Infection Prevention and Control

Dr .Abdul Rehman Pirzado

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Infection Prevention and Control (IPC) for COVID-19 Virus[i]

The aim is to strengthen the IPC protocols already in place in health facilities by ensuring the procedures are rolled out and required capacities are in place and practiced, as per the approved national policy (if applicable). IPC measures also focus on environmental practices, including preparedness for the outbreak, to increase staff safety, and contribute to increased quality care.

Overview:

This session will cover the Infection Prevention and Control (IPC) measures required to:

- **Be prepared and ready to respond** to an outbreak, in particular, the one due to COVID-19.

- **Limit human to human transmission** by way of implementing WHO recommended IPC interventions.

- **Identify, isolate, and report** suspect and confirmed cases.

Learning objectives:

On completion of this session, you should be able to:

- Define IPC and its role in the context of preparedness, readiness, and response;

- Describe the current epidemiological COVID-19 situation, including case definitions and signs & symptoms;

- Describe source control, administrative controls and environmental and engineering controls;

- Describe the WHO-recommended IPC measures for health care facilities, including when dealing with suspected or confirmed COVID-19 cases;

- Describe additional IPC measures to be taken to assist in general preparedness within a health care facility.

Preparedness, readiness, and IPC

Principles of Emergency Management[ii]

- Evaluate prevention, mitigation preparedness, and response efforts;

- Strategies that can help health facilities to prevent and reduce the impact of an emergency

- Actions that take place before an emergency

- Activities in reaction to a known or suspected event

- Health facilities seek to return to "normal" or Build Back Better (BBB)

Preparedness

The knowledge, capacities, and organizational systems developed by governments, response and recovery organizations, communities, and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent, emerging, prolonged or current emergencies.

- Actions that take place before an emergency and increase a facility's ability to respond when an emergency occurs.

- All levels: National, regional, and facility.

Why preparedness?

•Because preparedness is an integral part of **health system strengthening** and is critical to **health emergency disaster risk management**

•Inadequate IPC measures may lead to transmission to patients, staff, visitors, and within the community.

Readiness

The capacities of the healthcare in terms of resources (human, material or financial) are accessed that should be in place to enable a rapid, effective response in case of a health emergency (in the current context: importation or local transmission of COVID-19). The principal aim for the readiness defines to be ready to "aggressively" contain the event (outbreak) before its further spread.

WHO highlights the key eight pillars of the public health response as below:

1. Country-level coordination, planning, and monitoring

2. Risk communication and community engagement

3. Surveillance, epidemiologic investigation, rapid-response and case investigation

4. Points of entry

5. National laboratories

6. Infection prevention and control

7. Case management

8. Operations support and logistics, including contingency plans & funding mechanism

IPC: An essential requirement for outbreak preparedness and a critical element of readiness

Infection Prevention and Control (IPC) should be mainstreamed across the different phases of an emergency, should always be considered as an ongoing activity undertaken/supported by the national program and by the IPC focal point/team/committee, the health care facility, senior management officials, and all the staff at the facility level.

What is infection prevention and control[iii]?

Scientific approach with practical solutions designed to prevent harm caused by infections to patients and health care workers, grounded in principles of infectious diseases, epidemiology, social science, and health system strengthening, and rooted in patient and staff safety and health service quality.

Who is at risk of infection?

Everyone

Benefits of IPC [iv]

The infection prevention and control activities protect yourself, your patients, and your family and community at large.

IPC goals

- To put barriers to reduce the transmission of nosocomial and Healthcare-associated Infections (HAIs);

- To enhance the safety of staff, patients and visitors;

- To enhance the ability of the organization/health facility to respond to an outbreak;

- To lower or reduce the risk of the hospital (health care facility) itself amplifying the outbreak.

Core components for effective IPC programs in all contexts[v]

Effective IPC programs must be based on the implementation of all core components, They must be implemented using the multimodal strategies, and If IPC measures and required resources are not in place, it is not likely that a country or facility would be able to respond effectively to an outbreak. At least, the IPC Minimum Requirements must be in place, as per the WHO, UNICEF, and MoH guidance.

The minimum requirements represent the starting point for undertaking the journey to build reliable and effective IPC programs at the national and facility level and should be ensured for all health facilities to support further progress towards full implementation of all core components.

The Minimum Requirements: IPC standards that should be in place at the national and facility level to ensure the minimum protection and safety to patients, healthcare workers, and visitors, based on the following WHO core components of the IPC program[vi].

- IPC measures and guidelines;
- IPC education and training;
- Healthcare-Associated Infections (HAIs) surveillance;
- Multimodal strategies;
- Monitoring/audit of IPC practices and feedback;
- Workload, staffing and bed occupancy;
- The built environment, materials, and equipment for IPC.

