COVID-19 Infection Prevention and Control *Sameeksha*

WHO Country Office for India | 21 May 2020 | Volume 3

A compilation of recent publications on COVID-19 relevant for IPC and AMR containment in India

Publications from scientific journals*

Pre-symptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility

- Two serial point-prevalence surveys (1 week apart) in which assenting residents of the nursing facility underwent nasopharyngeal and oropharyngeal testing – rRT-PCR, viral culture, and sequencing for SARS-CoV-2.
- More than half of residents with positive test results were asymptomatic at the time of testing and most likely contributed to transmission.
- Infection-control strategies focused solely on symptomatic residents were not sufficient to prevent transmission after SARS-CoV-2 introduction into this facility.

New Eng J Med | Original article | 24 April 2020 | Online link

Viral load dynamics and disease severity in patients infected with SARS-CoV-2 in Zhejiang province, China, January-March 2020: retrospective cohort study

- Viral loads at different stages of disease progression in patients infected with SARS-CoV-2 during the first four months of the epidemic were evaluated in a designated hospital for patients with COVID-19 in Zhejiang province, China
- RNA was detected in the stool of 55 (59%) patients and in the serum of 39 (41%) patients; urine sample from one patient was positive for SARS-CoV-2.
- Median duration of virus in stool (22 days, range 17-31 days) was significantly longer than in respiratory (18 days, 13-29 days; P=0.02) and serum samples (16 days, 11-21 days; P<0.001).
- Median duration of virus in the respiratory samples of patients with severe disease (21 days, 14-30 days) was significantly longer than in patients with mild disease (14 days, 10-21 days; P=0.04).
- In the mild group, viral loads peaked in respiratory samples in the second week from disease onset, whereas viral load continued to be high during the third week in the severe group.
- Virus persistence was longer in patients older than 60 years and in male patients.
- Duration of SARS-CoV-2 is significantly longer in stool samples than in respiratory and serum samples, highlighting the need to strengthen the management of stool samples in the prevention and control of the epidemic, and the virus persists longer with higher load and peaks later in the respiratory tissue of patients with severe disease.

BMJ | Research | 21 April 2020 | Online link

Temporal profiles of viral load in posterior oropharyngeal saliva samples and serum antibody responses during infection by SARS-CoV-2: an observational cohort study

- Cohort study at two hospitals in Hong Kong, on patients with laboratory-confirmed COVID-19.

* *Information resources are listed chronologically within each section*

- Serial viral load determined by reverse transcriptase quantitative PCR (RT-qPCR) on samples of blood, urine, posterior oropharyngeal saliva and rectal swabs.
- Median viral load in posterior oropharyngeal saliva or other respiratory specimens at presentation was 5·2 $\log_{10}$ copies per mL (IQR 4·1–7·0).
- Salivary viral load was highest during the first week after symptom onset and subsequently declined with time. In one patient, viral RNA was detected 25 days after symptom onset.
- Older age was correlated with higher viral load.
- Posterior oropharyngeal saliva samples are a non-invasive specimen, and more acceptable to patients and health-care workers.
- Unlike SARS, patients with COVID-19 had the highest viral load near presentation, which could account for the fast-spreading nature of this epidemic, which emphasises the importance of stringent infection control and early use of potent antiviral agents, alone or in combination, for high-risk individuals. Serological assay can complement RT-qPCR for diagnosis.

The Lancet Infectious Diseases | Article | 1 May 2020 | Online link

Persistence of viral RNA in stool samples from patients recovering from covid-19

- Meticulous hand and toilet hygiene could be warranted and should reduce considerably the clinical relevance of viral shedding from stool.
- PCR has limitations, and isolating patients for a month or more may not be feasible.

BMJ | Editorial | 7 May 2020 | Online link

WHO guidelines*

Guide to local production of WHO-recommended Handrub Formulations

- Availability of alcohol based handrubs has become an important issue during the current COVID pandemic, which makes this decade old practical guidance is very relevant currently.
- It consists of 2 sections:
  - Part A is intended to guide a local producer in the actual preparation of the formulation, and
  - Part B contains important safety and cost information and incorporates information from the WHO Guidelines on Hand Hygiene in Health Care, 2009.

WHO | Guide | revised April 2010 | Online link

Considerations in adjusting public health and social measures in the context of COVID-19

- Focuses on public health measures – personal protective measures (hand hygiene, respiratory etiquette), environmental measures, physical distancing measures, and travel-related measures.

