बोपाल, 28.03.2020

विषय:— BMHRC, Bhopal द्वारा COVID-19 के लिए Logistic मांग पत्र के संबंध में।

संदर्भ:— बोपाल स्वास्थ्य अस्पताल एवं अनुसंधान केन्द्र, बोपाल का पत्र क्रमकं 7281 दिनांक
28.03.2020।

"संचालनालय स्वास्थ्य सेवाएं के आदेश क्रमकं / आई.इ.एस.पी./2020/270. दिनांक
23.03.2020 के द्वारा आविष्कार "The Madhya Pradesh Disease, COVID-19
Regulation, 2020" में निहित प्रावधान अन्तर्गत बोपाल में मिल्टल हॉस्पिटल एवं रिसर्च सेंटर, बोपाल, मध्य प्रदेश को राज्य सरकार (COVID-19) उपचार संस्थान विभाग का अन्वेषण कर
अधिग्रहित किया गया है। उत्तर आदेश में संचालनालय के आदेश क्रमकं / आई.इ.एस.पी./
2020/512, दिनांक 26.03.2020 द्वारा आवेदक संस्थान करते हुये प्रशासनीय कार्य सुविधा
एवं जन स्वास्थ्य के लूकिंग राज्य सरकार (COVID-19) उपचार संस्थान बोपाल में मिल्टल हॉस्पिटल एवं रिसर्च सेंटर, बोपाल, मध्य प्रदेश को जिला कार्यालय के अधीन जिला प्रशासन
को लिया जाता है।"

संचालन, बोपाल स्वास्थ्य अस्पताल एवं अनुसंधान केन्द्र, बोपाल ने संदिग्ध पत्र द्वारा
COVID-19 की शक्तिपत्र हेतु संलग्न पत्र अनुसार Logistic की मांग की है।

अतः संदिग्ध पत्र अभियंता सामग्री एवं औषधियों की लूकिंग आवश्यक कार्यवाही
हेतु मध्य प्रदेश रेडियल कार्यालय, तिलंगाना मंडल, नोपाल को प्रेषित करें।

संरक्षित:— उपरोक्तानुसार।

प्रू. क्रमकं / आई.इ.एस.पी./2020/366

01. प्रमुख सचिव, मध्य प्रदेश शासन, लोक स्वास्थ्य एवं परिवार कल्याण सचिवालय, मंत्रालय,
बोपाल।

02. संचालक, बोपाल स्वास्थ्य अस्पताल एवं अनुसंधान केन्द्र, बोपाल की अधीन उनके पत्र
क्रमकं / DIRM/BMHRC/F.No.15.1/2020/7281 दिनांक 28.03.2020 सूचनार्थ प्रेषित।

वि.का.इ. सर शास्त्री आयुक्त मध्य प्रदेश
DIR/BMHRC/F.No.15.1/2020/7281  
28th March, 2020

The Principal Secretary  
Ministry of Public Health and Family Welfare  
Madhya Pradesh  
Bhopal  
Email ID: pshealthmp@mp.gov.in

Sub: Regarding Preparedness for prevention and treatment of COVID-19 infection

Dear Madam,

In continuation to our letter vide No.DIR/BMHRC/F.No.15.1/2020/7274 dated 24th March, 2020, please find below the revised list of medicines and consumables which are required in order to start services as a COVID-19 hospital. It is requested to kindly organize to provide the same urgently to BMHRC, Bhopal. Further, for N-95 masks, PPE kits, Surgical gloves and shoe covers please ensure that the technical specifications as defined by Ministry of Health and Family Welfare (Encl 1) are complied with.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Item Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard Personal protective equipment (PPE) kit</td>
<td>75000</td>
</tr>
<tr>
<td>2</td>
<td>N-95 Masks</td>
<td>100000</td>
</tr>
<tr>
<td>3</td>
<td>Surgical Gloves</td>
<td>10000</td>
</tr>
<tr>
<td>4</td>
<td>Tab Hydroxy Chloroquine 400mg</td>
<td>15000 tablets</td>
</tr>
<tr>
<td>5</td>
<td>Tab Chloroquine 500mg</td>
<td>500 tablets</td>
</tr>
<tr>
<td>6</td>
<td>Cap Osathanvir 75mg</td>
<td>500 tablets</td>
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<tr>
<td>7</td>
<td>Tab Lopinavir 200mg</td>
<td>500 tablets</td>
</tr>
<tr>
<td>8</td>
<td>Tab Ritonavir 200mg</td>
<td>500 tablets</td>
</tr>
<tr>
<td>9</td>
<td>HIV Protection kit (gown)</td>
<td>100000</td>
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<tr>
<td>10</td>
<td>Shoe cover</td>
<td>10000</td>
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<tr>
<td>11</td>
<td>VTM kits</td>
<td>600</td>
</tr>
</tbody>
</table>

With regards,

Dr. Prabha Desikan  
Director  
BMHRC, Bhopal

Encl : As above  
Copy to :  
1. The Commissioner, Directorate of Health Services, Ministry of Public Health & Family Welfare, Madhya Pradesh, Bhopal

1. About this guideline

This guideline is for health care workers and others working in points of entries (POEs), quarantine centers, hospital, laboratory and primary health care/ community settings. The guideline uses setting approach to guide on the type of personal protective equipment to be used in different settings.