IPC Minimum Requirements

NATIONAL LEVEL	FACILITY LEVEL
CC1 – A functional **IPC program** in place with at least one **full-time trained IPC focal point** and a dedicated IPC budget.	**Primary care**: trained IPC link person **Secondary care**: one trained IPC focal point per 250 beds with dedicated time and budget **Tertiary care**: one full time trained IPC focal point per 250 beds with dedicated time and budget with multidisciplinary IPC committee and access to the microbiology laboratory
CC2 – Evidence-based national **IPC guidelines** adapted to the local context	**Primary care**: SOPs at least on standard precautions and basics of transmission-based precautions **Secondary and tertiary care:** additional SOPs on surgery, prevention of endemic healthcare-associated infections (HAIs), and occupational health
CC3 – **Education & Training:** National policy that all HCW are trained in IPC + IPC national curriculum + monitoring of IPC training effectiveness	**All care levels**: IPC training for all clinical front-line staff and cleaners upon hire (but also *annually* in tertiary care facilities) and specific IPC training for IPC focal points.
CC4 – **National technical group** developing **plans** for **healthcare-associated infection (HAI) surveillance** and IPC monitoring	**Primary and Secondary care:** HAIs surveillance not a minimum requirement but should follow national plans **Tertiary care:** Active surveillance of HAIs and antimicrobial resistance (AMR) and feedback should be a core activity of the IPC program

CC5 – **Multimodal Improvement Strategies (MMIS)** should be implemented for IPC interventions	**Primary care**: MMIS to implement priority IPC measures(hand hygiene, injection safety, decontamination of medical equipment, environmental cleaning) **Secondary care:** MMIS for implementation of all standard and transmission-based precautions and triage **Tertiary care:** same as secondary care + MMIS for specific types of HAI (e.g. CLABSI) according to local risk and epidemiology
CC6 – **National technical group** for IPC monitoring developing **plans + recommendations on IPC indicators + system + training**	**Primary care:** Monitoring of IPC indicators based on IPC priorities (see CC5) **Secondary and tertiary care:** a dedicated individual responsible for IPC monitoring and timely feedback + hand hygiene as a priority indicator
CC7 – **Workload, staffing and bed occupancy levels**	**Primary care:** Systems for patient flow, triage, and the management of consultations To optimize staffing levels, facilities must assess facility appropriate staffing levels **Secondary and tertiary care**: system to manage the use of space, establish standard bed capacity for the facility, no more than one patient per bed, and at least one meter between the edges of beds. To optimize staffing levels, facilities must assess facility appropriate staffing levels.
CC8– **Built environment, materials, and equipment for IPC**	**Primary care**: Patient care activities should be undertaken in a clean and hygienic environment, facilities should include separate areas for sanitation activities, decontamination and reprocessing medical equipment and have sufficient IPC supplies and equipment for providing IPC measures. **Secondary and tertiary care:** Facilities should have sufficient single isolation rooms or availability to cohort if appropriate.

Role of the IPC focal point**, team or committee**

Individual IPC focal point must have up to date knowledge and have an understanding of the IPC strategies needed for outbreaks/epidemics, etc.

IPC in the healthcare facility she/he has to ensure availability of the facility-specific physical Infrastructure and assessment, preparedness, facility readiness, and health facility IPC policy and SOPs developed in place

IPC Committee has to participate and provide oversight in response and recovery, participate in surveillance and day to day monitoring, patient management, and education

Minimizing the need for PPE

To minimize the needs of PPE equipment for health facility staff Consider **telemedicine** to evaluate suspect cases, minimizing the need for them to visit health care facilities for evaluation, implement **physical barriers** (glass/plastic windows) where patients first present: triage areas, registration desk, and pharmacy window, **Limit** number of health and care **workers/others entering** COVID-19 patients' **rooms**, **plan** what activities will be performed at bedside to avoid multiple entries and exits. Consider **bundle** activities (e.g., check vital signs when administering medication; have health workers deliver food when performing other care) and Do not allow **visitors** where COVID-19 patients are isolated, or restrict their number and time allowed.

References

[i] https://openwho.org/courses/COVID-19-IPC-EN

[ii] Curless M, Gerland MA, Maragakis LL 2018 Infection Prevention and Control. Module 11: Infection Prevention and Contor Program Management. Reference Manual for Health Care Facilities with Limited Resources. *John Hopkins Medicine. Jhpiego. p.p. 37-52.* http://reprolineplus.org/system/files/resources/IPC_M11_Programs.pdf

[iii] WHO Infection Prevention and control web pages;; https://www.who.int/gpsc/ipc/en/

[iv] WHO2015 Safe & Quality Health Services Package

[v] https://www.who.int/infection-prevention/publications/core-components/en/

[vi] https://www.who.int/infection-prevention/tools/core-components/en/