

# COVID-19 and Lockdown-1 Situation in India Shows the Drastic Growth of Science Journalism: A Pedagogic Case Study of Leading Newspapers of 4 Metro Cities

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## ABSTRACT

The World Health Organization (WHO) has already declared the corona virus outbreak as global pandemic of international concern and to curb the scourge of the disease 2019-nCoV acute respiratory disease, Government of India has already declared national lockdown-1 for 21 days on 24th March, 2020. Meanwhile, Indian newspapers have already boosted up with this coverage and have shown the proliferated enhancement of space share of science news. 4 major circulated English newspapers were selected from 4 metropolitan cities and space share along with total no of science news were analyzed. 4 metro cities are Delhi, Kolkata, Mumbai and Chennai and 4 selected sample newspapers are The Hindustan Times for Delhi, The Telegraph for Kolkata, The Hindu for Chennai and The Times of India for Mumbai. It has been found that, space share of science news has already raised to 64 percent and is still increasing which again has shown the way that, India needs more science journalists and science news should not be dominated in future.

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## INTRODUCTION

In this most timely research work in India, it is not the only intension to find the present scenario of Covid-19 pandemic, but also to find out how science communication and science journalism can dominate the whole media market, if needed. This study will also help the upcoming and budding media professionals to show the new way of science journalism jobs and it has again been proved that science journalism cannot be decayed and wiped off. This study will also show the way how to solve new kind of problems regarding science communication still prevailing including new job openings and communication of global scientific issues to the remote villages-panchayets. Some remedies have also been suggested.

It is to be mentioned that science communication has various forms like news on science, science graphics, science features, pictures on science, articles from scientific institutions, science awareness advertisements, editorials and letters to editors etc all have been used in this pandemic period to make updated and informative to the people. Everywhere, in every corner of newspapers there has been a reflection to reach science communication to every common people from children to students, from farmers to workers,

