

The Role of Mobile Based Communication by the Government during COVID-19 on College Students (IHS, Ghaziabad)

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Abstract

COVID-19 poses a threat to global health. It is first ever experience for the countries to undergo a complete lockdown with the dependency for any information completely relying on media and government. During the pandemic the usage of mobile phones among the masses grew drastically and it was considered as an efficient medium by both public and the government. The mobile based communication was done through channels such as WhatsApp, Chat Boards, Caller Tune, Text Messages and Arogya Setu App etc., for spreading COVID related information among the masses. However, even after the continuous exchange of messages by the government, there are people who are still not showing the COVID appropriate behavior. As the third wave is predicated to hit the world again it is important to study the loopholes in the existing communication strategies and to rework on them in order to control the spread of the deadly virus. In this paper the researcher has studied the changes mobile based communication by the government during the COVID 19 has brought among the students studying in IHS, Ghaziabad. The study shows that mobile is an effective mode of communication among the college students. It has successfully brought attitudinal and behavioral changes among the students and outlines the directions for the development of highly effective and efficient mobile based communication that can be utilized by the government in the near future.

Keywords: COVID-19 • Government mobile communication • COVID related communication

Introduction

As per the declarations of the World Health Organization (WHO), SARS-CoV-2 virus outbreak was a severe global threat. As of Jan 18, 2021, the virus infected a mass of 95 million people worldwide, with about 2 million deaths. India is said to be the second worst hit country effected by the virus. The overpopulation, poor execution of strategy, limited health facilities and non-adherence to the COVID protocols led to a crippled health situation in the country during the second wave of COVID 19. As the world was under lockdown, people were totally dependent on media and government for their informational need. In such situation, common issues with regard to communication such as myths, rumors and misinformation are often circulated quickly through various platforms and having an adverse effect on the society. According to a WHO report during the prior 3 months of 2020, an approximate of 6000 people worldwide got hospitalized solely due to coronavirus misinformation [1].

Under such situation it becomes the responsibility of the government to keep a check on the communications made to the public and to formulate effective communication strategies.

The Indian government has deployed a variety of mediums for informing the individuals, one of which is mobile phone. Under the ambit of mobile communication during the current course of COVID 19, lot of techniques were used by the government like, replacing mobile caller tune with an informational jingle on COVID-19 across telecom operators, text messages, chat boards, toll free numbers, introduction of Apps (Arogya Setu) and WhatsApp helpline etc. There was a rapid increase of 50% in the usage of mobile phones during the second wave of COVID-19, clearly stating that mobile phones have become the key instrument to help citizens stay updated, informed and in sync with the society during the crisis. It has been seen that in the current course of time the highest penetration of mobile phones users are in the age group of 16 to 24 years constituting around 37% in total. In the lives of college going students, mobile phone has become an inevitable part. A report reveals that around 65% of the college going students have become addicted to mobile phones in India while 50% of them couldn't stay away from their phones for even half an hour.

COVID-19 is one virus that can infect people of all gender and ages. The union health ministry's report on mortality data shows that

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those below the age of 45 years accounted 60% more chances of getting infected. In India as the young adults constitute a significant portion of our population, it is very important to consider and study them. In this research, the researcher will find out if the mobile based communication made by the government was really helpful in informing and coping up with the crisis for college students. Did these messages and other mobile based communication techniques bring any behavioural and attitudinal changes on them and suggestion that will help the government in building a strong mobile based communication mechanism that will help to overcome future challenges and crisis [2].

Materials and Methods

Mobile phones because of its features like powerful technical capabilities, easy to carry anywhere, access to information via internet and multiple application exchanges etc. make it as the most efficient means of communication. India is the second largest mobile user in the world placed after China. They account around 748 million users in year 2020 and a majority of smart phone users are constituted by youth between the age of 16-25 years. A mobile phone when integrated with internet can be called as smart phone too. It is modern version of telephone with an integrated computer technology with features such as web browsing, operating system and ability to run software applications. They are called 'smart' because with one touch of your fingers they can provide various information. In present time smartphones or mobile phones are equipped with various features such as Global Positioning Service (GPS) navigation, sending and receiving electronic mail (email), games, face time, web searches, etc [3].

