



## Jawaharlal Institute of Postgraduate Medical Education and Research Puducherry



### Efforts of JIPMER in Ensuring Health care to Public during Covid -19 Pandemic

JIPMER has a large hospital with over 2000 beds, attached to a large teaching Institution with a large number of graduate, postgraduate, doctoral and post-doctoral courses in medicine and its various specialties, nursing and allied health sciences.

JIPMER started its COVID-19 response in January 2020 with the establishment of a separate isolation ward on 27<sup>th</sup> January 2020. It also established a COVID-19 RT-PCR testing facility in early February 2020, becoming one of the few earliest Institutions to be certified by ICMR for laboratory testing of COVID-19. Thereafter, beginning in March 2020, at the advice of the Ministry of Health and Family Welfare, Government of India, it has developed a separate and dedicated 300- bedded facility for COVID-19 pandemic. The facility has nearly 40 intensive care unit beds (with ventilators), 142 additional beds with piped oxygen supply and advanced facilities for the care of patients with COVID-19, and is manned by trained medical, nursing and other staff and equipped with the necessary protective equipment. Subsequently the Institute has also taken up the role of mentor Institution for over 80 medical colleges in Tamil Nadu, Puducherry, and Andhra Pradesh, and has helped the country rapidly ramp up the COVID-19 testing capacity.

Before the COVID-19 pandemic, on an average, 8000 to 10,000 patients from different parts of the country visited JIPMER for treatment every day, with each of them being accompanied by 1-2 family members/attendants. With the onset of COVID-19 pandemic, and in response to the instructions and regulations issued by the Government of India on social distancing and infection control practices at hospitals and other workplaces, registration timings for outpatients were reduced from 19<sup>th</sup> of March 2020, to regulate the number of patients and to reduce overcrowding. Despite that, the average attendance remained around 4500 patients per day with approximately 6000 attendants. On 24<sup>th</sup> March 2020, with the lockdown measures being put in place by the Government of India, non-emergency outpatient services were curtailed. However, the Institute took steps to ensure that all the emergency outpatient and inpatient services continued in all speciality departments (including in ENT, Ophthalmology, Psychiatry, Dental, Medicine, Pulmonology, Dermatology, Surgery, Obstetrics, Paediatrics, Radiation oncology, Orthopaedics, Anaesthesiology and Critical Care, Emergency Medicine) and superspecialty departments (Cardiology, Cardiac Surgery,

Neurology, Neurosurgery, Paediatric Surgery, Medical Oncology, Surgical Oncology, Medical Gastroenterology, Surgical Gastroenterology, Immunology, Plastic Surgery, Nephrology, Neonatology and Urology). All laboratory and imaging services remained functional for emergency cases. Maintenance haemodialysis, cancer treatment and blood bank services were continued uninterrupted. Our emergency daily statistics show that even during the first lock-down period, nearly 450-500 patients were seen in the emergency every day; in addition, continuous maintenance haemodialysis programme continued to provide service to more than 100 patients, cancer treatment for chemotherapy and radiotherapy was given to around 90-100 patients per day, and 20 emergency surgeries and 20-30 high risk deliveries were done daily. The hospital, during that period, had an average of 600 serious inpatients, i.e. nearly one-third of the usual inpatient bed strength of 1900 per day.

In early March 2020, an interdisciplinary COVID-19 Task Force, comprising of faculty from various disciplines (with skills relevant to clinical care, laboratory aspects and epidemiological monitoring of COVID-19), and staff from administration, nursing, engineering and technical departments, was set up. The team meets frequently (initially daily to now once to twice a week) to assess the situation of COVID-19, and oversees the functioning of both the COVID-19 and non-COVID-19 medical and other services in the Hospital. This team has co-ordinated the development of a dedicated COVID-19 facility (referred to above), and preparation of standard operating procedures (SOPs) for various activities in the hospital, particularly infection control, screening, treatment, laboratory services, departmental management, mortuary services, patient transport, etc, to ensure smooth operation of all hospital services and to avoid disruption due to the COVID-19 situation. In addition, training has been imparted to various groups of healthcare workers, including doctors, nurses, laboratory staff, para-medical healthcare workers, housekeeping staff, security staff, etc. A separate information webpage has been created on the JIPMER website with updated details of testing, hospital statistics and other awareness messages to the general public, institute staff, press and other media.