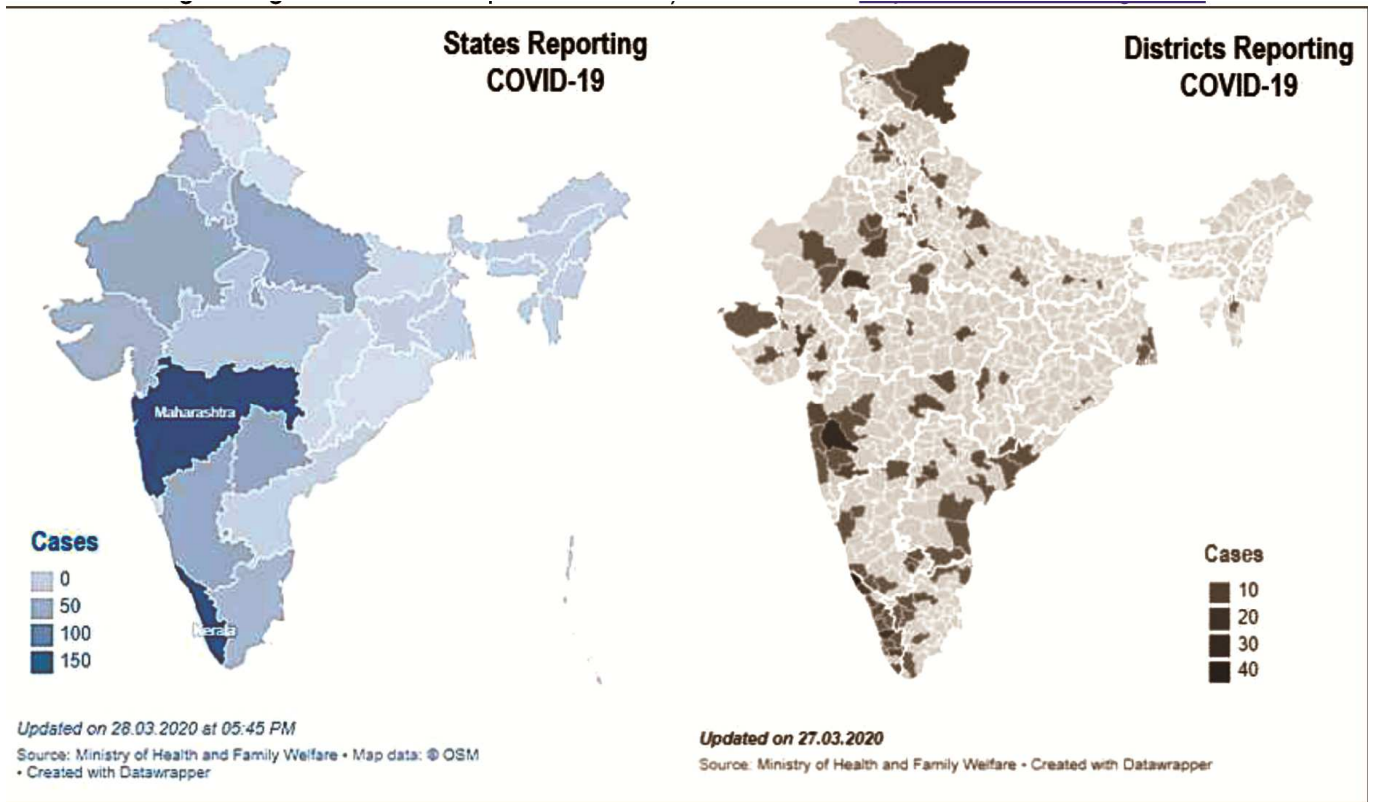
from vegetablesellers to doctors-media professionals etc. Corona epidemic has again proved the fact that sustainable development is closely related to science journalism and every people in every corner should be aware of that for inclusive growth. It is also proves again that science journalism is very much needed and the country like India, political news, crime news, sports news, financial news and even entertainment news should not dominate science news. In this regard, to cater scientific news on 2019-nCoV, media of India has become very pragmatic, realistic, timely bounded, updated and also crucial weapon.

## Background:

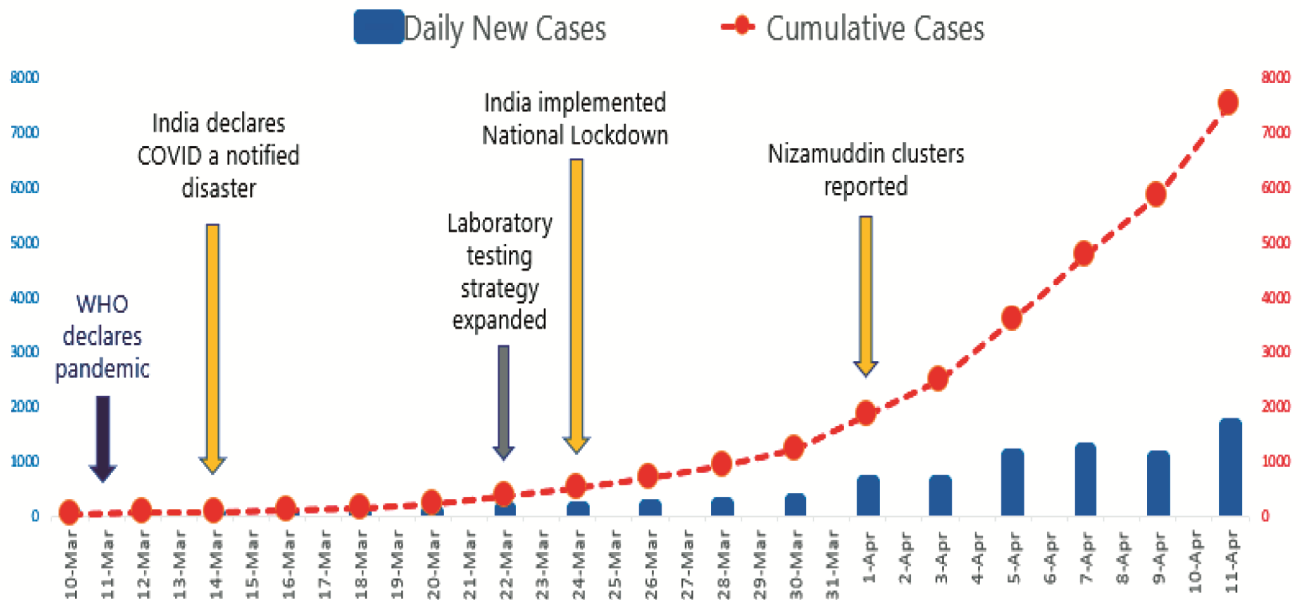
If timeline development of Covid-19 in India and globally is considered, it is found that, on (i)11<sup>th</sup> March, 2020 World Health Organization (WHO) declared this epidemic as pandemic (ii) On that very day, under the direction of Prime Minister of India, high level ministry group was constituted to close monitor of this outbreak (iii) On 14<sup>th</sup> March, 2020 totally 84 positive cases were confirmed in India including 2 deaths. On that day, 13 states have already been reported with Covid-19 cases. On that day, globally, 1 lakh 32 thousand 758 cases were become positive with 4955 deaths.

