

Effectiveness of ChAdOx1 nCoV-19 Corona Virus Vaccine (Covishield™) in preventing SARS-CoV2 infection, Chennai, Tamil Nadu, India, 2021

SUPPLEMENTARY FILE

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Supplementary Table S1. Socio-demographic characteristics of the households participated in the COVID-19 vaccine effectiveness cohort study, Chennai, 2021 (N=19,211)

Characteristic		n	%
Division	147	7,555	39.3
	151	4,155	21.6
	153	7,501	39.1
Area	Slum	3,466	18.0
	Non-Slum	15,745	82.0
Type of house	Kucha	197	1.0
	Semi pucca	658	3.4
	Pucca	18,356	95.5
Ration card (indicative of socio-economic status)	Below poverty line (BPL)	1,101	5.7
	Non-BPL	15,086	78.5
	No card	3,024	15.7
Number of family members	<4	8,831	46.0
	≥4	10,380	54.0
Rooms for sleeping	1	6,312	32.9
	2	10,113	52.6
	≥3	2,786	14.5
Number of people per room	1	2,765	14.4
	2	10,324	53.7
	3	4,069	21.2
	≥4	2,053	10.7

Supplementary Table S2. Socio-demographic characteristics of the individuals who participated in the COVID-19 vaccine effectiveness cohort study, Chennai, 2021 (N=69,435)

Characteristic		n	%
Division	147	27,760	40.0
	151	15,090	21.7
	153	26,585	38.3
Gender	Male	34,500	49.7
	Female	34,836	50.2
	Transgender	99	0.1
Age group (in years)	0 - 17	15,135	21.8
	18 - 44	32,507	46.8
	45 - 59	13,114	18.9
	60 - 98	8679	12.5
Education	No formal education	6918	10.0
	School education	35,152	50.6
	College education	27,365	39.4
Occupation	Health care / Frontline worker	1418	2.0
	Others	68,017	98.0
Comorbidity	Known HT	4283	7.9
	Known DM	4912	9.0
	Others	1138	2.1
Vaccination status	Unvaccinated	38,892	56.0
	Received only one dose	16,700	24.1
	Received both the doses	13,843	19.9

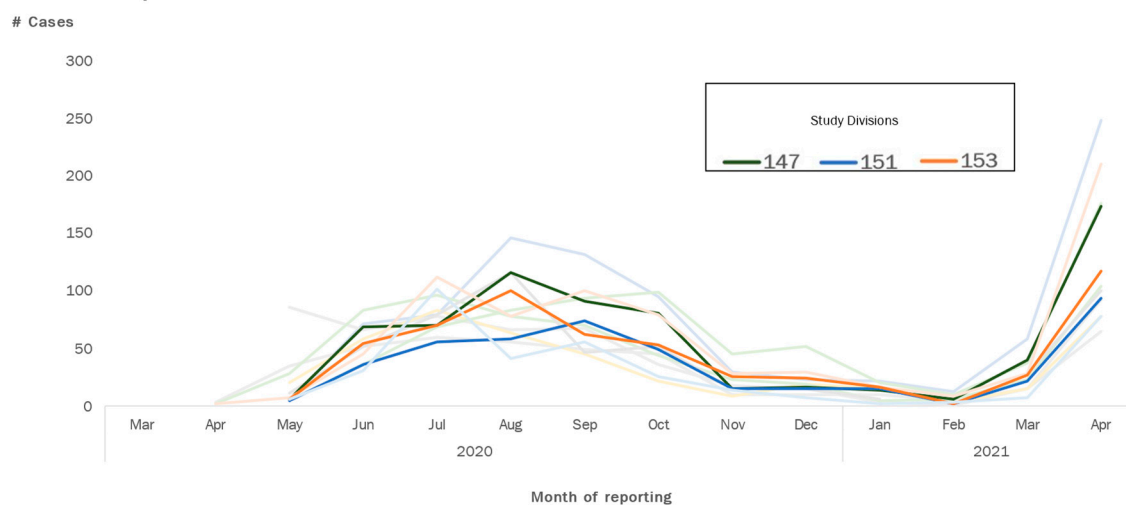
HT - Hypertension

DM - Diabetes Mellitus

Supplementary Table S3. COVID-19 incidence and its outcomes among the individuals ≥ 45 years in the COVID-19 vaccine effectiveness cohort study, Chennai, 2021 (N=21,793)

