

Health system response to Covid-19: A review of advisories for the control of COVID-19 in Kerala

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Introduction

- WHO confirmed the first case of nCorona virus on 12 December 2019
- WHO recommended to taking necessary precautions to prevent the spread
- ICMR recommended to intensify ARI / ILI / SARI surveillance in the country
 - Advised to raise the awareness and knowledge of SO and HCP
- State government quickly responded to the alerts
- First case reported in India was from Kerala, (on 30 January 2020)
 - GOK declared health emergency in the state
- State established control centres to coordinate actions
 - State and the district control rooms
- Control rooms played key role in formulating advisories and guidelines

Objectives and Methodology

- **Objective**

- to narrate the guidelines and advisories released by the health department for the prevention and control of COVID in Kerala

- **Methodology**

- guidelines and advisories for the prevention and control of COVID published by the HSD between 26 January 2020 to 8 February 2022 were downloaded, summarized and narrated briefly in chronological order
- Certain important themes were identified and explained

Findings

- **There were 224 documents**
 - **173 were guidelines and advisories**
 - **63.2 % were public health and 36.8 % were clinically related**
 - **testing and treatment guidelines (35.3%)**
 - **departmental guidelines (22.8%)**
 - **logistic guidelines (14.5%)**
 - **general guidelines (11.5%)**
 - **surveillance and reporting guidelines (7.3%)**
 - **preventive guidelines (1.6%)**
 - **Miscellaneous (7%)**

Advisories and Guidelines

26

January

2020

- **Guidelines included**
 - **definition of cases, method of contact tracing, sample collection measures, description of infection prevention and control strategies, surveillance and contact tracing and guidance notes to travel**

- **Health education materials were prepared in local language and disseminated**
 - **included information on current situation of corona virus diseases, available knowledge about the disease, mode of transmission, symptoms, detection and testing methods, treatment recommendations, preventive measures**

Advisories and Guidelines

**1 February
2020**

- **Guidelines for**
 - **testing, quarantine, hospital admission, discharge and follow up of international travellers and their contacts**
 - **insisted testing of all persons came from Wuhan with or without symptoms and all symptomatic persons who came from China and other notified countries**
 - **All test positive persons were advised to admit in corona isolation ward for treatment until the active stage of disease was over**
 - **to follow up in home till 28 days after discharge**
- **detailed instructions**
 - **on procedure for collection, storage and transportation of samples**

Advisories and Guidelines

2 Feb 2020	<ul style="list-style-type: none">• Medical Boards were constituted
3 February 2020	<ul style="list-style-type: none">• WHO declared the epidemic as PHEIC• constitute state level corona virus control room with 18 sub committees to undertake different tasks like<ul style="list-style-type: none">• surveillance, call centre management, HR management, training and awareness generation, material management, infrastructure management, media surveillance, IEC/BCC and media management, documentation, private hospital surveillance, expert study coordination, transportation and ambulance management, inter-departmental coordination, field level volunteer coordination, psychological support, community volunteer coordination, data management and finance management to intensify the disease control activities

Advisories and Guidelines

	<ul style="list-style-type: none">• When contacts were under home or hospital isolation, the animals and students were not getting proper care• advisory for care of animals by AHD• animal surveillance in markets, locations of migratory birds, slaughter houses
5 February 2020	<ul style="list-style-type: none">• advisory for care of students• advised to abstain from attending schools for 28 days and to report if develops any symptoms
	<ul style="list-style-type: none">• guidelines issued for the surveillance of international travellers and the drivers who had contact• included advices for the safety of them and the staff who had contact

Advisories and Guidelines

**March
2020**

- **guidelines for testing, quarantine, hospital admission and discharge were revised based on the new knowledge**
- **When WHO declared that the pandemic had affected 141 countries strengthened the surveillance and control measures in the airports**
 - **advisories were released for arrangements and sequence of activities at arrival gates for screening the passengers and transportation to appropriate isolation centres**
- **advisories to beauty parlours and saloons; and shopping centres and shopping malls to follow precautionary measures**

Advisories and Guidelines

16
March
2020

- **Advisories to constitute COVID-19 cell at state and district levels in all departments for coordination of activities**
 - **instructed to undertake measures to disseminate information and advisories of health department for the prevention of disease**
 - **“break the chain” campaign with the slogan ‘SMS’**
 - **instructions entrusted with LSGD were to**
 - **(1) identify places for isolation,**
 - **(2) report information regarding the people coming from abroad**
 - **(3) provide psychological support and food to families under isolation**
 - **(4) dissemination of latest information and advisories etc**