(iii) Janata Curfew was already called for and on 22<sup>nd</sup> March, 2020 i.e. just before the national lockdown declaration in the history of India, total figure of India was raised to 360 in total with 7 deaths and 23 states were already been affected. iv) For the 1<sup>st</sup> time in Indian history, National Lockdown-1 was declared for 21 days under section 6(2) (i) of Disaster Management Act, 2005. On that

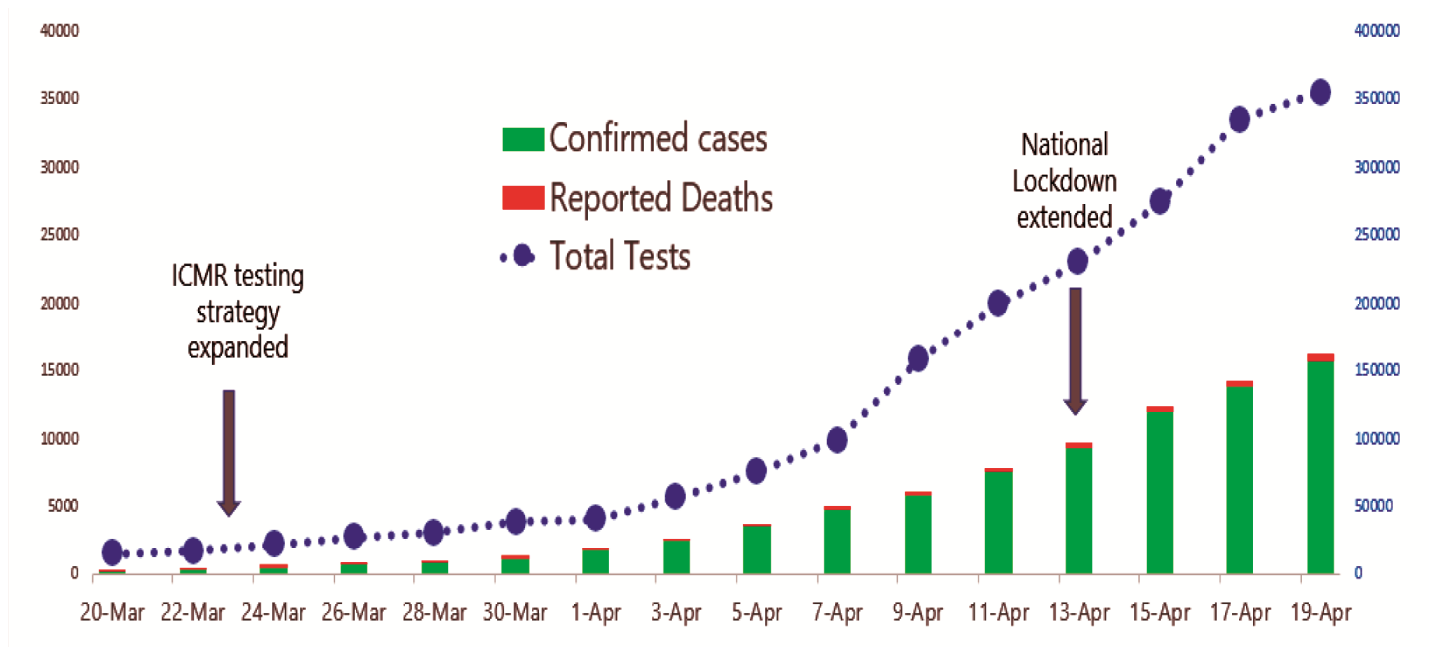
day, India had 909 active cases with 19 deaths in 27 states and union territories. On that very day, globally, 20, 834 death figure was confirmed along with 4,46, 684 positive cases v) After video conferencing and consultation with all chief ministers of every state of this country, Prime Minister declared the extension of National Lockdown-1 to National Lockdown-2, till 3<sup>rd</sup> May, 2020.



