the biggest.

Healthcare facility give no better result if there is no maintenance of social distancing like top two countries with most cases having the best healthcare system in the world e.g. USA and Italy.

The reason for the highest no. of patients in the country is not follow the proper hygiene

level. For e.g. in Iran continuity of the unethical Practices like worship in Mosque While in India the doors of temples are closed. And in some countries there is continuation of the parties, events in stadium also results in no. of patients.

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