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## Covid-19 Pandemic Management in Himachal Pradesh: A Sociological Perspective

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### Abstract

This paper is based on secondary data released by the state government during April 2020 to January 2021 on the management of Covid-19 in Himachal Pradesh<sup>2</sup>. The primary objective is to understand: first, magnitude and nature of the pandemic; second, the status of training, knowledge and awareness among medicos, nurses, paramedics, and health workers of managing a pandemic; and, third coping mechanisms and management strategies adopted by the state in liaison with central government's national disaster management organization. The state till January 14, 2021 had only 6.52 per cent of the total population, and the deaths were only 1.67 per cent. A perusal of the state action in combating pandemic revealed swift action by the state by imposing complete lockdown, strict restrictions on inter-district travel, and complete ban on the entry of population from different states. In the absence of vaccination the government conducted regular training programmes for the health professionals, public campaigns to make the public aware of Covid-19 protocols. Although the state was able to control the situation effectively, yet the lack of vaccination and limited testing facilities, complete closing of OPD services for general patients, had its implications for the expectant mothers, old age people and other patients falling in the high risk category.

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Key words: COVID ,Management, awareness,training, Economy ,Environment, Human life, Lock down Social distance

## Introduction

The year 2020, from March 25 till the end of first wave and start of second wave of COVID-19 will be recorded as the worst in the history of mankind. At the same time, it will also be remembered as a time of social awakening across nation-states, all working towards developing vaccine, signifying emerging hopes and a way forward. The worst and adverse refers to 9,97,71,661 COVID-19 affected cases, 21,38,970 (2.14 per cent) deaths and 2,58,85,858 (25.4 per cent) active cases all over the world. The optimism emerged with 7,17,45,627 recovered cases, constituting almost 97 per cent of the total (World Coronavirus Meter, Jan 25, 2021). The most progressive outcome even during the times of distress was joining hands by most countries to control pandemic through innovative preventive measures and development of vaccine, the ultimate therapeutic technology. Resultantly, world's leading countries, including India developed the vaccine. India has now more than 66.5 crores vaccinated persons, along with continuous reinforcement of mitigation measures. These include maximum stay at home, partial lockdowns, hand washing with soap, and use of alcohol based sanitizers. The search for causes for the outbreak of pandemic, include expert opinion by scientists and doctors, scientific explanations, and mythological manifestations. Due to the divergent world views, myths, and anxieties make it difficult for a socially developed state with given state of the art health facilities to deal with pandemic.

It is worthwhile to note that due to its very nature COVID-19 pandemic is more than a health crisis as it has far-reaching socio-economic implications for the individual, household and the society at large. Although a pandemic, primarily, concerns with mass health issues across nation-states and countries, yet the recent multi-dimensional post- COVID-19 experience posed a great risk with virtually closing down social, economic, political and even cultural activities. The unemployment in the unorganized sector due to closing of factories, and large scale inter-state migrations of labour force, hunger and deprivations affected mental health, caused severe depression, isolation and even suicides (Panchal *et al.* 2021). Another critical dimension of pandemic concerns with economic, humanitarian, social and life security, and emerging human rights crisis (Legaria 2020). The worst humanitarian crisis witnessed no one even from one's own primary family relations, came forward to cremate the dead dying of corona virus. The management of pandemic cannot be possible without addressing human sensitivities, civility, emotions, human relationships, and the right of dead for a dignified funeral. Perhaps, the pointer is towards the collapse of social structure.

**Objectives:**

Although the scope of such a study is vast with multi-disciplinary conceptual and theoretical premises and inter-disciplinary approach of study, yet keeping in view the limitation of time and resources it proposes to examine the following:

1. The nature, type and magnitude of COVID-19 pandemic in Himachal Pradesh;
2. The training, knowledge and awareness among medicos, nurses, para-medics and health workers about epidemics and pandemics; and,
3. The coping and management strategies adopted by the health department during the Corona epidemic/pandemic.

**Methodology:**

In the given restrictions of movement and lack of adequate protective mechanisms available to the PRC staff, the data was collected through secondary sources. To accomplish the first objective which covered the entire state, the latest available reports and data compilation carried out by the directorate of health and family welfare Himachal Pradesh was taken from the directorate of health. The information pertaining to budgetary allocations for COVID, awareness campaigns, knowledge dissemination and training was also provided by the state health directorate. Similarly, the third objectives related to the coping and management mechanisms was evolved on the basis of notifications and trainings organized by the state, with specific reference to distancing, quarantine, treatment, travel restrictions, and other socially relevant steps.