Advisories and Guidelines

**20
March
2020**

- **Advisories to entrust responsibilities and activities of LSGD**
 - **Conduct awareness sensitization campaigns**
 - **Ensure cleaning of public places like**
 - **Sensitize people to disinfect masks and gloves before disposal or make arrangements to collect**
 - **Monitor the people in home isolation and report to health facility**
 - **Activate existing various committees**
 - **List out the availability of health personals, community resource persons, youth clubs, voluntary workers, health institutions, facilities in each health institutions, lodging facilities for keeping persons in isolation or quarantine in the locality**

Advisories and Guidelines

**24
March
2020**

- **when GOI declared nation wide lockdown**
- **orders to withhold all immunization sessions for children below 10 years and to reduce the number of antenatal care visits to four**
- **dental clinics and hospitals were advised to adopt infection control precautions and to postpone all elective aerosol generating procedures, splatter causing treatment procedures if not an emergency**
- **Advisory to the resident's associations advised to cooperate with the disease control activities within the locality and to undertake infection control practices in their establishments and common places. This included specific activities that can be undertaken by them**

Advisories and Guidelines

28 March 2020	<ul style="list-style-type: none">• When number of patients and primary contacts who needed hospitalization increased instructed to establish centres to avoid crowding in hospitals• CFLTC for Cat A and CCC for asymptomatic
28 March 2020	<ul style="list-style-type: none">• Separate advisories to provide advises and suggestions to reduce mental stress among HCW, people in isolation, elderly in quarantine and children
31 March 2020	<ul style="list-style-type: none">• Reference guide published for converting existing hospitals into dedicated COVID hospitals with details for planning and management of<ul style="list-style-type: none">• infrastructure, HR, infection control, equipment and consumables, patient flow, pharmacy services, housekeeping, lab services, logistics, security, laundry, bio-medical waste management, dietary, engineering, communications, mortuary, monitoring and daily review, managing concurrent emergencies and non-COVID patients

Advisories and Guidelines

16 April 2020	<ul style="list-style-type: none">• restart routine immunization to children in both private and public by strictly observing 'break the chain' protocol
20 April 2020	<ul style="list-style-type: none">• to ensure TB control services by observing strict infection control precautions in active case finding, testing, clinical diagnosis, treatment procedures and public health action
7 May 2020	<ul style="list-style-type: none">• cancer care treatment of suspected or confirmed COVID-19 patients
8 May 2020	<ul style="list-style-type: none">• care of ophthalmic patients under strict precautions for the safety of staff and patients

Advisories and Guidelines

**May
2020**

- **more people started coming from other states**
- **To intensify screening, testing and quarantine to prevent the spread of disease**
- **recommended home quarantine under supervision and monitoring of asymptomatic people for 14 days**
- **'e- jagratha' portal was developed and established to document the arrival of people**
 - **to ensure effective real time surveillance, care and support for people affected or under quarantine, tracking, institutional verification etc**
- **guidelines were issued for screening of passengers at railway stations and to take actions to prevent further spread of pandemic**

Advisories and Guidelines

20 May 2020	<ul style="list-style-type: none">• to prevent the spread in jails, guidelines were issued to screen the prisoners who were newly incarcerated or returned to jail after the parole
23 May 2020	<ul style="list-style-type: none">• Guidelines to reduce the risk among drivers and passengers of taxi<ul style="list-style-type: none">• to strictly follow all standard precautions; to put a transparent separation between front and back rows; to avoid the use of AC and to disinfect the vehicle after each journey
23 May 2020	<ul style="list-style-type: none">• to conduct the school examinations instructions were issued for the protection of students, parents, relatives, transporting vehicles, drivers, school officials, teachers etc• sanitized corridor for the transport of students from Lakshadweep / other states and those in quarantine

Advisories and Guidelines

June 2020	<ul style="list-style-type: none">• second round of serological surveillance among stratified sample groups
July 2020	<ul style="list-style-type: none">• Sentinel surveillance was conducted in coastal, slum and tribal areas, to detect any local transmission
18 July 2020	<ul style="list-style-type: none">• When guest workers started returning from their home, guidelines were issued for their testing and quarantine
29 July 2020	<ul style="list-style-type: none">• for home-based isolation of asymptomatic positive health worker
7 Aug 2020	<ul style="list-style-type: none">• state permitted home quarantine for non-health care patients

Advisories and Guidelines

8 Aug 2020	<ul style="list-style-type: none">• for care of airline accident victims
12 Aug 2020	<ul style="list-style-type: none">• for conducting NEET examination
14 Aug 2020	<ul style="list-style-type: none">• for the safe conduct of Independence Day Celebrations
4 Sep 2020	<ul style="list-style-type: none">• for daily symptom surveillance of staff and inmates and test the symptomatic in prisons
11 Sep 2020	<ul style="list-style-type: none">• for integrated TB testing of all ILI cases with any vulnerability such as contact with TB, elderly, diabetes, tobacco use, malnourished, immunocompromised and COPD

