COVID-19 Infection Prevention and Control *Sameeksha*

WHO Country Office for India | Volume 10 | *8 February 2021*

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

Publications from scientific journals

Modes of transmission of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) and factors influencing the airborne transmission: a review

- Influence of negative pressure ventilation and air conditioning systems on airborne transmission and spread of SARS-CoV-2 were discussed.
- Droplet transmission occurs from particles >5 µm, which can settle on surfaces under gravitational settling and do not move more than 1 m; but particles <5 µm can stay suspended for an extended period of time (≥2 h) and travel longer distances (up to 8 m) through simple diffusion and convection mechanisms; and environmental ambient conditions (cold and humid weather) can affect airborne transmission of SARS-CoV-2 over larger distances.
- Although warm weather can slow down the growth rates of SARS-CoV-2, rigid social enforcement and other measures such as the widespread use of face masks are still needed along with coordinated measures to control the COVID-19 pandemic.
- Healthcare workers must be provided with N95, FFP2, or FFP3 masks combined with gowns and goggles, and control measures such as using high adequate ventilation, rooms with negative pressure ventilation, practicing social distancing, and wearing N95 and even surgical facemasks are potentially suggested to reduce the SARS-CoV-2 airborne transmission.

Int. Journal of Environmental Research & Public Health | Review | 6 January 2021 | Online link

Decontamination of common healthcare facility surfaces contaminated with SARS-CoV-2 using peracetic acid dry fogging

- Routine surface decontamination processes using liquid sprays/wipes are labour intensive, often hazardous to decontamination personnel, and cannot reach all hard-to-reach surfaces; whereas fumigation keeps the personnel out of the room being fumigated while decontaminating the entire room including the air and the various surfaces contained within.
- Peracetic acid (PAA) fumigation resulted in complete inactivation of SARS-CoV-2 on all nine test surfaces as well as decontamination of the rooms that housed them.

The Journal of Hospital Infection | Article | 4 January 2021 | Online link

Estimating aerosol transmission risk of SARS-CoV-2 in New York City public schools during reopening

- Risk of SARS-CoV-2 transmission in New York City public schools estimated – with low risk of SARS-CoV-2 transmission; lowest risk in older schools and those in low-income neighbourhoods,

probably due to lower air-tightness compared to newer, recently renovated schools or during the heating season.

- Increasing airflow by increasing natural ventilation (opening windows) is recommended to reduce transmission risk.

Environmental Research | Article | 26 January 2021 | Online link

Review of hygiene adaptations among UK doctors in controlling the spread of SARS-CoV-2 infection

- Common hygiene practices play an important role in reducing the spread of COVID-19 infection to the doctors as well as to their families, thereby reducing morbidity and mortality of doctors and healthcare workers.
- This study found that junior doctors were more meticulous in hygiene adaptations and female doctors more fastidious in personal hygiene, which may be beneficial in preventing transmission.

Clinical Medicine Journal | Original Research | January 2021 | Online link

Guidelines

Infection prevention and control (IPC) principles and procedures for COVID-19 vaccination activities

- Summarizes key IPC principles to consider and the precautions for safely delivering COVID-19 vaccines, with focus on hand hygiene, personal protective equipment, injection safety, environmental cleaning and disinfection, and waste management.
- Recommends appropriate measures to be taken during preparation and planning phase, and the operational phase.

WHO | Aide-memoire | 15 January 2021 | Online link

Infection prevention and control guidance for long-term care facilities in the context of COVID-19 update

- Provides updated guidance for LTCF managers and IPC focal points to prevent SARS-CoV-2 from entering a facility and from spreading within and beyond the facility, and to support safe conditions for visiting through the rigorous application of IPC procedures, for the residents' well-being.
- Guidance suggests on key measures under IPC precautions for care of residents with suspected or confirmed SARS-CoV-2 infection with respect to i) PPE ii) waste management iii) laundry iv) restriction of movement/transport v) discontinuing isolation precautions and vi) care of the deceased.