**Data Analysis:**

Corona in Himachal Pradesh, as the records of the Directorate of Health and Family Welfare, Government of Himachal Pradesh, suggest, arrived on March 20, 2020 with the detection of first case and since then the corona curve continued to rise during the subsequent months. The state swung into action immediately and conducted a webinar on April 9, 2020 to assess the preparedness at the district level in all the health institutions. Subsequently on April 13, the health workers at all levels were imparted knowledge about the appropriate use of the PPE during the pandemic along with information about epidemiological analysis, diagnosis of Corona and preventive practices. With the identification of corona affected cases the need for setting up of isolation and quarantine facilities also emerged. The information about setting up such facilities began in the state, especially in the most affected districts with effect from April 16 onward. The guidelines of the Ministry of Health and family Welfare, and the one issued by the Disaster Management, Government of India, were shared with all stakeholders,

specifically practical guidelines, including HGQ prophylaxis. The sensitization programme for ANMs, ASHA, AWW7 Volunteers etc. started on state level along with training in transportation of suspected cases of COVID-19. The role of nursing staff on duty in ICUs, ICU care for the COVID patients also received attention of the state government. In order to protect the mother and the new born children, the infection prevention and control mechanisms were set up in labour rooms and OPDs. Since the infections also were feared to travel through dental surgeons, the practices were standardized in such clinics and hospitals. The exhaustive list of 26 webinars conducted by the department of pediatrics and pulmonary medicine department of the Indira Gandhi Medical College for doctors, nurses, para-medics in Himachal Pradesh is suggestive of the all out efforts made by the state government towards prevention and control of COVID-19 in the state.

In the similar manner, the Institute of Health and Family Welfare located in Shimla also conducted 12 webinars for the training and knowledge enhancement of health staff working at different levels in the state. The first two webinars in the month of June 2020 pertained to diagnosis and management of COVID 19 for the doctors posted in different health facilities. The subsequent training focused on technology of taking samples, the role a medical officer expected to play in a primary health centre, surgical interventions, bio-medical waste management, surgical prospective, pregnancy management, diagnostic surveillance by ASHA workers, ANMs and paramedics. One of the most critical areas pertained to medico-legal dimensions likely to emerge from the COVID related deaths and human rights dimensions. The training programmes conducted by the state institute of Health and Family Welfare continued in a regular sequence adding new knowledge based dimensions, which included understanding of the basic epidemiology, gynecological health and morbidity with specific reference to expectant mothers, mental health, management of sepsis and setptic, AIDS, haematological changes during COVID-19, cytokine storms, immunological disorders and vaccination. In addition, the medical fraternity working in the medical colleges and the medical officers in the state was engaged in information dissemination exercise, interaction and training in the management of midl to moderate COVID-19, protection against mental health problems which the affected patients were likely to have and in actual also had. The training in COVID coagulopathy was imparted to the medical staff.

In order to contain the spread of COVID, a number of online training courses, at first instance included an examination of the current scenario of the pandemic for the formulation of containment strategies and key interventions. In carrying forward the entire strategy to contain pandemic in the containment zones the training was given to supervisors and surveillance teams. The training of the trainers was given in the management of mental health problems which were occurring due to COVID-19, specifically the psychotic, depressive and other such disorders. Along with the alcohol and drug abuse related disorders, anxiety and psychosomatic disorders and other psychiatric emergencies. The post-COVID scenario resulted in emotional and behavioural problems in children, mental issues of the elderly dependent population and various other legal and ethical issues, such as psychiatric disabilities caused by the pandemic. The management of all such problems required serious efforts. The training of the trainers was one step forward taken in the state.

At the clinical level the faculty of all the medical colleges and medical officers in the state were trained in managing COVID coagulopathy, oxygen therapy including HFNC, understanding and interpreting the pandemic related laboratory parameters and infection prevention. Further programmes included training in the management of cardiovascular hepatic involvement, use of steroids and remdesivir in COVID, screening and management of diabetic mellitus and current ivermectin in patients of the pandemic (Annexure 8). Due to the given geographical conditions and rugged terrain the delay in providing medical services during emergencies has been resulting in the loss of human lives. Since pandemic posed considerable threat to human life, the almost all the districts in the state activated National Ambulance Service (NAS- 108) and sampling vans along with drop back vehicles. A perusal of the district-wise distribution of ambulance reveals that while district Shimla had maximum 7 ambulances, and districts, namely Chamba, Kangra, and Sirmour had 5 ambulances each. In other districts, like Hamirpur, Mandi, Solan, Bilaspur, and Una had 4 NAS-108 each at their disposal. The other districts had 1 to 3. A total of 47 NAS- 108 ambulances operated for the transportation of patients. In addition 21 and 23 vehicles called sampling vans and drop-back vehicles respectively were deployed. The detailed district-wise distribution (Annexure 9) provides further details of the stations of locations of each category of vehicles in the state. One of the facts that emerged almost in all states of India, including Himachal Pradesh was that all efforts were initiated, planned and executed during the post-COVID scenario only.

**Table 1: District-wise COVID-19 Cases in Himachal Pradesh State (Media Bulletin 31.12.2020, 9.00 PM)**

Details of Corona/COVID Cases					
District	Confirmed	Active Cases	Cured	Deaths	Migrated out
Bilaspur	2852	160	2667	24*	0
	5.51	6.11	5.15	2.60	
Chamba	2859	138	2669	49*	1
	5.17	5.27	5.16	5.31	2.77
Hamirpur	2839	173	2620	45*	0
	5.13	6.61	5.06	4.88	
Kangra	7739	537	7014	186*	0
	14.00	20.53	13.56	20.17	
Kinnaur	1316	31	1269	16	0
	2.30	1.18	2.45	1.73	
Kullu	4354	77	4193	82**	0
	7.87	2.94	8.11	8.89	
Lauhal & Spiti	1241	40	1189	12	0
	2.24	1.52	2.30	1.30	
Mandi	9639	537	8984	118	0
	17.43	20.53	17.37	12.79	
Shimla	10081	278	9509	25****	35
	18.23	10.63	18.39	2.71	97.22
Sirmour	3180	119	3032	29	0
	5.75	4.55	5.86	3.14	
Solan	6433	367	5997	69	0
	11.63	10.63	18.39	7.48	
Una	2744	158	2549	37	0
	4.96	6.04	4.93	4.01	
Total	55277	2615	51692	922	36
	100.00	100.00	100.00	100.00	100.00