Advisories and Guidelines

16 Oct 2020	<ul style="list-style-type: none">• for preventing disease spread during the Navaratri festival celebrations
28 Oct 2020	<ul style="list-style-type: none">• to ensure safe Sabarimala pilgrimage and to prevent the progression of pandemic due to large influx of people from outside and within the state
	<ul style="list-style-type: none">• to setting up of COVID-19 convalescent clinics to tackle the long covid cases and to ensure proper post covid management
9 Dec 2020	<ul style="list-style-type: none">• State constituted State steering committee, State task force, District task force and Block task force for coordinating the smooth introduction of COVID-19 vaccine
4 Jan 2021	<ul style="list-style-type: none">• for the opening of cinema halls, performance of indoor and outdoor art programs and conducting festivals following COVID appropriate behaviour

Advisories and Guidelines

Feb 2021	<ul style="list-style-type: none">• When rapid surge in the Covid-19 cases across the country• guidelines to stop the spread of infection.• 'Back to the basics' campaign was launched
9 Feb 2021	<ul style="list-style-type: none">• revised testing guidelines were issued on 09 February 2021 and indented to perform one lakh tests per day
11 Feb 2021	<ul style="list-style-type: none">• for the prevention of spread during assembly elections
19 Feb 2021	<ul style="list-style-type: none">• Guidelines for organization of covid 19 mass vaccination campaign facility for front line workers
1 Mar 2021	<ul style="list-style-type: none">• SOPs regarding the layout, cold chain facility, human resources, clinical volunteers, networking hospital with ICU facility, supervisors, sanitation and biomedical waste management

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Advisories and Guidelines

<p>31 Mar 2021</p>	<ul style="list-style-type: none">• When there was an increasing trend in the country following the election related activities, mass vaccination campaigns, summer travel• all citizens were requested to adhere to COVID appropriate behaviour• instructed the organizers of ceremonies and functions to ensure the adherence of COVID appropriate behaviour by all participants at all times• For strengthening surveillance to detect the clusters of disease early and to take action for containment• mobilizing people of above 45 years age for vaccination
<p>15 Apr 2021</p>	<ul style="list-style-type: none">• As there was resurgence of cases,• decided to apply augmented testing strategy in high burden districts,• to test, track and treat to curtail resurgence.• highlighted to test 2.5 lakh people within the next two days

Advisories and Guidelines

18 Apr 2021	<ul style="list-style-type: none">• all travellers coming to Kerala were advised to undertake RTPCR test either within 48 hours prior to entering the state or immediately after entering the state
21 Apr 2021	<ul style="list-style-type: none">• Urgent additional restrictions without affecting the economic activities were declared<ul style="list-style-type: none">• advised everyone to adhere with COVID protocols in all public places,• restrict the functioning time of restaurants,• control the staff attendance in offices,• promote online classes in all educational institutions etc

Advisories and Guidelines

**21 Apr
2021**

- **New Covid quarantine and isolation guidelines were issued in view of the rapid surge**
- **separate recommendations for the quarantine and isolation of laboratory confirmed COVID-19 cases; high risk primary contacts; and low risk primary contacts**
- **“Five tier covid care pyramid” strategy**
 - **CFLTC for Category A**
 - **CSLTC for Category B**
 - **Designated COVID Hospital for Category C**
 - **Home care for asymptomatic patients having suitable home conditions**
 - **Domiciliary Care Centre (DCC) for asymptomatic patients not having suitable home conditions**

Advisories and Guidelines

24 Apr 2021	<ul style="list-style-type: none">• Special arrangements for trouble free vaccination of elderly people and people with disability
25 Apr 2021	<ul style="list-style-type: none">• new covid treatment and discharge guidelines
2 May 2021	<ul style="list-style-type: none">• for the rationale use of Oxygen during COVID pandemic
9 May 2021	<ul style="list-style-type: none">• for strengthened patient care by converting fever clinics to COVID clinics and starting COVID case management in all hospitals
12 May 2021	<ul style="list-style-type: none">• for the optimal use of high flow nasal cannulas and oxygen audit
16 May 2021	<ul style="list-style-type: none">• for the diagnosis and treatment of COVID -19 associated mucor mycosis