The WHO has defined public health and medical practices which are supported by mobile devices as mHealth such as mobile phones, personal digital assistance and other wireless devices. Mobile based technology these days comes with lot of features, such as tracking of health information through mobile based health applications, Telemedicine and remote healthcare in developing nations, native journaling applications that are designed to support more than one health related behaviors and relevant measures example food intake, blood pressure, sugar level etc., Mobile based health game, community data collection, Tracking through SMS based monitoring system for behavior change communication used in the control of asthma and HIV and involvement of health care teams etc. During the Ebola and Zika virus outbreak social networking sites and mobile communication proves out to be extremely helpful for active communication with the community which further helped in improving public health. The countries with low and middle incomes have shown evidences that mobile based health intervention have helped them in taking appointments, gathering data and in the development of health workers and doctors networks.

As per research conducted by WHO, women are less likely to have received COVID-19 information than men the reasons for which pointed out to be less smartphone usage, limited internet usage,

even low literacy in comparison to men in India. According to WHO, it is an information pandemic phase, that causes spread of overabundance of false and misleading information. About 23-26% of YouTube videos involved misinformation regarding COVID-19. Twitter and Facebook reported that in 2020 over 90 million pieces of content had warning labels on them, because they contained false misleading information like false cures and conspiracy theories etc. Furthermore, WhatsApp messages accounted 47% of fake and false messages exchange. Therefore countries are battling a fight not against COVID but with misinformation too.

Therefore creation of effective communication techniques are required which can bridge in the gap between the Government and citizens and ensure to keep citizens updated with the right kind of information which will reduce the fear, anxiety and helps in normalizing the situation. For the development of right kind of strategies, it is important to understand and evaluate the key knowledge, attitude, emotions, behavioral or structural obstacles of the targeted audience which can be proved helpful in contributing a change in the society. During COVID people have relied on government websites for seeking information. About 80% users in India have used Google as their search engine and Govt. websites for getting information regarding COVID-19. The Ministry of Health was recognized as the most reliable source of information and updates for COVID-19 during the pandemic.

The Government of India applied various means to communicate with masses. Content was created in multiple languages, including sign language to ensure that everyone gets to be a part of the communication. Reputed doctors were recorded to ensure clear and correct messaging. Explanatory infographics and videos helped explain COVID appropriate behaviors. A dedicated webpage corona.mygov to support the ministry of health and family welfare. Several local and international apps helped, like YouTube, Instagram, Twitter, LinkedIn, Telegram, TikTok, Helo, VMate, Likee. These apps helped the government reach masses as far and wide as they could. Even celebrities endorsements like Ajay Devgn helped in creating the #SetuMeraBodyguard campaign. Top cricketers helped in the #TeamMaskForce campaign that promoted use of masks [4].

The Mobile based communication techniques that was used by the Indian government during the time of pandemic are a 30 second COVID related caller tune, audio platforms: e.g., telephone calls, advice etc., text platforms: e.g., messaging, chat mode. MyGov Saathi is a mobile enabled platform that is a menu driven platform that provides access to COVID-19 related latest updates. Mobile app 'Arogya Setu', created by the national informatics centre, is a mobile tracking application. It uses the phone's GPS and Bluetooth features to track any infected person within 6 feet. It helps the citizens by informing the public about COVID-19 symptoms, risk, prompting preventive measures.



Figure 1. Mobile based communication techniques.

