

Original Research Article

The elections and campaign styles influence the spread of COVID-19 pandemic: lessons learned from Kerala, India

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ABSTRACT

Background: The pandemic caused by SARS-Cov-2 and its variants whack the world with overlapping waves. Kerala is the Indian state which successfully curbed the first wave of COVID-19, getting noticed when daunted by the second wave. The aim of this study was to assess the impact of two elections held in Kerala on the transmission of COVID-19 from October 1st, 2020 to May 5th, 2021.

Methods: The study employed a retrospective cross-sectional design with publicly available data. The test positivity (TPR) and daily number of cases (DNC) collected from governmental websites of Kerala, India and COVID-19 dashboards entered in MS Excel 2007 and analysed using IBM SPSS version 25. Biweekly average of TPR and DNC was analysed in descriptive statistics and DNC at different periods in the context of elections were analysed using repeated-measures ANOVA with Greenhouse-Geisser correction and post hoc test of Bonferroni correction.

Results: The findings showed that the daily number of COVID-19 cases increased after both local body and assembly elections, but a statistically significant increase was found after the assembly election [mean difference= 1069 (357.047-1782.419) at p=0.002 from the pre-election period].

Conclusions: The study revealed that the conduct of elections in stages and organizing campaigns limiting to the local area following COVID protocols had a demonstrable positive effect against the potential of pandemic spread.

Keywords: Election, Campaign, COVID-19, Pandemic, SARS-Cov-2, Test positivity

INTRODUCTION

The newly identified SARS-Cov-2 virus, which has several forms, is now threatening the entire planet. The pandemic declared in 2020 burst after its discovery in December 2019 and is still spreading in overlapping waves. COVID-19 had caused 155,833,064 cases and 3,255,672 deaths worldwide as of May 5, 2021.¹ The emerging data from different world regions suggest that the virus is constantly evolving through random mutations with an increase in infectivity and virulence causing a decrease in the efficacy of vaccines.²

In terms of the scenario in India, Kerala contained the initial wave of disease spread using 'break the chain'

campaigns, testing, contact tracing and quarantine, zone-wise restrictions and lockdown implemented at various times beginning in March 2020. The success story of Kerala in this regard was internationally proclaimed.³ But the 'Kerala model' raises concerns now when struggling to manage the second wave. The state could delay the peak until October 2020, following which the epidemic curve would have been in fall mode until February-March 2021. With sharp rises in daily new cases (DNC), test positivity, and COVID-19-related death, the trend abruptly began to rise. Kerala had reported 17,43,933 cases, 5,566 deaths, and the highest ever test positive rate (TPR) of 25.7 percent as of May 5, 2021.⁴ Gatherings, elections, holidays and festivals were blamed for the spread of the pandemic. However, no published study

exists in this area. Due to the scarcity of scholarly papers addressing this issue, we chose to study data from Kerala to determine the extent to which elections influenced the spread of COVID-19 throughout the state. Following the epidemic, the state held two elections: one to the local self-government (LSG) and one to the state assembly (SA) in December 2020 and April 2021, respectively. Both of these elections took place in different contexts, with different campaign styles and election processes. In this study, we looked at how elections affected the pattern of COVID-19 transmission dynamics in Kerala. We investigated the relative impact of these two election models on the dissemination of COVID-19.

Objectives

The objectives of the study were to; (i) identify the trend in the number of DNC and TPR of COVID-19 in Kerala from 1st October 2020 to 5th May 2021. (ii) Evaluate the influence of elections conducted during the period, on a daily number of Covid-19 incidence (DNC) in Kerala (iii) compare the relative effects of LSG and SA elections on the DNC and TPR trends in Kerala during the study period.

METHODS

Research design

This was a retrospective cross-sectional study to assess the effect of elections, election models and campaign styles on COVID-19 transmission dynamics in Kerala between 1st October 2020 and 5th May 2021.

Databases

We perused data available in the public domain posted by government agencies and reports published in well-circulated media. The COVID-19 TPR and DNC in Kerala were collected from the COVID-19 India dashboard and 'GoK Dashboard' of Government of Kerala.^{4,5} The data were entered in Microsoft Excel 2007 and analyzed using IBM SPSS Version 25.

