Trends in pattern of communicable diseases during COVID-19 lockdown in Kerala

Dear Editor,

Kerala is witnessing an increase in instances of vector-borne diseases and water-borne infections in recent times.[1] The state witnessed Nipah virus outbreak during 2018 and 2019.[2] COVID-19 pandemic surfaced in Kerala on 30 January 2020 and the cases increased during the month of March.[3]

We performed a retrospective analysis of communicable disease reported in Kerala with the data retrieved from the website archive of Integrated Disease Surveillance Programme and tuberculosis notification website.[4,5] The incidence of various communicable diseases were compared during the study period (month of March, April and May 2020 where cases of COVID-19 were reported and containment strategies were implemented) with similar months for last four years (2016 to 2019) as per availability of the data.

There was a decrease in the incidence of chickenpox cases by 22.3%, 21.5% and 66.3%, respectively, during the month of March, April and May 2020 in comparison with similar months of 2019. Tuberculosis cases decreased by 19.4%, 35.77% and 19.41% during the study period in comparison with similar months in 2019 [Table 1]. The incidence of H1N1, hepatitis A and typhoid cases decreased during the study period in comparison with similar months of 2019. There was a trend of increase in incidence of ADD cases during the month of May, but during 2020 the percentage increase was lowest among the last 4 years. Malaria and Chikungunya cases reported low but the incidence of dengue cases was slightly more in study period in comparison with similar period in 2019 [Table 1].

The containment strategies against COVID-19 in Kerala prevent the interaction between the agent and host in a favourable environment which helps to contain communicable

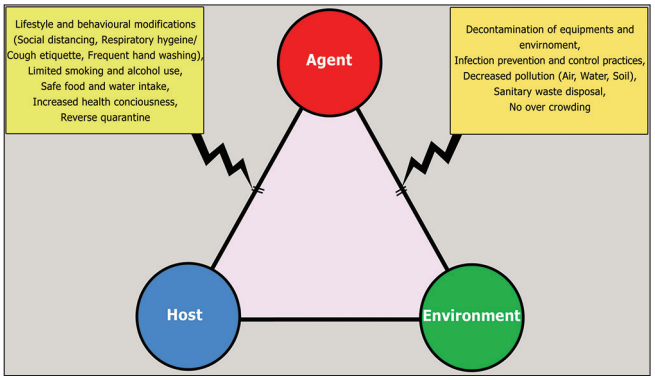

Figure 1: Epidemiological triad showing the factors prevented the interaction between agent, host and environment

Table 1: Incidence of communicable diseases in Kerala during the month of March, April and May 2016-2020.

	Dengue	Chikungunya	Malaria	Hep A	Typhoid	ADD	H1N1	Chickenpox	Tuberculosis
2016									
Mar	200	12	71	78	70	29539	NA	NA	NA
Apr	222	2	51	210	179	29001	NA	NA	NA
May	639	4	89	114	389	34930	NA	NA	NA
2017									
Mar	473	3	56	30	40	33507	NA	NA	2601
Apr	1206	1	65	87	31	31110	NA	NA	1889
May	2621	37	83	84	14	40897	NA	NA	1765
2018									
Mar	72	31	35	186	18	34415	1	NA	2312
Apr	73	1	59	132	17	34577	1	NA	2026
May	441	0	92	408	14	51939	3	NA	2033
2019									
Mar	57	0	35	127	2	38558	95	4273	2312
Apr	64	0	37	119	4	36979	94	2884	2105
May	146	3	37	137	4	47674	139	2294	2153
2020									
Mar	92	22	6	67	2	29334	25	3319	1863
Apr	93	8	16	36	1	18312	3	2264	1352
May	306	7	12	18	1	20145	0	772	1735

*NA=Not Available

diseases [Figure 1]. Overcrowding which was prevented by lockdown measures, life style and behavioural changes like social distancing, respiratory hygiene/cough etiquette helped to decrease other respiratory infections like tuberculosis, chickenpox and H1N1 along with COVID-19.

Lockdown measures confined individuals at home which removed the possibility of food and water intake from contaminated environment and routine hand washing practices curtailed the intestinal diseases like hepatitis A, typhoid and acute diarrheal diseases. It was also noticed a decrease in malaria and chikungunya cases which may be due to the environmental sanitation measures underwent during the pandemic [Table 1].

The response of health system to the pandemic, its containment strategies which was implemented through community participation and intersectorial coordination along with lifestyle and behavioral modification of people helped in control of other communicable diseases in the state.

There may be some other reasons also for the decrease in the incidence of communicable diseases as people might have ignored slight manifestations of the disease because of the fear to go to hospitals. Health system is overwhelmed with COVID-19 cases which may result in less testing and under reporting of other communicable diseases.

Control of infectious diseases is a difficult challenge for our public health systems; however, we believe that covid-19 response and strengthened containment strategies had an impact on the incidence of communicable diseases which need to be carried over.

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Conflicts of interest

There are no conflicts of interest.

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