2. Introduction

Coronaviruses are a large family of viruses, some causing illness in people and others that circulate among animals, including camels, cats and bats. Rarely, animal coronaviruses can evolve and infect people and then spread between people such as has been seen with MERS and SARS.

The outbreak of novel coronavirus disease (now named COVID-19) was initially noticed from a seafood market in Wuhan city in Hubei Province of China in mid-December, 2019, has spread to more than 185 countries/territories worldwide including India.

The causative agent for COVID-19, earlier termed provisionally as novel Coronavirus has been officially named as SARS-CoV-2.

3. Mode of transmission

There is clear evidence of human-to-human transmission of SARS-CoV-2. It is thought to be transmitted mainly through respiratory droplets that get generated when people cough, sneeze, or expel. SARS-CoV-2 also gets transmitted by touching, by direct touch and through contaminated surfaces or objects and then touching their own mouth, nose, or possibly their eyes. Healthcare-associated infections by SARS-CoV-2 virus has been documented among healthcare workers in many countries.

The people most at risk of COVID-19 infection are those who are in close contact with a suspected/confirmed COVID-19 patient or who care for such patients.

4. Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) are protective gears designed to safeguard the health of workers by minimizing the exposure to a biological agent.

4.1 Components of PPE

Components of PPE are goggles, face-shield, mask, gloves, coverall/gowns (with or without aprons), head cover and shoe cover. Each component and rationale for its use is given in the following paragraphs:
4.1.1 Face shield and goggles

Contamination of mucous membranes of the eyes, nose and mouth is likely in a scenario of droplets generated by cough, sneeze of an infected person or during aerosol generating procedures carried out in a clinical setting. inadvertently touching the eyes/nose/mouth with a contaminated hand is another likely scenario. Hence protection of the mucous membranes of the eyes/nose/mouth by using face shields/ goggles is an integral part of standard and contact precautions. The flexible frame of goggles should provide good seal with the skin of the face, covering the eyes and the surrounding areas and even accommodating for prescription glasses.

4.1.2 Masks

Respiratory viruses that includes Coronavirus target mainly the upper and lower respiratory units. Hence protecting the airway from the particulate matter generated by droplets / aerosols prevents human infection. Contamination of mucous membranes of the mouth and nose by infective droplets or through a contaminated hand also allows the virus to enter the host. Hence the droplet precautions/ air borne precautions using masks are crucial while dealing with a suspect or confirmed case of COVID-19 performing aerosol generating procedures.

Masks are of different types. The type of mask to be used is related to particular risk profile of the category of personnel and his/her work. There are two types of masks which are recommended for various categories of personnel working in hospital or community settings, depending upon the work environment:

1. Triple layer medical mask
2. N-95 Respirator mask

4.1.2.1 Triple layer medical mask

A triple layer medical mask is a disposable mask, fluid-resistant, provide protection to the wearer from droplets of infectious material emitted during coughing/sneezing/talking.

4.1.2.2 N-95 Respirator mask

An N-95 respirator mask is a respiratory protective device with high filtration efficiency to airborne particles. To provide the requisite air seal to the wearer, such masks are designed to achieve a very close facial fit.

Such mask should have high fluid resistance, good breathability (preferably with an expiratory valve), clearly identifiable internal and external faces, duckbill/cup-shaped structured design that does not collapse against the mouth.

If correctly worn, the filtration capacity of these masks exceeds those of triple layer medical masks. Since these provide a much tighter air seal than triple layer medical masks, they are designed to protect the wearer from inhaling airborne particles.

4.1.3 Gloves

When a person touches an object/surface contaminated by COVID-19 infected person, and then touches his own eyes, nose, or mouth, he may get exposed to the virus. Although this is not thought
to be a predominant mode of transmission, care should be exercised while handling objects/surfaces potentially contaminated by suspect/confirmed cases of COVID-19.

Nitrile gloves are preferred over latex gloves because they resist chemicals, including certain disinfectants such as chlorine. There is a high rate of allergies to latex and contact allergic dermatitis among health workers. However, if nitrile gloves are not available, latex gloves can be used. Non-powdered gloves are preferred to powdered gloves.

4.1.4 Coverall/Gowns

Coveralls/gowns are designed to protect torso of healthcare providers from exposure to virus. Although coveralls typically provide 360-degree protection because they are designed to cover the whole body, including back and lower legs and sometimes head and feet as well, the design of medical/isolation gowns do not provide continuous whole-body protection (e.g., possible openings in the back, coverage to the mid-calf only).

By using appropriate protective clothing, it is possible to create a barrier to eliminate or reduce contact and droplet exposure, both known to transmit COVID-19, thus protecting healthcare workers working in close proximity (within 1 meter) of suspect/confirmed COVID-19 cases or their secretions.