\*One Death of COVID- 19 Positive Person in each District has occurred due to Non COVID reason

Till the end of the year 2020, Himachal Pradesh had a total of 55,277 confirmed cases. Among them 2615, that is, 4.73 per cent were active, 93.51 were cured and 1.66 per cent. A very small number of the total, that is, 36 cases migrated to other places outside the state. In this category majority (35, i.e. 97.22 per cent) were from Shimla, and only one case from Chamba. The district-wise analysis of the conformed cases reveals that Shimla (18.23 Per cent), Mandi (17.43 per cent), Kangra (14.00 per cent and Solan (11.63 per cent) accounted for more than 60 per cent whereas the remaining 8 districts of the state had only about 39 per cent COVID confirmed cases. Kinnaur and Lahaul & Spiti had only 2.30 per cent and 2.24 per cent confirmed cases respectively. The data suggests that the places where the chances of contact with outside population is more had larger number of cases than the areas which were in remote locations as is the case of Kinnaur and Lahaul-Spiti districts.

The further analysis of district-wise active cases in the state reveals that district Mandi and Kangra, each one has the maximum 20.53 per cent cases, whereas district Shimla and Solan, each has 10.63 per cent active cases. In other words, these four districts being ahead in the case of confirmed cases

also represent more than 60 per cent active cases. The positive outcome of the tests carried out also pertains to a large majority of the cured cases. Among the districts constituting maximum number of cured cases Solan and Shimla contributed 18.39 per cent cases each, whereas Mandi and Knagra districts contributed 17.37 per cent and 13.56 per cent respectively. In rest of the districts of the state, the number of cured cases hovered around as low as 2.30 per cent to maximum of 8.11 per cent respectively. The number of deaths occurred maximum (20.17 per cent) in Kangra, followed by 12.79 per cent in Mandi. In rest of the districts the number of deaths ranged between 1.30 per cent (only 1 in Lahaul & Spiti) to maximum 8.89 per cent in the case of Kullu. Shimla being capital city the number of deaths in this district was low in comparison to other districts. Perhaps, the place equipped with better health facilities suffered lesser number of deaths.

**Table 2 COVID- 19: Month wise Details of Testing, Cases & Deaths in Himachal PRADESH April 2020 to June 2020.**

District	April		May			June		
	Cases	Deaths	Testing	Cases	Deaths	Testing	Cases	Deaths
Bilaspur	0	0	1741 4.73	16 5.49	0	1808 4.25	26 4.18	0
Chamba	6 15.00	0	3829 10.40	14 4.81	0	3252 7.66	32 5.14	0
Hamirpur	2 5.00	0	5655 15.37	109 37.45	1	4748 11.18	134 21.54	1
Kangra	5 12.5	1	6849 18.61	82 28.17	0	9591 22.59	185 29.74	1
Kinnaur	0	0	417 1.13	0	0	1030 2.42	8 1.28	0
Kullu	0	0	1121 3.04	2 0.68	0	1071 2.52	3 0.48	0
Lauhal & Spiti	0	0	234 0.63	0	0	195 0.45	2 0.32	0
Mandi	0	0	2406 6.85	12 4.12	2	3002 7.07	18 2.89	0
Shimla	0	0	3388 9.20	9 3.09	1	4442 10.46	31 4.98	1
Sirmour	2 5.00	0	2000 5.43	2 0.68	0	2604 6.13	34 5.46	0
Solan	9 22.5	0	5728 15.57	21 7.21	0	6549 15.42	79 12.70	0
Una	16 40.00	0	3419 9.29	22 7.56	0	4153 9.78	70 11.25	0
Total	40	1	36787	291	4	42445	622	3

The COVID-19 testing in the state, as the data suggests, started in the month of May 2020 (Table 2). At that point of time the number of cases being small, only 40 in all the districts, only one death took place in April 2020. At that point of time the districts, namely Chamba, Hamirpur, Kangra, Sirmour,

Solan and Una were affected. In the month of May a total of 36,787 were tested. The maximum testing was done in Kangra (6849 constituting 18.61 per cent), Solan (5728 accounting for 15.57 per cent), Hamirpur (5655 constituting 15.37 per cent) and Chamba (3829 accounting 10.40 per cent). In other districts the number of testing done was much less than the just mentioned cases. Of the total tested persons 0.79 per cent were confirmed cases and only 4 died. The number of tested cases increased to 42,445, 622 detected as confirmed cases, and 3 deaths. The data indicate that from April 2020 to June 2020, the number of the testing increased and as a result of that the number of confirmed cases also increased. The positive outcome of the increased testing was increased isolation, quarantine and treatment. Though latter was only on trial basis yet the number of deaths was contained.