**Graph 1: WHO-India Novel Coronavirus Disease situation report shows states and district reporting COVID-19 as on 28th March, 2020 after declaration of National Lockdown-1 in India (Source)**



**Graph 2: WHO-India Novel Coronavirus Disease situation report shows new and cumulative cases of reporting of COVID-19 as on 12th April, 2020 just before declaration of National Lockdown-2 in India (Source)**



**Graph 3: WHO-India Novel Coronavirus Disease situation report shows new and cumulative cases of reporting of COVID-19 as on 19th April, 2020 just after declaration of National Lockdown-2 in India (Source)**

**Present scenario of science journalism in India:**

Till today, there is a huge difference between very high development indexed countries in the world and mid level development (India belongs to this group, according to UN Development report, 2018) indexed country in quality and quantity of science journalism. Here, still, space share of science news is just 3.5-4 per cent, according to last published research, before the publication of coverage of Covid-19, in India. Also present situation is, 1<sup>st</sup> page news on science, editorial on science, experts views from scientific fraternity etc are the rarest cases in India, that has already achieved by Indian media, within Lockdown-1 period.

**Research methodology and research design:**

It is a formulative as well as applied research work as under different scientific formulation, space share of different science news on COVID-19 were collected, analyzed, categorized and formulated statistically. It is also a social research as various factors and variables are very much related to social development. This research is empirical as it is based on different measurement analysis. It is also a comparative research work as this research shows the comparative study among some factors.

Time period for this research work was considered as Lockdown Period-1 i.e. from 24<sup>th</sup> March, 2020 to 14<sup>th</sup> April, 2020 i.e. 21 days. For sample survey, 4 major metro cities, Delhi, Kolkata, Chennai and Mumbai were considered. 4 selected sample newspapers were The Hindustan Times for Delhi, The Telegraph for Kolkata, The Hindu for Chennai and The Times of India for Mumbai.

**Statistical analysis and theoretical framework of research:**

It is always found in almost all newspapers of India, that, on an average, political news, followed by sports news, crime news, entertainment news, news on administrative decisions etc dominate science news and hence, within this lockdown-1 time period, all day, all newspapers were analyzed and space share were measured according to volume-cm. Then space share of science news on Covid-19 were compared with other types of news and were tabulated below in table 1. Also table 2 will show the comparative percentage of space share of 10 different types of scientific news on Covid-19 in 3 consecutive weeks of National Lockdown-1 in India.