Statistics

The biweekly average of test positivity and daily confirmed cases were analysed using descriptive statistics. The influence of LSG and SA elections in COVID-19 transmission in Kerala was analysed in terms of mean difference in the DNC between pre LSG election period (1st-30th November 20), LSG election Period (1st-31st December 20), Post LSG election period (1st-31st January 21), pre-assembly election period (6th February-6th March 21), assembly election period (7th March-6th April 21), and post-assembly election period (7th April 21-5th May 21) using repeated-measures ANOVA with Greenhouse-Geisser correction. The exact difference in the mean scores between the periods was tested using a post hoc test of Bonferroni correction. All the test

statistics was performed at the level of significance at $p < 0.05$.

RESULTS

In the present study, the DNC in Kerala was decreasing from October, after the peak of the first wave of the COVID-19 pandemic. The months were categorized into pre-election, election and post-election months for LSG and assembly elections for the convenience of analysis. The biweekly average of DNC showed a pattern of rising after both elections. It was a small rise with a low peak in the month after the LSG election and a sharp rise peaking to a large height after the SA election (Figure 1).

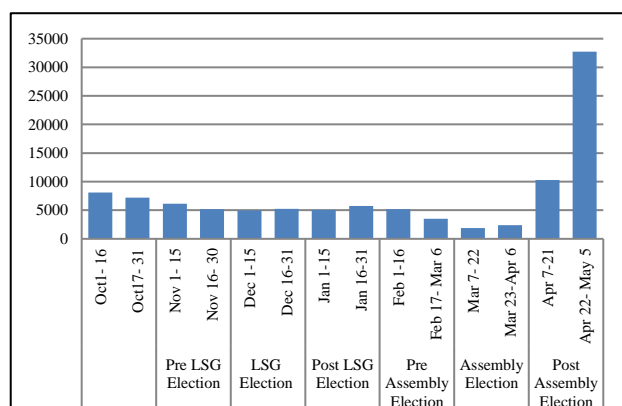


Figure 1: Distribution of biweekly average of COVID-19 cases from 1st October 2020 to 5th May 2021.

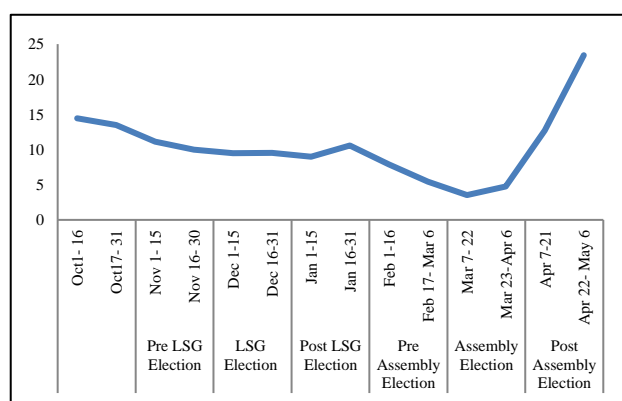


Figure 2: Distribution of COVID-19 test positivity rate (TPR), Kerala from 1st October 2020 to 5th May 2021.⁴

The biweekly average of test positivity in periods of LSG and SA elections revealed that both elections followed by a peak in TPR but the latter one showed a high incline in the values than the change marked after the former which was less noticeable (Figure 2).

ANOVA with a Greenhouse-Geisser correction determined that mean DNC differed statistically significant between time points ($F=28.36$, effect size=0.686, $p=0$) (Table 1). Post hoc tests using the Bonferroni correction revealed LSG election campaigns

elicited the DNC was higher (mean difference 22.2.8 at $p=1$) in the post-LSG election month of January 2021 than the election period December 2020, but it was lesser

(mean difference- 16.807 at $p=1$) than the pre-LSG election period November 2020. Both these findings were not statistically significant.

Table 1: Comparison of daily new cases of COVID-19 across different time periods in Kerala.