**Table 3: COVID- 19: Month wise Details of Testing, Cases & Deaths in Himachal Pradesh July, 2020 to September, 2020.**

District	July			August			September		
	Testing	Cases	Deaths	Testing	Cases	Deaths	Testing	Cases	Deaths
Bilaspur	2509 3.81	44 2.73	0	4327 6.63	235 6.61	0	5424 6.24	497 5.60	6 4.13
Chamba	4162 6.33	53 3.28	0	4236 9.17	326 16.66	4	5715 6.58	415 4.68	6 4.13
Hamirpur	5111 7.77	61 3.78	1	5867 8.99	261 7.34	2	7195 8.28	350 3.95	2 1.37
Kangra	13464 20.47	188 11.66	1	13676 20.96	400 11.26	5	20376 23.86	1416 15.98	36 24.82
Kinnaur	1857 2.82	37 2.29	0	1288 1.97	36 1.01	0	2399 2.76	110 1.24	2 1.37
Kullu	3273 4.97	30 1.86	0	4074 6.24	248 6.98	0	3970 4.57	363 4.09	6 4.13
Lauhal & Spiti	323 0.49	2 0.12	0	157 0.24	4 0.11	0	1204 1.38	149 1.68	0
Mandi	6341 9.64	135 8.37	1	5950 9.12	235 6.61	4	9960 11.46	1315 14.84	18 12.41
Shimla	5530 8.41	125 7.75	0	5111 7.83	173 4.87	1	8391 9.66	962 10.85	30 20.68
Sirmour	6038 9.18	292 18.12	1	6994 10.72	557 15.68	1	6759 7.78	931 10.50	12 8.27
Solan	11231 17.08	645 40.03	0	6692 10.25	797 22.43	6	8231 9.47	1567 17.68	21 14.48
Una	5909 8.98	99 6.14	0	6860 10.51	280 7.88	1	7214 8.30	785 8.86	11 7.58
Total	65748	1611	4	65232	3552	24	86838	8860	145

In continuity of the data (Table 2), the information pertaining to the month of July, 2020 (Table 3) indicates that in comparison to June the number of tests carried out increased to 65,748 from 42,445 in June, 2020. The district-wise distribution of tests indicates that district Kangra and Solan conducted maximum tests which constituted 20.47 per cent and 17.08 per cent respectively. The other districts, namely Mandi, Sirmaur, Una, and Shimla constituted 9.64 per cent, 9.18 per cent, 8.98 per cent, 8.41



per cent respectively. Out of the total tests done 2.45 per cent (1611 cases) were detected as confirmed cases. The district-wise distribution of confirmed cases indicates Solan had maximum of 40.03 per cent cases, followed by Sirmour (18.12 per cent) and Kangra (11.66 per cent). In brief, during July 2020 Solan became the hotspot with increasing concentration of confirmed cases.

The number of tests registered a slight decrease in the tests, however, the number of confirmed cases increased almost to double figure (3552) in relation to July (1611). The district-wise distribution of tests carried out in the month of August 2020 reveals Kangra had the maximum percentage (20.96 per cent). The other districts, such as Una, Solan, Sirmour, Shimla and Mandi had approximately 10 per cent tests each. The concentration of confirmed cases declined in Solan to 22.43 per cent in comparison to 40.03 per cent, and, increased in district Kangra from 11.66 per cent the month of July to 20.96 per cent in the month of August, 2020. In rest of the districts, the number of confirmed cases remained below 10 per cent. However, the number of deaths increased to 24 in August from 4 in July. This indicated that the severity of pandemic increased enormously with rise in the number of deaths. The maximum deaths were in district Solan (25.00 per cent) followed by Kangra (20.83 per cent), Mandi (16.66 per cent), and Chamba (16.66 per cent).

In the month of September the testing campaign intensified with total number of tests conducted increased to 86,838 from 65,232 in August. The district-wise testing revealed a maximum of 23.86 per cent carried out in Kangra. In rest of the districts the number of tests done ranged between minimum of 1.38 per cent in Lahaul & Spiti to maximum 11.46 per cent in district Mandi. The number of confirmed cases increased to 8,860 from 3552 in August, indicating the increase was more than two and a half time. The maximum increase was in district Solan (17.68 per cent) followed by 15.98 per cent in Kangra, 14.84 per cent in Mandi, 10.50 per cent. The number of deaths also increased to 145 from just 24 during the previous month. District Kangra and Shimla recorded the maximum, that is, 24.82 per cent and 20.68 per cent respectively. In brief, the rise in the number of tests, confirmed cases and deaths indicated the impact of the pandemic was continuously rising in Himachal Pradesh.

**Table 4: COVID- 19: Month wise Details of Testing, Cases & Deaths in Himachal Pradesh October, 2020 to December, 2020.**