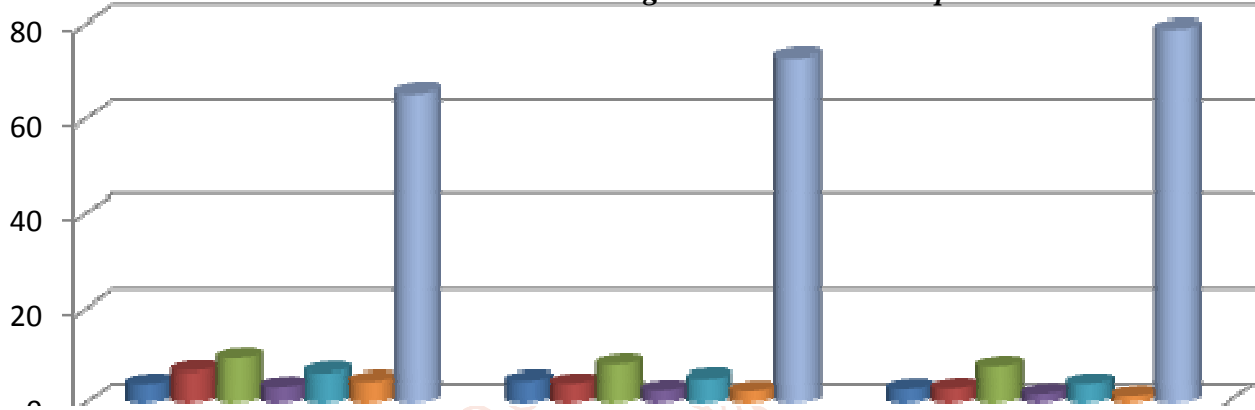
**Table 1: Comparative space share of scientific news on Covid-19 along with other types of news in 3 consecutive weeks of National Lockdown-1**

	Crime News C <sub>2</sub>	Political News C <sub>3</sub>	Sports News C <sub>4</sub>	Financial News C <sub>5</sub>	Entertainment News C <sub>6</sub>	Administration News C <sub>7</sub>	News on Covid-19 C <sub>8</sub>
1 <sup>st</sup> week of Lockdown-1	4.1	6.7	9.5	3.4	6.5	4.6	65.2
2 <sup>nd</sup> week of Lockdown-1	4.7	4.2	8.1	2.6	5.1	2.5	72.8
3 <sup>rd</sup> week of Lockdown-1	3.0	3.1	7.6	1.9	4.2	1.4	78.8

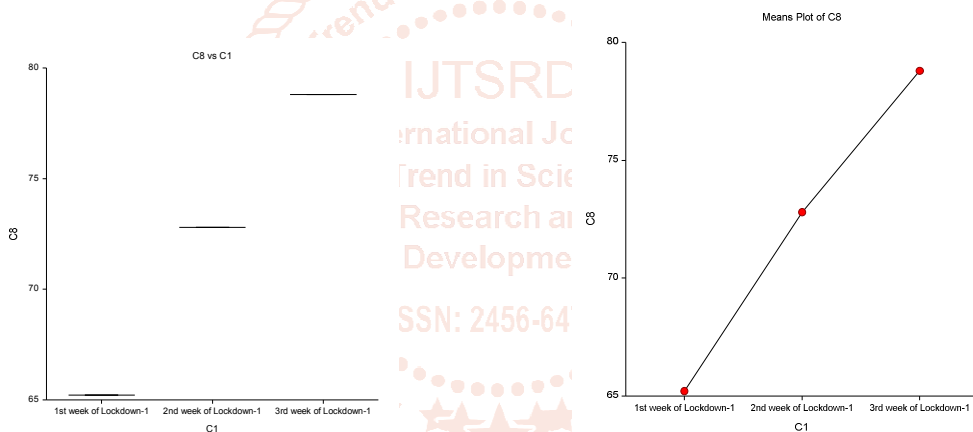
**Table 2: Comparative percentage of space share of 10 different types of scientific news on Covid-19 in 3 consecutive weeks of National Lockdown-1**