WHO | Interim guidance | 16 April 2020 | Online link

Preparedness, prevention and control of coronavirus disease (COVID-19) for refugees and migrants in non-camp settings

- Inadequate access to essential services and exclusion makes early detection, testing, diagnosis, contact tracing and seeking care for COVID-19 difficult for refugees and migrants.
- This guidance suggests inclusion of refugees and migrants, as part of holistic efforts to respond to COVID-19 epidemics in the general populations.

WHO | Interim guidance | 17 April 2020 | Online link

* *Information resources are listed chronologically within each section*

Water, sanitation, hygiene and waste management for COVID-19

- This interim guidance supplements the infection prevention and control documents by summarizing WHO guidance on water, sanitation and health-care waste relevant to viruses, including coronaviruses.
- It is intended for water and sanitation practitioners and providers, and health-care providers who want to know more about water, sanitation and hygiene (WASH) risks and practices.
- Originally published in March 2020, this first updated version provides details on hand hygiene, sanitation, protecting WASH workers and supporting the continuation and strengthening of WASH services, especially in underserved areas.

WHO - UNICEF | Interim guidance | 23 April 2020 | Online link

Considerations for school-related public health measures in the context of COVID-19

– Annex to Considerations in adjusting public health and social measures in the context of COVID-19

- This document provides considerations for decision-makers and educators on how or when to reopen or close schools in the context of COVID-19.
- Provides guidance regarding maintaining COVID-19 prevention and control measures in the school setting.

WHO | annex | 10 May 2020 | Online link

Considerations for public health and social measures in the workplace in the context of COVID-19

– Annex to Considerations in adjusting public health and social measures in the context of COVID-19

- This annex is for those involved in developing policies and standard operating procedures to prevent the transmission of COVID-19 in the workplace, including employers, workers and their representatives, labour unions and business associations, local public health and labour authorities, and occupational safety and health practitioners.
- Provides general guidance on preventive measures for non-healthcare workplaces and workers in those settings.
- Additional protective measures may be necessary for specialized workplaces.

WHO | annex | 10 May 2020 | Online link

Cleaning and disinfection of environmental surfaces in the context of COVID-19

- This document is intended for health care professionals, public health professionals and health authorities and provides guidance on the cleaning and disinfection of environmental surfaces in the context of COVID-19.
- It details the products and techniques for cleaning and disinfection in both healthcare and non-healthcare settings.

WHO | Interim guidance | 15 May 2020 | Online link

Overview of public health and social measures in the context of COVID-19

- Outlines public health and social measures in the context of COVID-19.
- These include personal measures, physical and social distancing measures, movement measures and special protection measures.

WHO | Interim guidance | 18 May 2020 | Online link

* *Information resources are listed chronologically within each section*

MoHFW/GoI guidelines*

Guidelines for Hygiene and Sanitation in Densely Populated Areas, During the COVID-19 Pandemic

- These guidelines, created specifically for areas where toilets, washing or bathing facilities are shared, can be adopted by states/local bodies and communities, to contain the spread of COVID-19, especially in densely populated areas.
- Strong focus on hand washing with options to install foot-operated handwashing stations (Tippy Tap) outside homes and in the community toilets and other areas, portable handwashing stations; instructions on how to wash hands, use the toilet, use of disinfectants and additional measures.

Office of the Principal Scientific Advisor to the GoI | Guideline | April 2020 | Online link

Advisory against spraying of disinfectant on people for COVID-19 management

- Spraying individuals or groups with chemical disinfectants is not recommended under any circumstances as it is physically and psychologically harmful.
- Use of such measures may also lead to a false sense of disinfection & safety and hamper public observance to hand washing and social distancing measures.

MoHFW | Guideline | 18 April 2020 | Online link

Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/Quarantine of COVID-19 Patients

- Second revision of the CPCB guidelines on managing COVID-19 biomedical waste; in suppression of earlier CPCB guidelines issued on 25 March 2020; additional information is underlined.

CPCB | Guideline | 18 April 2020 | Online link

Guidelines to be followed on detection of suspect or confirmed COVID-19 case in a non-COVID Health Facility

- These guidelines provide guidance on action to be taken on detection of suspect/confirmed COVID-19 case in a healthcare facility.
- This document in intended for:
  - COVID-19 healthcare facilities (public and private) which are already receiving or preparing to receive suspected or confirmed COVID-19 patients, and
  - Non-COVID healthcare facilities.