However, there are many limitations and challenges too when it comes to the use of mobile phones in healthcare and medical practices which are technical, behavioral, physiological etc. Some of the limitations which are majorly technical are limited storage space, screen size of mobile phones, the security of patient data etc. and other includes the perception and attitude of the patient, ignorance and delayed attitude etc. The youth are considered to be the most vulnerable section of the society who very often lack in proper health related education and therefore, are seemingly more likely to get infected. Hence they need to be targeted by different health interventions. Studies have identified that the infection transmitted by direct or close contact in the infected environment. As in the current time, the colleges and schools are open again students have again started going but how many of them are properly adhering to the COVID-19 guidelines is difficult to find out. The daily cases from the new variant 'omicron' with the third wave have already started to emerge in the country therefore it is important to research and study the loopholes of previous communication strategies deployed by the government, specially mobile based ones knowing its prefer ability among the people and to understand what really worked out for the college students and which all areas needs to be worked upon for improving mobile communication strategies [5,6].

Theoretical framework

Behaviorist Stimulus Response theory mechanism offers a conceptual side to understand how people's emotions, thoughts and behaviors are reinforced for disseminating information received by the media. The theory adopts a stimulus response mechanism of human information can be named as external stimuli to which the individuals responses. It consists of two main components the environment (media inputs) and the responses (cognitive, emotional and behavioural responses). The responses are evoked by the stimuli. This classic model assumes that communicators can influence the audience through exposure to communication sources like messages and channels. The recipient of these messages through observation and through pattern of their thought processes moves towards cognitive

(knowledge, awareness beliefs), emotional (fear, trust) and behavioral responses (change in habits and actions). Thus, a communicator can control the response of the targeted audience through exposure to communication which can be measured by the recall of communication channels, sources and messages. In this study the mobile based communication made by the government during COVID-19 are assumed as "package of stimuli" that involves the elements of communication such as source, channel and messages. The stimulus response to the package of stimulus is the people knowledge, health risks, adaption to change are influenced by their communication exposure. Therefore, through effective communication strategies health communicator can create and regulate the environmental stimulus and can encourage health appropriate behavior and actions such as washing of hands, social distancing and wearing of mask [7,8].

Objectives

This study examines the role of mobile based communication made by the government to disseminate COVID related information and for encouraging appropriate behaviors during the COVID 19 on the college students studying in Indirapuram insitute of higher studies, Ghaziabad in various undergraduate courses such as BJMC, B.Com, BBA and BCA.

The objectives of this study are:

- To assess the engagement and perception of government based mobile communication made during the COVID-19 on the college students studying at IIHS, Ghaziabad.
- To understand the attitudinal, knowledge and behavioural changes the government based mobile communication has brought in college students studying at IIHS, Ghaziabad.
- To suggest the changes in the existing mobile communication strategy adopted by the government during COVID-19.

Research method: The study uses online survey method of 200 college students studying in different undergraduate program like BBA, BCA, B.COM and BJMC in the IIHS, Ghaziabad.

Research tool: A questionnaire was developed with both close ended and open ended questions to assess the demographics of students, their usage of mobile phones, their preferability of messages etc. for getting information related to COVID-19 during the pandemic. The closed ended questions mainly focused on the reach and engagement of the mobile strategies, attitude and behavior of the students used how it promoted COVID appropriate behavior among the students. The open ended questions gave the samples a chance to express their views about which mobile communication strategy they liked the most, the issues they faced while understanding the messages and suggestions for improving the existing mobile communication strategy [9].

The Data were collected between 15th-20th November 2021 through an online survey. A total of 200 participants gave their responses for the survey. We excluded around 40 students who did not answer the intention and were not meeting the intended objective of the current study. Therefore, 160 questionnaires were used for data analysis. For the purpose of analysis descriptive method has been used to describe our data and to identify the engagement, perception, attitudinal and behavioral changes among the students with regard to COVID-19 mobile communication made by the government during the crisis.

Results and Discussion

Data analysis and interpretation

Table 1 shows the distribution of respondents as per their gender, age and economic background. The respondents for the study were from the undergraduate courses. The respondents participated in this

Parameters		percentage
Gender	Male	59.50%
	Female	40.50%
Age	17-21 years	100%
Economical background	2-5 Lakhs	62.50%
	5-7 Lakhs	19.20%
	7-10 Lakhs	12.50%
	10 Lakhs and above	5.80%

Table 1. Distribution of respondents as per their gender, age and economic background.