WHO | Interim guidance | 8 January 2021 | Online link

COVID-19: Occupational health and safety for health workers

- Provides specific measures to protect occupational health and safety of health workers, highlighting the duties, rights and responsibilities for health and safety at work in the context of COVID-19.

WHO | Interim guidance | 2 February 2021 | Online link

COVID-19 Clinical Management: living guidance

- IPC remains a critical and integral part of management of patients, health workers' safety and reducing hospital-associated infections.
- Rational use of antimicrobials, coupled with antimicrobial stewardship, is recommended.

WHO | Living guidance | 25 January 2021 | Online link

Trainings / IEC resources

Leadership and programme management in Infection Prevention & Control

- The course involves project management process and adult-based education for IPC, leadership types and skills essential for effective communication and conflict management.
- Consists of three modules; i) leadership skills ii) project management iii) implementation strategies and quality improvement, and a post-test

WHO | OpenWHO training course | Online link

COVID-19 vaccination training for health workers

- The course describes the process of COVID-19 vaccine administration and identifies IPC measures that should be used during vaccination sessions
- Primarily aimed at frontline health workers who will be vaccinators and priority recipients.

WHO | OpenWHO training course | Online link

Clinical management of patients with COVID-19 – rehabilitation of patients with COVID-19

- This course imparts knowledge to healthcare workers for providing safe, effective quality patient care addressing all aspects of clinical management, facility preparation and surge planning-including IPC for health workers; interfacility transfer; clinical management of mild, moderate, and severely ill patients with COVID-19; and rehabilitation.

WHO | OpenWHO training course | Online link

Antimicrobial Resistance and COVID-19

Spread of carbapenem-resistant Gram-negatives and *Candida auris* during the COVID-19 pandemic in critically ill patients: one step back in antimicrobial stewardship?

- Provides real-life data on possible selection and transmission of drug-resistant organisms among critically ill COVID-19 patients, especially high rate of colonization/infection with carbapenem-resistant organisms, especially *P. aeruginosa* and *K. pneumoniae;* and *C. auris*.
- Highlights the need for further studies to determine the precise impact of COVID-19 on antimicrobial stewardship and infection control and to develop adequate strategies to prevent further spread of antimicrobial resistance.

Microorganisms | Article | 3 January 2021 | Online link

Antibiotics and antimicrobial resistance in the COVID-19 era: perspective from resource-limited settings

- Due to lack of clinical microbiology laboratory capacity and shortcomings in IPC measures, LMIC may be more affected due to COVID-19-associated antibiotic resistance.
- There is concern for worsening antimicrobial resistance in COVID-19 patients since choice of antibiotics in COVID-19 patients is often empiric. Guidelines on antibiotic use in COVID-19 should be adapted to new evidence, and IPC policies can reduce antimicrobial resistance.

International Journal of Infectious Diseases | Perspective | 9 January 2021 | Online link

Antimicrobial stewardship: fighting antimicrobial resistance and protecting global public health

- Antimicrobial Stewardship (AMS) practices, principles and interventions designed to promote, improve, monitor and evaluate the rational use of antimicrobials are critical steps towards containment and mitigation of AMR.
- AMS is responsibility of prescribing health professionals, pharmacists, nurses, veterinarians, farmers and microbiologists through a One Health approach.

Infection and drug resistance | Review | 29 December 2020 | Online link

Assessing the impact of COVID-19 on antimicrobial stewardship activities/programs in the United Kingdom

- Provides quantitative and qualitative data on the impact of COVID-19 pandemic on antimicrobial stewardship across UK.
- Positive impacts included increased acceptance of using procalcitonin to discriminate between viral and bacterial pneumonia, using virtual platforms for education and training, multidisciplinary team meetings, etc.

Antibiotics | Article | 23 January 2021 | Online link