Coveralls and gowns are deemed equally acceptable as there is a lack of comparative evidence to show whether one is more effective than the other in reducing transmission to health workers. Gowns are considerably easier to put on and for removal. An apron can also be worn over the gown for the entire time the health worker is in the treatment area. Coveralls/gowns have stringent standards that extend from preventing exposure to biologically contaminated solid particles to protecting from chemical hazards.

4.1.5 Shoe covers

Shoe covers should be made up of impermeable fabric to be used over shoes to facilitate personal protection and decontamination.

4.1.6 Head covers

Coveralls usually cover the head. Those using gowns, should use a head cover that covers the head and neck while providing clinical care for patients. Hair and hair extensions should fit inside the head cover.

The specifications for all the PPEs are at Annexure-A.
Annexure A

Personal Protection Equipment (PPE) - Specifications

(for Contact & Airborne precautions)

1. PPE Kit

1.1 Gloves
   - Nitrile
   - Non-sterile
   - Powder free
   - Outer gloves preferably reach mid-forearm (minimum 280 mm total length)
   - Different sizes (6.5 & 7)
   - Quality compliant with below standards, or equivalent:
     a. EU standard directive 93/42/EEC Class I, EN 455
     b. EU standard directive 89/686/EEC Category III, EN 374
     c. ANSI/SEA 105-2011
     d. ASTM D6931-10

1.2 Overalls (medium and large)*
   - Impermeable to blood and body fluids
   - Single use
   - Avoid culturally unacceptable colors e.g. black
   - Light colors are preferable to better detect possible contamination
   - Thumb/finger loops to anchor sleeves in place
   - Quality compliant with following standard
     a. Meets or exceeds ISO 16603 class 3 exposure pressure, or equivalent

1.3 Goggles
   - With transparent glasses, zero power, well fitting, covered from all sides with elastic band/or adjustable holder
   - Good seal with the skin of the face
   - Flexible frame to easily fit all face contours without too much pressure
   - Covers the eyes and the surrounding areas and accommodates for prescription glasses
   - Fog and scratch resistant
   - Adjustable band to secure firmly so as not to become loose during clinical activity
   - Indirect venting to reduce fogging
   - May be re-usable (provided appropriate arrangements for decontamination are in place) or disposable
   - Quality compliant with below standards, or equivalent:
     a. EU standard directive 89/686/EEC, EN 166/2002
     b. ANSI/SEA Z87.1-2010
1.4 N95 Masks
- Slopes that will not collapse easily
- High filtration efficiency
- Good breathability, with expiratory valve
- Quality compliant with standards for medical N95 respirator:
  a. NIOSH N95, EN 149 FFP2, or equivalent
- Fluid resistance: minimum 80 mmHg pressure based on ASTM F1862, ISO 22669, or equivalent
- Quality compliant with standards for particulate respirator that can be worn with full-face shield

1.5 Shoe Covers
- Made up of the same fabric as of coverall
- Should cover the entire shoe and reach above ankles

1.6 Face Shield
- Made of clear plastic and provides good visibility to both the wearer and the patient
- Adjustable band to attach firmly around the head and fit snugly against the forehead
- Fog resistant (preferable)
- Completely covers the sides and length of the face
- May be re-usable (made of material which can be cleaned and disinfected) or disposable
- Quality compliant with the below standards, or equivalent:
  a. EU standard directive 89/686/EEC, EN 166/2002
  b. ANSI/SEA Z87.1-2010

3. Triple Layer Medical Mask
- Three layered medical mask of non-woven material with nosepiece, having filter efficiency of 99% for 3 micron particle size.
  a. ISI specifications or equivalent

4. Gloves
- Nitrile
- Non-sterile
- Powder free
- Outer gloves preferably reach mid-forearm (minimum 280mm total length)
- Different sizes (6.5 & 7)
- Quality compliant with the below standards, or equivalent:
  1. EU standard directive 93/42/EEC Class I, EN 455
  2. EU standard directive 89/686/EEC Category III, EN 374
  3. ANSI/SEA 105-2011
  4. ASTM D6319-10
Body Pans: Specifications

1) Impermeable
2) Leak proof
3) Air sealed
4) Double sealed
5) Disposable
6) Opaque
7) White
8) U shape with Zip
9) 4/6 grips
10) Size: 2.2 x 1.2 Mts
11) Standards:
   a) ISO 16602:2007
   b) ISO 16603:2004
   c) ISO1:6004:2004
   d) ISO/DIS 22611:2003

All items to be supplied need to be accompanied with certificate of analysis from national/international organizations/labs indicating conformity to standards.

All items: Expiry 5 years

* Due to scarcity of coveralls, and risk versus benefit, that as an emergency temporary measure in larger public interest, in present given circumstances, the fabric that cleared/passed ‘Synthetic Blood Penetration Resistance Test’ (ISO 16603) and the garment that passed ‘Resistance to penetration by biologically contaminated solid particles (ISO 22612:2005) may be considered as the benchmark specification to manufacture Coveralls.” The Coveralls should be taped at the seams to prevent fluid/droplets/aerosol entry.

The test for these two standards (ISO 16603 and ISO 22612:2005), which can be performed in Indian laboratories are as per WHO Disease Commodity Package (Version 4.0)