District	October			November			December		
	Testin g	Cases	Death s	Testing	Cases	Deat hs	Testing	Cases	Deat hs
Bilaspur	5958 6.16	464 6.55	7 5.34	8064 5.93	791 4.28	8 2.47	16217 6.68	777 5.26	8 2.78
Chamba	8987 9.29	303 4.27	5 3.81	10530 7.75	815 4.15	17 5.26	21988 9.06	895 6.06	17 5.92
Hamirpur	6165 6.37	318 4.48	7 5.34	8160 6.00	853 4.62	12 3.71	15897 6.55	751 5.08	19 6.62
Kangra	24635 25.48	805 11.36	22 16.79	34736 25.57	2152 11.65	62 19.1 9	57539 23.72	2506 16.99	58 20.2 0
Kinnaur	2888 2.98	196 2.76	3 2.29	2798 2.06	457 2.47	8 2.47	5416 2.23	472 3.1	3 1.04
Kullu	5798 5.99	904 12.76	22 16.79	6897 5.07	2072 11.22	41 12.6 9	16481 6.79	732 4.95	13 4.52
Lauhal & Spiti	1757 1.81	230 3.24	1 0.76	3980 2.93	688 3.72	8 2.47	3316 1.36	166 1.12	3 1.04
Mandi	8671 8.97	1310 18.49	15 11.45	11923 8.77	3687 19.97	40 12.3 8	32285 13.31	3027 20.50	38 13.2 4
Shimla	12039 12.45	1198 16.91	32 24.42	21650 15.94	4758 25.77	100 30.9 5	26713 11.01	2825 19.14	90 31.3 5
Sirmour	6447 6.66	461 6.50	4 3.05	8806 6.48	345 1.86	3 0.92	16092 6.63	556 3.76	8 2.78
Solan	6747 6.98	615 8.68	10 7.63	8812 6.48	1352 7.32	15 4.64	14797 6.10	1448 9.81	17 5.92
Una	6565 6.79	279 3.93	3 2.29	9447 6.95	589 3.19	9 2.78	15770 6.50	604 4.09	13 4.52
Total	96657	7083	131	135803	18459	323	242511	14759	287

The data (Table 4) from October to December during the year 2020, on the whole indicate increase in testing to 96,657, 1,35,805 in November and 2,42,511 in December, revealing intensification of testing month after month. The district-wise data on testing during the month of October show that Kangra alone crossed 25 per cent of the total tests carried out in the state. In comparison, except for district Shimla none of the districts had testing more than ten per cent each. However, the maximum number of confirmed cases were detected in district Mandi (18.49 per cent) followed by Shimla (16.91 per cent), Kullu (12.76 per cent), and Kangra (11.36 per cent). In rest of the districts, average testing in each district was around 5 per cent. The number of deaths was 131 which accounted for 1.84 per cent deaths in the month of October. In the month of November, the total testing as said above increased to 1,35,803 persons, out of which 18,459 (13.59 per cent) were detected as the confirmed cases. The district-wise

testing in November again revealed 25.57 per cent alone in district Kangra followed by Shimla with 15.94 per cent. In rest of the districts, per district average testing was around 5.9 per cent. Contrary to the testing numbers, district Shimla had 25.77 per cent confirmed cases followed by district Mandi (19.97 per cent), Kangra (11.65 per cent) and Kullu (11.22 per cent), all accounting for 68.61 per cent. In the remaining 8 districts of the state average number of confirmed cases were 4.00 of the total detected cases. The total number of deaths in November (323) constituted 1.74 per cent. Among the districts, Shimla alone had 30.95 deaths, followed by Kangra (19.19 per cent), Kullu (12.69 per cent), and Mandi (12.38 per cent).

The testing in the month of December touched 2,42,511 mark, a substantial increase over the previous month. The district-wise increase in the testing indicates 23.72 per cent in district Kangra alone, followed by district Mandi (13.31 per cent) and Shimla (11.01 per cent), constituting nearly 48 per cent of the total. The remaining nine districts on an average had around 5.7 per cent tests. Out of the total tests, 14,759 confirmed cases were detected which constituted 6.08 per cent. Among all the districts, Mandi district had 20.50 per cent confirmed cases, followed by Shimla with 19.14 per cent and Kangra with 16.99 per cent, all together making 56.63 per cent. The remaining nine districts had an average of 4.8 per cent confirmed cases. The number of total deaths 287 constituted 1.94 per cent, registering a slight increase in comparison to the previous month. The district-wise distribution of deaths reveal that district Shimla had maximum deaths ((31.35 per cent) followed by Kangra (20.20 per cent), and Mandi (13.24 per cent). In rest of the districts the number of average deaths was 3.88 per cent. The data also suggests that although the number of confirmed cases is likely to increase along with corresponding increase in testing, yet it is not necessary to be a generalization. The data also shows that less number of tests carried out but more confirmed cases.

**Table 5: District-wise Total Number of Tests carried out as on 31.12.2020**

District	Testing	Cases	Deaths
Bilaspur	46048 5.96	2852 5.15	24 2.60
Chamba	62699 8.12	2859 5.17	49 5.31
Hamirpur	58798 7.61	2839 5.13	45 4.88
Kangra	180866 23.42	7739 14.00	186 20.00
Kinnaur	18093 2.34	1316 2.38	16 1.73
Kullu	42685 5.52	4354 7.87	82 8.89
Lauhal & Spiti	11166 1.44	1241 2.24	12 1.30
Mandi	80538 10.43	9639 17.43	118 12.79
Shimla	87264 11.30	10081 18.23	2552 27.65
Sirmour	55740 7.22	3180 5.75	29 3.14
Solan	68787 8.90	6433 11.63	69 7.48
Una	59337 7.68	2744 4.96	37 4.01
Total	772021	55277	922