Advisories and Guidelines

24 May 2021	<ul style="list-style-type: none">• for prioritization of COVID-19 vaccination in the age group of 18- 45 years
31 May 2021	<ul style="list-style-type: none">• for COVID 19 vaccination of bedridden patients above 45 years
2 June 2021	<ul style="list-style-type: none">• for making preparedness for the management of surge of COVID in children
29 Aug 2021	<ul style="list-style-type: none">• for targeted augmented testing to identify additional cases

Advisories and Guidelines

<p>6 Jan 2022</p>	<ul style="list-style-type: none">• when most of the cases became asymptomatic or mildly symptomatic and recovered with minimum interventions• revised guidelines for home isolation of mild and asymptomatic cases• guidelines for the treatment for patients with mild /asymptomatic disease in home isolation, conditions to seek medical attention, monitoring of the patient during home isolation, conditions to discontinue home isolation
<p>10 Jan 2022</p>	<ul style="list-style-type: none">• In the wake of the outbreak of variant viruses such as omicron, a series of guidelines for the prevention, control and mitigation were issued• gave direction to follow ICMR advisory on purposive testing strategy for early detection of symptomatic cases for quick isolation and care• for the cluster management in the context of surge in number of cases in institutions and offices

Advisories and Guidelines

**Feb
2022**

- **for optimizing care of the primary conditions in patients with concomitant SARS-CoV-2 infection**
 - **to streamline the treatment to all non-covid diseases in the hospital**
- **for providing care and support to all pain and palliative care patients by the volunteers and NOGs**
- **travel guidelines were also revised to strengthen the surveillance and advice regarding quarantine and treatment**
 - **for symptomatic surveillance of all international travellers coming to Kerala and testing of symptomatic persons using RTPCR test**
 - **random testing of 2% of international travellers in the flight irrespective of country of departure**

Discussion

- **Political commitment and bureaucratic leadership**
 - **GOK took proactive steps early to contain the spread of this novel infection (Jan 2020)**
 - **Activities were monitored by a high-level committee lead by the Chief Minister, Health Minister**
 - **Initially, the health minister and later the chief minister conducted daily press meetings and briefed the details**
 - **These were helpful for the district authorities to plan the day-to-day activities**

Discussion

- **Political commitment and bureaucratic leadership**
 - **When WHO declared the disease as PHEIC, sub committees were formed at state and district level**
 - **State declared health emergency in the state following the confirmation of first COVID-19 positive case and control rooms were opened**
 - **War room started functioning round the clock since 23 march 2020, under senior IAS officers**
 - **Enforcement of Kerala epidemic disease ordinance on 26 March 2020, gave special power**
 - **Found very high level of political commitment and bureaucratic leadership**

Discussion

- **Initiatives in health department**
 - **Surveillance activities and contact tracing**
 - **Diagnosis and testing strategies**
 - **Quarantine strategies and facilities**
 - **Training for capacity building**
 - **Awareness creation and social mobilisation**
 - **Medical management and upgradation of hospitals**

Discussion

- **Promotion of inter departmental activities**
 - **Promotion of COVID appropriate behaviours in all departments**
 - **IEC activities like “break the chain” campaign, ‘SMS’ campaign and ‘back to the basics ‘campaigns were pushed through interdepartmental coordination activities**
 - **LSGI lead the campaign with people’s participation and took the responsibility of implementing activities**
 - **LSGI and police department helped in surveillance at airports, seaports, railway stations, interstate bus terminals and state borders**

Discussion

- **Promotion of inter departmental activities**
 - **Public mobilization campaigns**
 - **variety of health education materials were also developed by other departments and widely disseminated**
 - **DISHA helpline; dedicated website namely "dashboard.kerala.gov.in" with user-friendly dashboard; and mobile app namely "GoK Direct," developed and put in public domain were helpful**
 - **Wash basins with water taps and soap solutions arranged at railway stations, bus terminals and other public places through LSGIs were helpful**

Discussion

- **Promotion of inter departmental activities**
 - **Public mobilization campaigns**
 - **social media campaign which disseminated messages in the form of catchy slogans, messages and trolls helped in reducing transmission of COVID-19 and mobilizing the public**
 - **'COVID Brigade' was constituted in July 2020 to power the human resources**
 - **volunteer doctors, nurses, paramedical, technical and cleaning staff**

Conclusion

- **Highest level of political commitment and bureaucratic leadership were obvious in the state and the timely interventions were palpable**
- **Guidelines and advisories released in time were helpful in setting standards**
- **Efforts were taken to mobilize all government departments, clinicians, public health professionals, common public and academicians for proactive control measures**
- **Useful in curtailing the spread of pandemic in Kerala having higher proportion of elderly, non-communicable diseases and larger migrant population**
- **Large scale community participation, responsible LSGI activities and positive media involvement also contributed**

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