		Total	COVID-19 positive	Incidence per 100,000 population	Recovered without oxygen support		Recovered with Oxygen Support		Recovered with ventilator support		Died		No Information	
Characteristic		N			n	%	n	%	n	%	n	%	n	%
Overall		21,793	303	1390	259	85.5	20	6.6	1	0.3	12	4.0	11	3.6
Gender	Male	10,916	145	1328	123	84.8	8	5.5	0	0.0	7	4.8	7	4.8
	Female / TG	10,877	158	1453	136	86.1	12	7.6	1	0.6	5	3.2	4	2.5
Age Group (in years)	45 - 59	13,114	185	1411	167	90.3	9	4.9	1	0.5	1	0.5	7	3.8
	≥ 60	8679	118	1360	92	78.0	11	9.3	0	0.0	11	9.3	4	3.4

COVID19 case trend for the divisions in Greater Chennai Corporation, Mar 2020- Apr 2021



Supplementary Figure S1. The trend in COVID-19 cases in the contiguous divisions of Greater Chennai Corporation, March 2020–April 2021. The graph shows the rising trend in cases in the selected divisions 147, 151 and 153.

Tamil Nadu COVID-19

Case Management Protocol

COVID-19 positive or suspect
patients (negative or untested)

Measure

SpO₂ AND Respiratory rate (RR)

COVID-19 suspected symptoms

- ☐ Continuous fever
- ☐ Sore throat
- ☐ Breathlessness
- ☐ Fatigue
- ☐ Cough
- ☐ Myalgia
- ☐ Loss of taste/smell
- ☐ Diarrhea

SpO₂ > 94% AND
RR < 24/min

Home-based treatment

Prescribed at testing centres,
screening/triage centres, health facilities,
outreach camps, and home visits

CATEGORY 1

TREATMENT

- Tab. Vitamin C 500mg OD x 5 days
 - Tab. Zinc 50mg OD x 5 days
 - Tab. Paracetamol 500 mg 4 times a day AND SOS if having fever or myalgia
- ✓ Treat comorbid conditions
 - ✓ Maintain hydration
 - ✓ Prone position is advisable

Note: If the patient's house is unsuitable for home isolation, shift to COVID care centre

Red flag signs

Seek PHC/Screening Centre/
Telemedicine

- i. Persistent fever > 5 days OR
- ii. Persistent cough OR
- iii. Breathlessness OR Fatigue
- iv. SpO₂ 90-94% OR RR 24-30/min

Call 104 for admission at Covid-19 hospitals, if SpO₂ < 90% OR RR > 30/min

SpO₂ 90-94% OR
RR 24-30/min

Primary care

Treat at Primary Health Centre (PHC),
COVID Care Centre (CCC), or
COVID Health Centre (CHC)
(should have oxygen available)

CATEGORY 2

INVESTIGATIONS

Complete blood count, X-ray chest if available,
capillary blood glucose/plasma glucose,
blood pressure

TREATMENT (A + B + C + D)

- A**
- Oxygen 2-4 liters/min and titrate as per guidelines
 - Prone position 2-4 hours proning for 4-8 times per day
- B**
- Tab. Vitamin C 500mg OD x 5 days
 - Tab. Zinc 50mg OD x 5 days
 - Tab. Ranitidine 150mg BD x 5 days
 - Tab. Paracetamol 500 mg 4 times a day AND SOS - if having fever or myalgia
- C** Choose one of the following four:
1. Tab. Methylprednisolone 16mg BD x 7 days
 2. Tab. Dexamethasone 8mg [equivalent to 6mg salt] OD x 7 days
 3. If vomiting present, choose 3 or 4
 4. IV Inj. Methyl Prednisolone 0.5mg/kg per day not exceeding 40mg/day x 7 days
 5. IV Inj. Dexamethasone 8mg [equivalent to 6mg salt] OD x 7 days
- D** Choose one of the following two:
1. Low molecular weight Heparin (Enoxaparin) 40mg (0.4ml) SC OD OR
 2. Unfractionated Heparin 5000U SC BD
- Do not start anticoagulant if H/O bleeding disorders or platelet count < 1 lakh per mm³ and Refer to COVID hospitals
- ✓ Treat comorbid conditions
 - ✓ Adequate hydration
 - ✓ Strict glycemic and BP control - if two random blood sugar readings > 300 mg/dl - Refer to hospital

Note: Admit COVID Suspects/Negatives in a separate ward away from the COVID ward

Red flag signs

If the patient is not improving and SpO₂ < 90% refer to Covid-19 Hospital

SpO₂ < 90% OR
RR > 30/min

Pre-hospital care

Initiate treatment at PHC, CCC & CHC then shift to Medical College, District Headquarter Hospital, or Dedicated COVID Hospitals

CATEGORY 3

TREATMENT (A + B + C)