The overall testing scenario in the state till the last day of December 2020 (Table 5) indicates a total of 7, 72,021 tests done in all the districts. The maximum tests were conducted in district Kangra, which constituted 23.42 per cent of the total. The percentage of test conducted in district Shimla was only 11.30 per cent. The variations in the percentage of tests done are also observable in the data. Except for in the case of Lahaul & Spiti which has very sparse population, the other districts had an average of 6.52 per cent tests. The number of confirmed cases was 55,277 which constituted 7.16 per cent. Among the confirmed cases maximum percentage was in district Shimla with 18,23 per cent, followed by district Mandi (17.43 per cent), Kangra (14.00 per cent), and Solan (11.63 per cent). In rest of the districts, the average number of confirmed cases was 4.87 per cent. The total number of deaths was 922 which constituted 1.66 per cent deaths. Within the state the district-wise distribution indicates Shimla had 27.65 per cent of the total deaths, followed by district Kangra with 20.00 per cent and Mandi with 12.79 per cent. The other districts on an average had 4.33 per cent deaths. The last information released by the state helpline on COVID-19 (dated 14.01.2021) indicates that a total of 8,70,733 tested and out of which 8,13,854 tested negative, the results of 128 tests were awaited and 56,751 cases were confirmed positive. While the number of active cases in the state was 811, the recovered

numbered 54,976. The number of deaths went up to 951 which in the end of December 31, 2020 was only 922.

**Table 6: Age wise Distribution of COVID-19 Positive Cases**

Sr. No	Age Group	Number of Positive Cases	
		Frequency	Percentage
1	0-10	1500	1.58
2	11-20	43773	46.23
3	21-30	11718	12.37
4	31-40	12094	12.77
4	41-50	10429	11.01
6	51-60	8390	8.86
7	61-70	4311	4.55
8	71-80	1808	1.90
9	81>	650	0.68
TOTAL		94673	100.00

Although the number of confirmed cases of COVID were reported 55277 (Table 5), the age-wise distribution of the positive cases, as per the information released by the state Directorate of Health and Family Welfare for this study (Table 6) show 94,673 which raises doubts on the authenticity of data. However, in view of the figures released by the government itself, the data indicate even children in the 0 to 10 years age group and the elderly beyond 80 years of age. Though their number represents only a fraction of the total, the most age group is 11 to 20 years representing 46.23 per cent. However, it is startling to find the youngest age group the most affected and raises questions about the veracity of data. The other age groups showing more than 11.01 per cent to 12.77 per cent have been affected by the pandemic. The percentage of affected persons in the 51 years plus age is only 15.99 per cent and that too the percentage declines in the successive age groups.

**Table 7: Gender wise Distribution of COVID-19 Positive Cases**

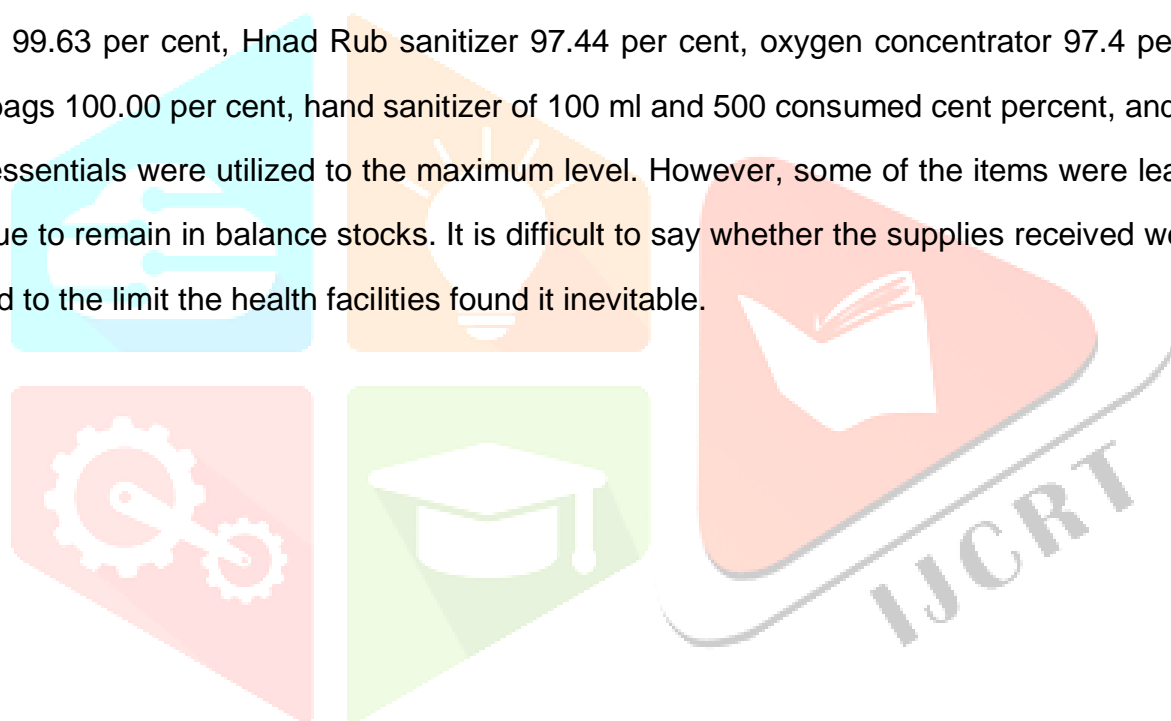
Sr. No	Sex	No of Positive Cases	
		Frequency	Percentage
1	Male	35373	63.99
2	Female	19904	36.00
Total		55277	100.00

The gender-wise distribution of positive COVID cases reveals little less than two-third (64.00 per cent) were males, and the remaining female. This is an accepted fact that biologically women are more resistant to diseases than their counterpart males.