MoHFW | Guideline | 20 April 2020 | Online link

Measures Undertaken to Ensure Safety of Health Workers Drafted for COVID-19 Services

- Outlines the measures undertaken to ensure safety of health care workers including frontline workers, who have been trained in infection prevention and control and advised to consistently adhere to guidelines.

MoHFW | annex | 20 April 2020 | Online link

Revised guidelines for quarantine facilities

- Provides revised interim guidance for setting up of quarantine facilities.

NCDC | Guideline | 24 April 2020 | Online link

* *Information resources are listed chronologically within each section*

Additional guidelines for quarantine of returnees from abroad / contacts / isolation of suspect or confirmed cases in private facilities

- Ministry of Health & Family Welfare has issued guidelines for home quarantine of contacts and home isolation of patients who have requisite accommodation at home for self-isolation.
- These guidelines are applicable both for facility quarantine/facility isolation in hotels, service apartments, lodges etc. unless and otherwise stated categorically.

MoHFW | Guideline | 7 May 2020 | Online link

Revised guidelines for Home Isolation of very mild/pre-symptomatic COVID-19 cases

- The guidelines are in addition to the guidelines on appropriate management of suspect/confirmed case of COVID-19 issued by MoHFW on 7 April 2020 and supersede the guidelines for home isolation of very mild/pre-symptomatic patients, which were issued on 27 April 2020.

MoHFW | Guideline | 10 May 2020 | Online link

Updated additional guidelines on rational use of Personal Protective Equipment (setting approach for Health functionaries working in non-COVID areas)

- These guidelines are meant for healthcare workers and others working in Non-COVID hospitals and Non-COVID treatment areas of a hospital which has a COVID block.
- These guidelines use the "settings" approach to guide the use of personal protective equipment.

MoHFW | Guideline | 15 May 2020 | Online link

Advisory for managing Health care workers working in COVID and Non-COVID areas of the hospital

- Provide guidance on preventive measures, isolation and quarantine of health care functionaries and strengthening institutional mechanism for preventing and responding to healthcare associated infections (HAIs) among healthcare workers.

MoHFW | Guideline | 15 May 2020 | Online link

Guidelines on preventive measures to contain spread of COVID-19 in workplace

- Outlines the preventive and response measures to contain the spread of COVID-19 in workplace settings.
- Focused on basic preventive measures to be followed always, measures specific to offices, measures to be taken on occurrence of case(s) and disinfection procedures to be implemented in case of occurrence of a suspect/confirmed case.

MoHFW | Guideline | 18 May 2020 | Online link

Trainings / IEC resources*

Onboarding of States / Union Territories' COVID-19 Warriors to iGoT (Integrated Government Online Training) courses on DIKSHA Platform on COVID-19 pandemic

- Details for States/UTs to popularise the iGOT (Integrated Government Online Training) portal launched by Department of Personnel and Training.

MoHFW | information about online training courses | 22 April 2020 | Online link

* *Information resources are listed chronologically within each section*

Standard precautions: Hand hygiene

- This module has been prepared to help summarize the WHO guidelines on hand hygiene, associated tools and ideas for effective implementation.
- Course duration is approximately 1 hour; certificate/record of achievement will be issued to participants who get at least 70% in the post-test.

WHO | Open WHO training course | 24 April 2020 | Online link

Ready Reckoner – HIC related practices at AIIMS

- An outline of hospital infection control related practices in the context of COVID 19 at AIIMS.

AIIMS | IEC | 24 April 2020 | Online link

Using Personal Protection N95 Masks given to Health Care Workers at AIIMS

- Instructions for re-using five N95 masks that have been issued to health care workers at AIIMS.

AIIMS | IEC | 27 April 2020 | Online link

Biomedical Waste management, Disinfection & Cleaning in COVID-19 Areas

- Video on biomedical waste management, disinfection & cleaning in COVID-19 areas.

AIIMS | video presentation | 27 April 2020 | Online link

Awareness material for frontline workers of COVID-19

- Videos on COVID-19 awareness for community level workers on MoHFW YouTube channel
- Available in Hindi, Punjabi, Bengali, Marathi, Telugu (Telangana), Telugu (Andhra Pradesh), Malayalam, Kannada, Tripura, Tamil, Gujarati, Odiya.

MoHFW | awareness resources | 29 April 2020

Thematic Bank of COVID19 Creatives

- PowerPoint presentations with IEC resources on key topics:
  1. What is Corona Virus and how does it transmits
  2. Handwashing
  3. Preventive Measures
  4. Home Quarantine
  5. Myth Busters
  6. All India National Helpline 1075
  7. No Spitting
  8. Stigma and Discrimination
  9. Thank you COVID Warriors

MoHFW | IEC | 5 May 2020

Standard precautions: Waste management

- Health care waste in a facility should be managed from point of generation to final disposal and removal. This course focuses on different categories of waste and the process for their management.