Keeping in step with the relaxation in lock-down on April 20, the institute introduced a telephone-based outpatient consultation facility as early as April 22, 2020 for the patients who were previously registered with it. This involved a quick up-gradation of the Hospital information system (HIS) and setting up of a system with 10 telephone lines (albeit with the same phone number -- 0413-2298200 -- to make it easier for patients), which functioned from 9 AM to 1 PM on all working days. Within a week, this service was upgraded to a video consultation facility, wherein a doctor could see the patient's old records and examine any visible signs of disease over a video call. By the first week of May 2020, an average of 800 patients were utilizing this facility for follow-up outpatient

consultations in all the clinical departments. A small informal telephonic survey of 15 randomly chosen patients who had used the facility revealed a general satisfaction with the service.

In view of the increasing demand and positive response, the registration timings were soon increased to 7 hours per day (9 AM to 4 PM). From 11<sup>th</sup> May 2020, the system underwent a major upgrade in that patients who were assessed by the doctor providing telephone consultation as needing a physical visit to the hospital were asked to visit the out-patient department at an appointed date/time. The appointment was generated by the HIS and sent out through a SMS (short message service) on their registered mobile. This system enabled us to provide elective specialty services to the most-needy patients, while allowing us to regulate the patient visits by allowing staggered timings and obviating overcrowding at any time. This tele-consultation system followed by selective appointment-based outpatient visits to hospital for those where a physical consultation is essential, has worked well and has been introduced for all the Departments. Also, a telephone-based system to dispense drugs to patients who have been attending the JIPMER hospital for chronic ailments has been put in place, through the development of a new pharmacy software in the HIS and establishment of dedicated pharmacy counters for OPD visits and continuation drugs. By 17<sup>th</sup> May 2020, JIPMER had also extended the outpatient services to new patients who have not previously been registered or evaluated at JIPMER. This service was provided through telephone-based appointment using another set of ten telephone line exchange (phone number 0413-2298303).

Over time, in view of the positive response to the above measures and increasing demand for additional facilities, the telephone-based system has been expanded with dedicated phone numbers for both new and old patients for each specialty or group of related specialties. This information (please see <http://covid19jipmer.org>) has been circulated to the public through repeated news bulletins, media articles, mass media, including All India Radio, TV and social media platforms, and the public's response has been encouraging.

From 8<sup>th</sup> June 2020, an online registration system has also been started to enable new patients to register themselves for appointment at JIPMER. Thus, JIPMER has responded rapidly to the COVID-19 pandemic challenge by establishing an an appointment-based referral care incorporating tele-medicine consultation in all the disciplines through various innovative modalities using landlines, mobile phones, online platforms and Hospital information system through a low-cost model.

At present, every day, an average of 1800-1900 elective patients are attended to by tele-consultation, 1400-1500 patients attend the outpatient services by physical visits to the hospital, and emergency services receive 200-250 patients every day. On an average, the Institute admits 150-160 new cases every day, and 900-950 beds are occupied at any given time in the non-COVID-19 area,

where 75 wards and 17 intensive care units are functional. Besides emergency surgeries (which never stopped and number about 30 per day), limited elective surgeries have started from 17<sup>th</sup> May 2020, with 10-15 elective surgeries in various disciplines daily. The services in neonatology intensive care, haemodialysis, cancer care in departments of Medical Oncology and Radiation Oncology, high-risk obstetrics, blood bank and other critical services are continuing uninterrupted. Overall, we believe that these are high numbers given that patients themselves are unwilling to visit hospitals and have travel-related problems.