Time period		Mean difference	Std. error	Sig.	95% CI**	
					Lower bound	Upper bound
Pre LSG* election	LSG election	39.016	25.488	1	-52.33	130.361
	Post LSG election	16.807	39.145	1	-123.48	157.097
	Pre assembly election	112.157	35.625	0.115	-15.515	239.83
	Assembly election	252.707*	46.19	0.002	87.17	418.244
	Post assembly election	-957.576*	186.274	0.003	-1625.2	-290
LSG election	Pre LSG election	-39.016	25.488	1	-130.36	52.33
	Post LSG election	-22.208	23.471	1	-106.33	61.909
	Pre assembly election	73.141	20.817	0.057	-1.463	147.746
	Assembly election	213.691*	35.976	0.001	84.759	342.623
	Post assembly election	-996.591*	194.795	0.003	-1694.7	-298.48
Post LSG election	Pre LSG election	-16.807	39.145	1	-157.1	123.482
	LSG election	22.208	23.471	1	-61.909	106.325
	Pre assembly election	95.350*	20.335	0.006	22.473	168.226
	Assembly election	235.899*	39.871	0.001	93.008	378.79
	Post assembly election	-974.383*	188.186	0.003	-1648.8	-299.96
Pre assembly election	Pre LSG election	-112.16	35.625	0.115	-239.83	15.515
	LSG election	-73.141	20.817	0.057	-147.75	1.463
	Post LSG election	-95.350*	20.335	0.006	-168.23	-22.473
	Assembly election	140.549*	25.937	0.002	47.596	233.503
	Post assembly election	-1069.733*	198.861	0.002	-1782.4	-357.05
Assembly election	Pre LSG election	-252.707*	46.19	0.002	-418.24	-87.17
	LSG election	-213.691*	35.976	0.001	-342.62	-84.759
	Post LSG election	-235.899*	39.871	0.001	-378.79	-93.008
	Pre assembly election	-140.549*	25.937	0.002	-233.5	-47.596
	Post assembly election	-1210.282*	205.544	0.001	-1946.9	-473.65
Post assembly election	Pre LSG election	957.576*	186.274	0.003	290.001	1625.15
	LSG election	996.591*	194.795	0.003	298.479	1694.7
	Post LSG election	974.383*	188.186	0.003	299.956	1648.81
	Pre assembly election	1069.733*	198.861	0.002	357.047	1782.42
	Assembly election	1210.282*	205.544	0.001	473.647	1946.92

*Level of significance less than 0.05, **LSG: local self-government, ***CI: confidence interval

There was statistically significant increase in DNC during post SA election period (7th April-5th May 2021) than election period (7th March-6th April 2021) and pre-election period (6th February-6th March 2021) with mean difference of 1210 (473.647-1946.917) at $p=0.001$ and mean difference =1069 (357.047-1782.419) at $p=0.002$ respectively. The values for post SA election period was also higher than the pre LSG election (mean difference =957.576 at $p=0.003$), LSG election period (mean difference =996.591 at $p=0.003$) and post LSG election period (mean difference =974.383 at $p=0.003$) with statistical significance.

Thus there was a rise in DNC during the post-election period after both the elections. The rise after the LSG elections was not significant but the rise after the SA

elections were significant. The latter figures were higher than the values of all other periods studying.

DISCUSSION

The second wave of COVID-19 pandemic hit Kerala from April 2021 and is now in fury. The seven days moving average of DNC had gone up from 2,096 in March last week to 36,239 in April. The TPR had an upsurge from 4.2% in the last week of March to 26.4% in the first week of May 2021. The pandemic situation is atrocious with total confirmed cases of 17,43,933 cases and total death of 5,566 as of 5th May 2021.⁴ To cope up with rising numbers Kerala's health care system is struggling to ensure the availability of beds, oxygen, ventilator and ICUs for the care of critically ill patients.⁶

Elections are the legitimate right of the citizens in a democratic country. It is conducted in 4-6 years in different countries. In India, it is 5 years. The COVID-19 is prevalent for the last one and a half years and is still not abated. Elections cannot be postponed indefinitely and hence no other alternative than conducting is the only way before the governments. The observance of the election code of conduct and COVID protocols are the duties of the citizens in such pandemics. However, elections with their campaigns do enhance the spread of the pandemic. The only formula is to follow the protocols strictly. In a democratic setup surge in COVID, cases cannot be kept as secrets, the opposition will bring it out. In non-democratic countries situation may be different since a few of them even claimed that they had no COVID cases. The current study compared the influence of the two elections conducted in Kerala during the study period of 1st October 2020 to 5th May 2021 on the severity of pandemic spread. The time series analysis in this study confirmed that elections do catalyze the spread of the pandemic.