During transportation or waiting for the bed

- Oxygen If SpO₂ < 90%, initiate low flow as per guidelines
- B. Choose one of the following four:**
1. IV Inj. Methyl Prednisolone 0.5 mg/kg per day not exceeding 40mg/day x 7 days
 2. IV Inj. Dexamethasone 8mg OD [equivalent to 6mg salt]
 3. Tab. Methylprednisolone 16mg BD
 4. Tab. Dexamethasone 8mg OD [equivalent to 6mg salt]
- C. Choose one of the following two:**
1. Low Molecular Weight Heparin (LMWH) 0.4ml SC OD
 2. Unfractionated Heparin 5000 U SC BD
- Do not start anticoagulant if H/O bleeding disorders, and platelet count < 1 lakh per mm³

Note: This protocol does not include hospital-based treatment

Stepdown to Covid Health Centre

If SpO₂ > 92% for 48 hrs. after weaning of from respiratory support like noninvasive ventilation / invasive ventilation

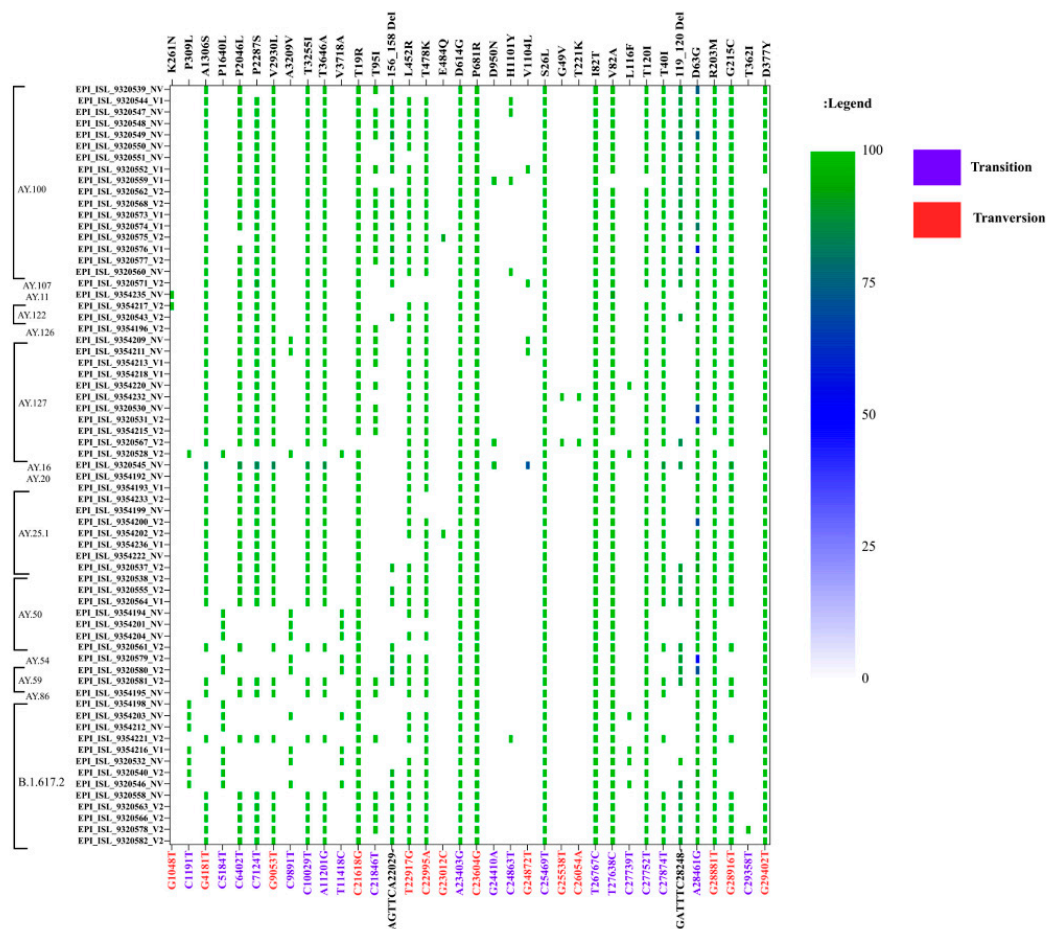
Patients requiring low flow O₂ support nasal cannula & mask and maintaining SpO₂ > 92% for more than one day

DISCHARGE CRITERIA

If SpO₂ > 92% in room air for 3 days



Supplementary Figure S2. Tamil Nadu COVID-19 Case Management Protocol



Supplementary Figure S3. Single nucleotide variations in the SARS CoV-2 sequences retrieved from the clinical samples collected from the 45+ age group individuals who were positive for SARS-CoV-2 in COVID-19 Vaccine effectiveness Study, Chennai, India, 2021.