As per Tables 2-5 all the respondents are aware of COVID related mobile based communication made by the government during the crisis. 53.2% of them agreed that they use mobile phones for getting COVID related updates and 50.5% are using mobile phones very

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
24.5%	48.2%	20.9%	3.6%	2.7%

Table 2. COVID related mobile messages interesting and informative by the government.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
34.2%	53.2%	8.1%	0.9%	3.6%

Table 3. Smart phones for getting updates on COVID.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
27%	50.5%	17.1%	3.6%	1.8%

Table 4. COVID related news on your mobile phones much often.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
27%	42.3%	20.7%	8.1%	1.8%

Table 5. COVID related mobile communication is a better way of communication than other existing modes of communication by government.

The Tables 6-9 studied together to understand that 36.9% of the respondents agrees that Government COVID related mobile communication has helped them in maintaining social distance.50.5% have agreed that it has impacted them to follow COVID appropriate behavior. 55% of respondent has agreed that

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
26.1%	36.9%	21.6%	9.9%	5.4%

Table 6. Government COVID related mobile communication has been helpful in maintaining social distancing in the pandemic.

study were between the age group of 17-21 years. Out of the total respondents 59.5% were males and 40.5% were females. As far as their economical background is concerned, 62.5.2% of them has an annual income 2-5 lakhs. 19.2% parents earns between 5-7 lakhs, 12.5% from 7-10 lakhs and just 5.8% has an annual income of 10 lakhs and above.

often to keep themselves updated regarding the COVID-19 news. 48.2% of them found these messages as informative and interesting. 42.3% have also agreed to say that it is a better way of communication than compared with other existing modes of communication.

mobile messages have helped them in educating information related to COVID 19 vaccination and 49.5% agreed that these made by the government contributes towards positive health behavior.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
18.9%	50.5%	15.3%	10.8%	4.5%

Table 7. Government COVID related mobile communication impacted your COVID appropriate behavior.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
28.8%	55%	7.2%	7.2%	1.8%

Table 8. Government COVID related mobile communication has educated people regarding COVID vaccination.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
14.4%	49.5%	26.1%	7.2%	2.7%

Table 9. Government COVID related mobile communication contribute towards positive health behavior.

As per the Tables 10 and 11 the respondents believes only 27% of them have a trust on the information floated through the mobile messages by the government. 28.8% have agreed that these messages have negative impact on their mental health however 36.9% of them totally disagree to this fact.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
13.5%	27%	34.2%	22.5%	2.7%

Table 10. The information floated through the mobile messages by the government.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
6.3%	28.8%	23.4%	36.9%	4.5%

Table 11. Government COVID related mobile messaging has a negative impact on mental health.

Tables 12 and 13 tells the respondents' perception regarding the COVID caller Tune 35.1% have agreed that introduction of caller tune for COVID precautionary behavior was an effective way of disseminating COVID 19 awareness however 35.8% have found the duration of the caller tune as a turn off.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
22.5%	35.1%	16.2%	16.2%	9.9%

Table 12. The COVID caller tune was effective way of disseminating COVID awareness.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
22.9%	35.8%	18.3%	15.6%	7.3%

Table 13. The duration of COVID 19 caller tune of a turn off for you.

As per Table 14 the respondents 42.7% have agreed that during the time when their family members suffered from COVID they used the mobile based communication during that time. The last three questions were open ended questions the researcher has tried to analyze them and come out with the suggested pointers as suggested by the respondents.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
13.6%	42.7%	17.3%	20%	6.4%

Table 14. Family member when suffered from COVID 19 at that time did you used any of the government based mobile communication.

As per the Table 15, the respondent most liked mobile based communication was Arogya Setu App followed by caller tune, chat boards, text message and Delhi fights Corona website. The respondents like Arogya Setu App because it gave them time to time

update of the infected person in their close vicinity and caution them. The information was considered authentic and timely updated. Some have also talked about the smoothness of the APP. Caller tune was liked by some of the respondents because it was constantly

reminding them avoid the COVID appropriate behaviours to follow, to some it reminded to wear mask when they were stepping out of their homes. The text messages helped the respondents to know the nearby vaccination centers.