Graphics on Covid-19	7.2	1 <sup>st</sup> page lead news on Covid-19	91.2
Public understanding of science on Covid-19	34.7	Awareness campaign on Covid-19	17.8
Published research and journal on Covid-19	6.5	Interview of scientists on Covid-19	16.6
Write up/statements of experts on Covid-19	11.1	Editorial on Covid-19	51.6
Pictures on Covid-19	5.6	Letters to the editor and Covid-19	21.3

**Graph 4: Vertical cylinder diagram showing comparative space share of science news Covid19 during national lockdown period-1**



**One-Way Analysis of Variance Report**



**Box Plot Section**

**Plots of Means Section**

**Table 3: Analysis of Variance Table and F-Test**

Model Term	DF	Sum of Squares	Mean Square	F-Ratio	Prob Level	Reject Equal Means? ( $\alpha=0.05$ )	Power ( $\alpha=0.05$ )
Between (C1)	2	92.90667	46.45333				
Within (Error)	0	0					
Adjusted Total	2	92.90667					
Total	3						

**Welch's Test of Means Allowing for Unequal Variances**

Model Term	Numerator DF	Denominator DF	F-Ratio	Prob Level	Reject Equal Means? ( $\alpha=0.05$ )
Between Groups	2	$\infty$	0.0000	1	No

**Table 4: Kruskal-Wallis One-Way ANOVA on Ranks**

**Hypotheses**

H0: All medians are equal. H1: At least two medians are different.

**Test Results**

Method	DF	Chi-Squared (H)	Prob Level	Reject H0? ( $\alpha=0.05$ )
Not Corrected for Ties	2	2.0000	0.3678795	No
Corrected for Ties	2	2.0000	0.3678795	No
Number Sets of Ties	0			
Multiplicity Factor	0			

**Group Detail**

Group	Count	Sum of Ranks	Mean Rank	Z-Value	Median
1st week of Lockdown-1	1	1.00	1.00	-1.2247	65.2
2nd week of Lockdown-1	1	2.00	2.00	0.0000	72.8
3rd week of Lockdown-1	1	3.00	3.00	1.2247	78.8

**Table 5: Normal Scores Tests**

**Hypotheses**

H0: All group data distributions are the same.

H1: At least one group has observations that tend to be greater than those of the other groups.

**Results**

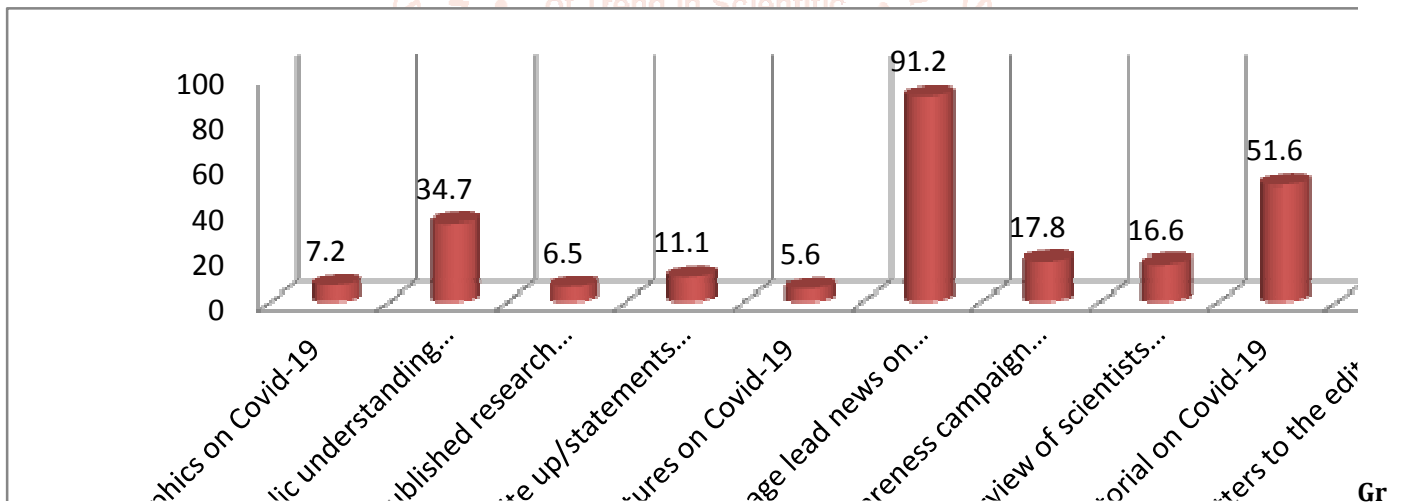
Test	DF	Chi-Squared (H)	Prob Level	Reject H0? (α=0.20)
Not Corrected for Ties	2	2.0000	0.3678795	No
Corrected for Ties	2	2.0000	0.3678795	No