**Table 8: Covid-19 Management Government supplied Stock Status as on 05.01.2021**

Sr. No	Name of Items	Quantity Received	Used	Balance
1	Overall	293490	253305 86.30	40185 13.69
2	N-95	528990	354584 67.03	174406 32.96
3	Gogels	236010	208545 88.36	27465 11.63
4	Nitrile Gloves (Size 6.5")	193795	126047 65.04	67748 34.95
5	Nitrile Gloves (Size 7")	184500	117935 63.92	66565 36.07
6	N-99	10000	2785 27.85	7215 72.15
7	Face Mack (3 Ply)	1105000	1004327 90.88	100673 9.11
8	Agva Ventilations (Portable)	178	161 90.44	16 9.56
9	Tab. Accuzith 500	10000	9125 91.25	875 8.75
10	Tab.Hydroxichloroquine-200	599950	580360 96.73	19590 3.26
11	Tablets Lopinavir &Ritonavir	19680	19260 97.86	420 2.13
12	Surgical Gloves (Sterile)	48825	48645 99.63	180 0.37
13	Nitrile Gloves	2000	295 14.75	1705 85.25
14	Hand Rub Sanitizer 20 Ltrs CAN/35 Ltrs CAN	5485 ltrs	5345 ltrs 97.44	140 ltrs. 2.55
15	Infrared Thermometer	300	284 94.66	16 5.33
16	Oxygen Concentrator	500	487 97.4	13 2.6
17	CVGC25 Patho Cath Covid-19 Antigen Kit	220000	215010 97.73	4990 2.26
18	Standard Q Covid 19 Ag 25 T Kit	250000	242000 96.8	8000 3.2
19	UPS with Battery 1 KVA	320	316 98.75	4 1.25
20	Dead Body Bag	250	250 100.00	Nil 0.00
21	Hand Sanitizer 100 ml	11992	11992 100.00	Nil
22	Hand Sanitizer 500 ml	3008	3008 100.00	Nil
23	ICU Ventilators	330	330 100.00	Nil
24	Meditech 1700 Ventilator	2	2 100.0	Nil
25	Examination Gloves (Non Sterlized)	159800	159800 100.00	Nil
26	ABG Machine	5	5 100.00	Nil

This is a widely accepted fact that a pandemic often leaves a society wanting in many of the essentials which add to the preventive practices. This is also a fact that COVID-19 placed unprecedented pressure on the health system to initiate activities and provide the essential equipments which helps in bringing pandemic under control. The Government of India did take into consideration the increasing demand on the one hand and limited supplies at its disposal, hence a gap existed. Despite the shortages, the states received considerable supplies of required materials shown in the Table 8 above. It is also heartening to note that most of the 26 items listed were utilized to the optimum level as indicated in the percentage utilization. The data indicate that 86.30 per cent, Goggles 88.36 per cent, Face Mask- three ply 90.88 per cent, Portable Agva Ventilators 90.44 per cent, Accuzith 500 tablet 91.25 per cent, Hydroxichloroquine-200 tablets 96.73 per cent, Lopinavir & Ritonvir tablets 97.86 per cent, surgical gloves 99.63 per cent, Hnad Rub sanitizer 97.44 per cent, oxygen concentrator 97.4 per cent, dead body bags 100.00 per cent, hand sanitizer of 100 ml and 500 consumed cent percent, and many other such essentials were utilized to the maximum level. However, some of the items were least used and continue to remain in balance stocks. It is difficult to say whether the supplies received were not used or used to the limit the health facilities found it inevitable.



**Table 9: COVID19 Stock Status as on 05.01.2021 (Donated Supply)**

Sr. No.	Name of Items	Quantity Received	Used	Balance
1	Hand Sanitizer 100 ml	12773	11347 88.83	1426 11.16
2	Hand Sanitizer 50 ml	1950	150 81.53	360 18.46
3	Hand Sanitizer 500 ml	2047	2010 98.19	37 1.81
4	Hand Sanitizer 60 ml	800	800 100.00	Nil
5	Hand Sanitizer 200 ml	410	322 78.53	88 21.46
6	Tab. Hydroxy chloroquine	150000	100.00	Nil
7	Face Mask 3 Ply (Cotton)	8000	100.00	Nil
8	Dangri set (kit)	1315	1100 83.65	215 16.34
9	PPE Kit	30500	30500 100.00	Nil
10	Face Mask 3 Ply	135000	122500 90.37	13000 9.62
11	Motor Cycle along with First Responder (HERO)	8	7 87.5	1 12.5
12	Hand Sanitizer 340 ml	2016 Pcs	466 23.11	1550 76.88
13	Hand Sanitizer CAN 5ltrs.	100 ltrs.	85 85.00	15 ltrs 15.00.
14	KN 95 Masks	70000	41140 58.77	28860 41.22