Aarogya setu	Text messages	COVID caller tune	WhatsApp helpline
45.2%	8%	25.7%	16.8%

Table 15. The Government mobile based COVID communication channel you liked the most.

Mobile based communications that were not satisfying for the respondents

Many respondents felt that the caller tune was annoying for them especially when they had to make an emergency call. There were couples of times when the Arogya Setu was not properly working and was not showing the expected results. The frequency of messages was also troublesome for some respondents. For some respondents, text messages were not interactive rather broadcast messages through WhatsApp should be circulated. When called on the COVID helpline number, the number mostly came busy or did not get connected. Many respondents were not satisfied with the data regarding the deaths, active cases and vaccination dose were accurate. They felt that there was some manipulation involved and some facts have been hiding from them.

Suggestion for improving mobile based communication that could be used by the government of India

Many respondents have suggested to shorten the length of COVID-19 related Caller Tune, in case of any emergency call there should be an option for dropping down the caller tune. Sending Emails would be another way out to reach urban population and keep them updated. There is need to minimize the cost of internet data packs and establish better internet connectivity. The Arogya Setu App requires more upgradation in terms of its working. The options of audio messaging should be opted in local languages through WhatsApp [10]. The handling of misinformation mechanism should be made more advanced. Health messages in some areas require facilitator assistance too in order to understand them so government should think in that direction also. Digital platforms like Facebook, Instagram and Twitter can be used frequently to give COVID related public awareness Ads. Recorded calls in the day or morning can also be introduced by the government for the awareness purpose. Variety of messages should be increased in terms of their content, rather than disseminating same messages everyday. In order to control misinformation the government should come up with some strict legislations. These days people are using E-calls through FaceTime and WhatsApp so a short information message can be put in there too.

Conclusion

Mobile communication and technology in COVID-19 did the unthinkable. In a world and situation where nearly everything could be nearly impossible, we were able to stand against the deadly corona virus through constant dissemination of information and we

were able to regulate the routine works of lives such as our jobs, education, money transfer, shopping, social networking with our near ones through phone in the times of crisis. So mobile and technologies are something like life savior during the pandemic. Our research study is based on the role of mobile based communication the government has used during the COVID-19 and here in this research we have tried to understand it through the college students studying at IHS, Ghaziabad. Through our research study it was found out that mobile was an effective medium for getting information for the students. The mobile communication has brought significant changes in the attitude and behavior of the students with regard to the adherence to COVID precautionary protocols. The Arogya Setu App and Caller tunes were the most appreciated forms of mobile strategies used by the government of India as per the students. Many students felt that the COVID caller tune length should be shorten down as it came out to be a big turn off for majority of students. This study suggests that there are some areas where the government needs to clearly plan and make changes in the existing mobile communication strategies such as rather than text messages, WhatsApp messages in local languages should be done. Broadcast, recorded calls can be introduced during the day. The messages should have a variety of content. Arogya Setu can be made more advance in terms of its features and usability etc. Many of the students also expressed that the COVID helpline were not very beneficial. Most of the times the number came engaged, the people felt the data government is coming up with is not cent percent true. For misinformation the government should come up with some legislations as brought by the countries like Singapore, France and Germany. The findings of this study highlights the need for governments to use these suggestions in the existing mobile based communication used during the crisis in the country. They can plan for executing a more proactive communication with its citizens through mobile technologies which will be very useful in ensuring more awareness and better control in the spread of the virus in the society.

Limitation of Study

Despite contributing to the existing knowledge, this paper has some limitations too. Firstly, the data was collected from one institute only. Second, the researcher used convenience sampling technique; the sample size was also limited to 200 only which is another limitation of this study. Also India is a country where digital divide still exists therefore however strong message mechanisms is build whose who do not have the access to smart phones there this study will not justify. We suggest that in the near future by eliminating all these limitations in the future research more information can be obtained and it will help in getting better results.

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