The above efforts have been put in place while providing for the care of COVID-19 cases. Since March 23, a total of around 87241 persons have been screened for features of COVID-19 infection, and 1849 have been admitted for suspicion of COVID-19. Currently, the newly-created COVID-19 block has 160 inpatients, including 145 who are COVID-19 positive (this number does not include those who have been successfully treated and discharged).

Since the beginning of the COVID-19 outbreak, our laboratory has tested 17903 specimens for novel corona virus by RT-PCR. This includes a large majority of the specimens tested in the territory of Puducherry (both from JIPMER and from other hospitals, as well as tests for surveillance), as well as specimens from other states, including from Tamil Nadu and Madhya Pradesh.

Opening the services further poses two major problems, namely (i) the availability of specialist manpower and (ii) the risk of spread of infection through overcrowding.

As for the manpower, the newly-created COVID-19 block has been established by redeploying the available manpower, including specialist doctors, nurses, technicians and engineering and several support staff from across the main hospital, thereby reducing the staff available for regular activities. There have been other manpower challenges too. A number of our health care workers (HCWs), many of whom live in and come from the neighbouring districts of Tamil Nadu, faced difficulty in travel due to lockdown; this was a particular challenge in view of peculiar geography of Puducherry which is intersected by Tamil Nadu at multiple locations. Several HCWs are engaged in initial screening of all incoming patients, including thermal screening and questionnaire-based risk assessment, and segregation based on such assessment. Some HCWs have had to be out of service periodically because of quarantine following exposure to patients with COVID-19. Currently, at JIPMER, 78 persons, most of whom are HCWs, are quarantined and are being looked after by our COVID-19 team.

Also, JIPMER has continuously provided personnel to man specialist rapid response teams of the Ministry of Health and Family Welfare to the neighbouring state of Tamil Nadu, and to provide expert advice to the administration of Union Territory of Puducherry for its COVID-19 response. Its

faculty in Microbiology has helped establishing the COVID-19 testing facilities in several states. Each of these takes time of its specialists, reducing the time available for JIPMER patients, even while putting in extra hours.

The other major issue is of the risk of disease transmission in the hospital itself. Offering services in the manner that was prevalent earlier, with the consequent over-crowding and no possibility of the distancing norms would pose a very high risk of transmission of disease from one person to other among those attending the OPDs, and from them to HCWs, with serious adverse setbacks. Any outbreak of disease among HCWs would even run the risk of closing parts of the hospital or even the entire hospital, depriving the public of even essential services, which we are trying to maintain at all costs.

Overall, JIPMER has strived hard to do its best to provide the best of health care facilities in both the non-COVID-19 as well as COVID-19 areas to the general public without any discrimination based on region of residence or origin. We are continuously and gradually improving the quality of our appointment based elective services, while ensuring the state of the art emergency and critical care across all medical and surgical specialities. In the present pandemic situation, the institute is not able to offer unrestricted elective services (e.g. without prior appointment) to its patients.

In spite of overwhelming challenges, the Institute has performed over 2000 surgeries including 376 major surgeries from the onset of lockdown till 30<sup>th</sup> of June 2020. Most of these have been operations for emergency conditions, life-saving operations such as for patients with cancer, those directed at saving a vital organ or a limb, and complicated brain and heart operations. In addition, a total of 3861 chemotherapy cycles have been administered for to previously-registered cancer patients. Furthermore, 410 newly-diagnosed patients with various cancers were registered and started on chemotherapy during the above period. In addition, three patients each have received autologous and allogeneic bone marrow transplantation during the same period, and over 800 cancer patients have received blood transfusions in the Department of Medical Oncology. Also, the Department of Radiation Oncology has delivered 3351 radiotherapy sessions, 85 brachytherapy sessions, and 2574 chemotherapy sessions.

The Institute has continuously striven to provide tertiary health care facilities in all the non-Covid specialties as well as for the Covid-19 pandemic available to the most vulnerable population groups in the region, despite several significant constraints.