**Descriptive Statistics**

Group	Count(ni)	Mean	Effect	Median	Standard Deviation	Standard Error $\sqrt{(MSE/ni)}$
All	3	72.26667	72.26667			
A: C1						
1st week of Lockdown-1	1	65.2	-7.066667	65.2		0
2nd week of Lockdown-1	1	72.2	0.5333334	72.2		0
3rd week of Lockdown-1	1	78.2	6.5333333	78.2		0

**Table 6: Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test)**

	1st week of Lockdown-1	2nd week of Lockdown-1	3rd week of Lockdown-1
1st week of Lockdown-1	0.0000	0.7071	1.4142
2nd week of Lockdown-1	0.7071	0.0000	0.7071
3rd week of Lockdown-1	1.4142	0.7071	0.0000



**Graph 6: Vertical cylinder diagram showing the percentage of space share of 10 different types of scientific news on Covid-19 in 3 consecutive weeks of National Lockdown-1**

**Results and discussion:**

From the above table-1 and graph-4 it has been found that, there has been a stiff increase of percentage of space share of science news, only due to Covid-19 and people have aggressively read all those news based on science and hence all other types of news like crime-political-sports-financial-entertainment-administration related news have shared very small portion of space in newspapers compared to science news. Also, Graph-4 has shown that in consecutive 3 weeks of national lockdown-1, percentage of space share of science news has drastically increased and other types of news have decreased drastically. Graph 6 has shown that, in almost all day, 1<sup>st</sup> page lead news was on Covid-19 and science news have reached 91.2 percent of space share. It

has also been found that, more than 50 percent editorials (51.6 percent space share) were on Covid-19 i.e. science. Within this national lockdown-1, more than 20 percent letters to the editor (21.3 percent) were on science journalism related and public understanding of science related articles-materials etc have achieved nearly one-third of space (34.7 percent).

Then one-way ANOVA Test was done on the table-1 to find whether the survey or the experimental results were significant. It has helped to figure out it is needed to reject the null hypothesis or accept the alternative hypothesis and Graph-5 has shown the normality test with plots of mean



section. Table 3: Analysis of Variance Table and F-Test. Table 4: Kruskal-Wallis One-Way ANOVA on Ranks. Table 5: Normal Scores Tests. Table 6: Kruskal-Wallis Multiple-Comparison Z-Value Test (Dunn's Test).

From Table-4 and Table-6. It has been found that, medians are not significantly different and the null hypothesis are been accepted.

**Conclusion:**

From the above charts and diagrams along with statistical analysis of ANOVA test, it has been found that, Covid-19 like global pandemic has shown the way to the media professionals that, science journalism is still very important and relevant and should provide more space daily in newspapers, everyday for total sustainable development of the nation. It has been proved that, science journalism has

not been decayed, but situation has shown again that it should be increased.

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[4] WHO Reports on Covid 19 Novel Coronavirus