In addition to the government supplies, the health department also received donations from private sources, a practice which often emerges from humanitarian benevolence among people. Like the utilization of the essential items above (Table 8), the private donated supplies were used to the maximum level. Some of the maximum consumed items include, namely hand sanitizers of different quantity ranging between 50 ml to 500 ml, hydroxyl chloroquine, dnagri set, PPE kit etc. There are some which still remain in balance for their continuous use as the pandemic is not completely vanished. In addition to the efforts made by the state in the containment of COVID-19, at the level of management, cure and safe practices, there is enough evidence to suggest that in Himachal Pradesh the impact was minimum in comparison to other states. However, some lapses on the part of the people on public places, such as not using face masks, non-adherence to social distancing norms etc. earned Supreme Court of India's ire. The Bench of Mr. Justice R. Subhash and M. R. Shah asked the government of Himachal Pradesh to file status report with regard to the facilities available for the treatment of COVID-19 patients. The state government informed about the lack of facilities in the state. Such observations



did not pertain to Himachal Pradesh but also to the whole of India. Nevertheless, the judicial interventions became necessary due to the fact that people were left to fend themselves without any sustainable means at their disposal, especially all those engaged in the unorganized sector. A report by Bisht (2020) revealed startling facts, which neither the state official releases pointed out nor media channels. One of the most startling revelations was about anxiety and depression induced suicides in the state. Bisht refers to a study conducted by Himachal Pradesh State Mental Health Authority and the Psychology department of Himachal Pradesh University conducted study which revealed nearly fifty per cent of the people who took the survey were undergoing depressive conditions among cross sections of the society. The police department of the state reported about 657 cases of suicides till September during pandemic. In the month of May to July as many as 302 suicides took place because of depression caused by pandemic. The police reported 18 to 35 years age group was more vulnerable to suicidal tendencies. It noted financial crisis, unemployment, marital issues, bankruptcy, drug addiction, health issues or illness, failure in examinations, love affairs, or family problems. Domestic violence, economic distress, failed relationships; unemployment, health, setback in business; drug abuse and alcoholism are factors that drove people to end their lives.

The India News/Catch News (2020) reflected on the adverse economic effect of pandemic on travel and tourism industry, leading to negative impact on the life of the people engaged in taxi and hotel services. The news quoted Mr. Vijay Inder, a hotelier in Dharamshala mentioned.

“Many hoteliers have taken loan from banks. Although the government has asked the banks to defer the EMI for some time, it will not be sufficient for us. We want them to waive off interest at least for one year. The Government should also release a package for people involved in the tourism industry, who now have become jobless”.

The news further elaborated about the dependence of about 2000 to 2500 families of Taxi operators or drivers on taxi services which is directly linked to tourism in the state. This is not just one isolated case of tourism and its allied services, even the construction industry the largest employer in the unorganized sector came to a close.

The data released by the state health department in September 2020 revealed the possible community spread taking place as those infected were found neither having any travel history nor formed part of index cases. The state health minister on September 10, 2020 while claiming state's situation better than other neighbouring states also admitted the increasing number of patients every. In order to contain the number the CMO called for holding ASHA workers meetings every month. The information

contained in various annexure enclosed in this report bear a testimony to the fact. However, with the given limitations of equipment and resources the pandemic continued to acquire greater proportion with increasing number of infected cases.

## Summary

The analysis based on secondary data obtained from the state directorate of health and family welfare the foregoing discussion revolved around the key objectives of the study, pertaining to: the magnitude of the impact of pandemic, its dreaded nature, and varying intensity of its acuteness in the state; the training, knowledge and awareness among medicos, nurses, paramedics, and health workers about pandemic; and the coping mechanisms and management strategies adopted by the state in liaison with central government's national disaster management team.

The extent and magnitude of COVID-19 in the state in relation to its total population, the tests done and the confirmed cases detected indicate the impact was not that acute. The percentage of the total confirmed cases as on January 14, 2021 was only around 6.52 per cent, and the deaths were only 1.67 per cent. However, in the absence of complete testing of the population as a whole makes it difficult to make definitive assessment of the situation. One of the facts, which has been admitted by the state government is the continuous and swift spread of pandemic which compelled the state to impose complete lockdown, restrictions on inter-district travel and complete ban on the entry of population from different states. The sudden lockdown left a trail of woes, not only for the COVID-19 infected but also for the people in general, which resulted in huge socio-economic losses. However, the state government swung into action to create awareness and spread knowledge about pandemic with stress on good practices.

It is important to remember that neither at the national nor in different states of India, the adequate facilities for conducting tests, provide treatment, and keep the patients in isolation or quarantine were available. This is evident from the fact that even India's apex court had to intervene. The state admitted lack of facilities to treat patients. Notwithstanding the deficient facilities and required equipment, state under the government of India directions took up the health issues concerning children and elderly, particularly those with chances of breathing problems, pulmonary complications and cardio-vascular and conducted online training programmes for the medical officers, health workers and other paramedics.

However, there are certain critical issues and questions which emerge with reference to the ongoing unfinished task of testing of population in the state and the proposed rapid vaccination programme. Although not much is known about the after effects of vaccination, the experience elsewhere revealed allergic reactions causing anaphylaxis which is life threatening (Shimabukuro *et al.* 2021). The educational programmes organized by the state health department with the involvement of Indira Gandhi Medical College Hospital Shimla specifically referred to COVID-19 and pregnant and lactating women. It has been argued that the complications exacerbated among women who were older, had higher body mass index, and medically co-morbidities mediated by racial and ethnic disparities have high mortality and morbidity (Bianchi 2021). Such studies indicate that mere survey of COVID -19 management also need to involve medical and bio-scientists as the phenomenon is not merely a pandemic but covers almost all aspects of human life.

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