Kerala's LSG bodies include 941 village panchayats, 14 district panchayats, 152 block panchayats, 87 municipalities, and 6 corporations. The LSG elections to panchayats, municipalities and corporation were announced on 6th November 2020, followed by campaigning and elections in December 2020.^{7,8} The SA elections were for 140 constituencies in 14 districts. It was announced on 12th March 2021, elections were held on 6th April and results were declared on 2nd May.^{9,10} The total electorates for both the elections were the same with 2,76,56,579 voters for the former and 2,74,46,039 voters polled for the latter, covering the same area of the state.^{11,12} They were separated by four months only.

But the patterns of rising following LSG and SA elections were significantly different. For the former, the spike reached 25 days after the start with 6063 DNC and 11.2% TPR at the peak. For the latter, the spike reached 45 days after the start with 43,529 DNC and 28.1% TPR at the peak.^{4,5} The differences in campaign-style and election process appeared to explain this huge difference. A similar situation was reported in Belarus, a European country that experienced a post-election surge due to widespread protest related to the election.¹³ On the other hand, South Korea being the country that safely executed national elections amid the COVID-19 pandemic, without provoking post-election new cases shows the model to the entire world.¹⁴

LSG election campaign was almost adhering to the directives of the state election commission. Since the candidates for local bodies are those living in that area, needed very little introduction to the voters. Candidates and political parties refrained from massive programs and concentrated on meeting individual voters. Social and print media platforms were also used. As candidates to SA elections can be anywhere from the State, the voters and candidates of a constituency may not be familiar with

each other. The number of voters is more and meeting individual voters are impossible. The state and national level leaders of political parties are directly involved in the campaign. The COVID-19 protocols and code of conduct remained the same but the style of campaigning changed drastically than the LSG elections. Public gatherings, roadshows and massive programs did take place. All political parties brought their crowd pullers. The election commission banned the grand finale to which all of the candidates obliged. However, the month-long open campaigning broke all the precautions and protocols.^{15,16}

In LSG and SA elections the whole election staff had training sessions together in large batches.¹⁷ The trained election staff then fanned to different polling booths in large mobilizations. In the booth, all the voters had close interaction with the election duty staff. For LSG, three-phase polling was held on 8th, 10th and 14th December 2020, with votes counted and results announced on 16th December. The assembly elections were held on 6th April 2021 in a single phase and the result was declared on May 6th.

In a democratic nation like India, elections are inevitable. Election commissions and political parties can opt for responsible campaign styles during pandemic times. The campaigning activities need adjusting to align with public health protocols. The nature and style of campaigns in these two elections in the same state in four months indicate the need for a rethinking in the pattern of election campaigns at pandemic times. It is also to be noted that the same coalition of political parties ruling and in opposition contested in both elections, held only four months apart. Hence we propose sticking to campaign-style as reported in LSG elections of Kerala, as a workable alternative that can be practiced at any pandemic surge or similar disasters and calamities.

CONCLUSION

Our study confirmed the negative effect of elections conducted amid the COVID-19 pandemic, in the spread of cases in Kerala. This effect of enhancing spread was found only minimal for LSG elections, but devastating for SA elections. Conduct of elections in stages and organizing campaigns limiting to the local area, visiting voters by a small group of party workers and avoiding large gatherings- both following COVID protocols had a demonstrable positive effect against the potential of pandemic spread. With election commissions taking a firm stand, and political parties conforming to the required norms, the conduct of elections anywhere is possible even in pandemic times.

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