* *Information resources are listed chronologically within each section*

- Course duration is approximately 1 hour; certificate/record of achievement will be issued to participants who get at least 70% in the post-test.

WHO | Open WHO training course | 14 May 2020 | Online link

Guidelines for Home Isolation of very mild / pre-symptomatic COVID-19 cases

- AV resource for home isolation of mild/pre-symptomatic cases, available on MoHFW YouTube channel.

MoHFW | video | 15 May 2020 | Online link

No Spitting in public places

- AV resource to raise awareness to stop spitting in public places, available on MoHFW YouTube channel.

MoHFW | video | 16 May 2020 | Online link

Personal Protective Equipment and Covid-19

- Downloadable video that explains PPE, and the procedure for donning and doffing PPE.

NEJM | video | 19 May 2020 | Online link

Antimicrobial Resistance and COVID-19*

Infographic: AMR and COVID-19

- IEC for public to raise awareness. Key messages include – antibiotics do not work on viruses (including the one that causes COVID-19); why diagnosis is important; COVID-19 patients may need antibiotics for bacterial co-infections; advice never to self-medicate and practice good respiratory and hand hygiene to prevent COVID-19.

WHO EURO | infographic | 8 May 2020 | Online link

COVID-19 and the potential long-term impact on antimicrobial resistance

- The emergence of the SARS-CoV-2 respiratory virus has required an unprecedented response to control the spread of the infection and protect the most vulnerable within society.
- Whilst the pandemic has focused society on the threat of emerging infections and hand hygiene, certain infection control and antimicrobial stewardship policies may have to be relaxed.
- Whilst the urgent focus must be on allaying this pandemic, sustained efforts to address the longer-term global threat of antimicrobial resistance should not be overlooked.

Journal of Antimicrobial Chemotherapy | article | 22 April 2020 | abstract available Online link

Co-infections: potentially lethal and unexplored in COVID-19

- Despite the proven importance of co-infections in the severity of respiratory diseases, they are understudied during large outbreaks of respiratory infections.
- … in the current COVID-19 pandemic, 50% of patients with COVID-19 who have died had secondary bacterial infections, and 71% of admitted patients with COVID-19 received antibiotic drugs.
- Rapid characterisation of co-infection is essential in the management and treatment of the most severe COVID-19 cases, could help to save lives, and shall improve antimicrobial stewardship.

The Lancet Microbe | Correspondence | 24 April 2020 | Online link

* *Information resources are listed chronologically within each section*

COVID-19, superinfections and antimicrobial development: What can we expect?

- Nosocomial superinfections, including antimicrobial resistant infections, will likely occur in an appreciable minority of severe COVID-19 cases.
- Stewardship will be crucial for limiting broad-spectrum antimicrobial use in hospitalized patients. Congressional COVID-19 legislation is considering reforms to antimicrobial reimbursement and development.

Clin Infect Dis | article | 1 May 2020 | Online link

The Novel Coronavirus COVID-19 Outbreak: Global Implications for Antimicrobial Resistance

- Potential implications have been discussed of some of the current management practices and practicalities of managing the novel coronavirus outbreak in relation to AMR.
- Global issue of AMR will persist beyond the COVID-19 outbreak, and understanding some of the impacts the management strategies employed globally had, or will have, on AMR in the clinic, the environment and regarding public awareness should be investigated, when the time is right.
- In the meantime, everyone should wash their hands!

Frontiers in Microbiology | Opinion | 13 May 2020 | Online link

How covid-19 is accelerating the threat of antimicrobial resistance

- Global threat of antimicrobial resistant bacteria and other superbugs is worsening as many patients admitted to hospital with covid-19 receive antibiotics for secondary bacterial infections.
- WHO discourages the use of antibiotics for mild cases of covid-19 while recommending antibiotic use for severe covid-19 cases at increased risk of secondary bacterial infections and death.
- One factor likely encouraging increased antibiotic use is clinical uncertainty about covid-19 infections, which can be amplified by urgency when physicians treat critically ill patients whose lives hang in the balance.
- Some experts worry that the pandemic's strain on healthcare systems may disrupt antibiotic stewardship programmes designed to help hospitals minimise the risk of AMR.

BMJ | Feature| 18 May 2020 | Online link

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