

## KNOWLEDGE, ATTITUDE AND PRACTICES OF COVID-19 PREVENTIVE BEHAVIORS DURING PRE AND POST LOCKDOWN PERIOD IN SELECT DISTRICTS OF WEST BENGAL

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### ABSTRACT

*Most of the countries across the globe are in critical phase due to newly emerged COVID-19 pandemic. It has slowed down the economic activities all in a sudden. Although, certain countries resumed the economic activities from second or third quarter of the financial year 2020. But the sudden lockdown has great impact on daily life of the individuals especially for the marginalized daily labors. Labors returned from their work station to their native place and lots of miseries; many of them lost their lives early than expected. We have no idea about its long-term effects on physical and economic losses due to this pandemic. Again, it proved that India's prosperity is still based on the rural sector. Villages had accommodated a large number of migrated labors who were out for livelihood. In this critical phase, it was difficult to contact respondents for face-to-face interview. A google form was designed with specific questions to measure knowledge, attitude and practices of COVID-19 sensitive behaviors. The link of the questioner was shared with the known networks in five districts, namely Murshidabad, Purulia, Birbhum, Malda and Uttar Dinajpur. Data was collected following the direct interview method through the said online platform. Altogether, 72 respondents submitted their valuable inputs. Responses were downloaded from the google drive and compiled in excel sheet for further analysis. Ethically, no personal data collected to maintain the privacy of the respondents. The link was activated for one-month period. After that the link was deactivated. The current study gathered evidences of high knowledge on risk behavior but practice level is low. This is one of the hinders to stop the highly infected COVID-19 pandemic. Still now there are many facts to reveal. Only certain preventive behaviors can stop from getting infected. The preventive behaviors are - 1) proper usages of mask, 2) frequent hand washes with soap with water or alcohol-based hand sanitizer, 3) avoid gathering, 4) safe respiratory practices especially cover mouth and nose with using handkerchief, tissue paper or cover up with elbow. This study contributed to find out the knowledge and practices of COVID-19 preventive behaviors of respondents. On the other hand, the role of individual or groups to prevent COVID-19 pandemic and how effectively people usages the available information technology (IT) based resources especially the Arogyo Settu app and tele-counselling services. Certain interesting changes at attitudinal level are very encouraging such as approaching to local healers at the time of health emergencies has been reduced in both rural and urban areas. Access to health care centers is high.*

**Keywords:** COVID-19 Sensitive Behaviors, Attitude and Practice of COVID-19, Health Care Services.

### Introduction

The corona virus or CIVID-19, is one of the world's biggest challenges. According to the World Health Organization (WHO) as on 21 December 2020<sup>1</sup>, 75,704,857 people affected of it and total 1,690,061 death cases accumulated across the globe. India has reported 10,055,560 affected cases

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<sup>1</sup> <https://covid19.who.int/table>

which is second in the globe. According to the “**West Bengal COVID-19 Health Bulletin - 21<sup>st</sup> December 2020<sup>1</sup>**”, total COVID active case are 5,38,343 and total deaths are 9,401. The aforesaid numbers are self-explanatory about the intensity of the COVID infection. Many facts and figures about COVID virus which are yet to reveal. The sign and symptoms of COVID-19 infection in also changing and it is difficult for common people to understand whether they are infected or not. Because of this unknowingly infected people are spreading COVID-19 disease among their family and community members. Only certain behaviors can prevent from getting infected by COVID-19.

In public health particularly in case of pandemic situation, social platforms and institutions play important role to prevent the public health crisis. Social platforms like Self-Help Groups (SHGs), Anganwadi Centers, Youth Clubs, Faith-Based Institutions (FBOs), and Schools contributed to disseminate correct and reliable information about COVID-19 pandemic; support emergency supply chain; and cooperate frontline health service providers for identification, isolation and treatment of COVID-19 cases.

This study was designed to understand the prevailing knowledge of the people on prevention of COVID-19; attitude to create enabling environment through supporting the social platforms mainly frontline workers, youth and SHGs members; and practices of COVID-19 appropriate behaviors. This study finds that there are some changes in respect of accessing health services especially during this COVID-19 period. Certain behaviors are low whereas the knowledge level of that particular behaviors is high. The social forums and institutions have proven potential capacity to provide best services during such pandemic period. Details findings are described in subsequent paras.

### Methodology and Study Areas

Considering the pandemic guidelines and government norms, a comprehensive online questioner developed. The same questioner was uploaded in the Google Forms. The link of the Google form were shared with our personal and professional network belonging in the mainly five districts, namely Murshidabad, Purulia, Birbhum, Malda and Uttar Dinajpur. The link was active for one months to collect the responses. After one month the link was deactivated. Data was collected following the direct interview method through online platform. Altogether, 72 respondents submitted their valuable inputs. Responses were downloaded from the Google drive and compiled in excel sheet for further analysis. We are ever thankful to each respondent for giving their valuable times and inputs.

### Objectives

COVID-19 is one of the most critical pandemic situations emerged in this century so far. Researchers across the world continue searching new scientific facts and social issues on COVID-19 diseases. There are evidences of social discrimination pertaining to COVID-19 infection and prevention. So, it is important to understand the knowledge, believes and practices of the community. Following are the key objectives of the study:

- Understand the knowledge level of community on COVID-19 diseases - infections, symptoms, preventions;
- Find the gaps in between knowledge and practices for prevention of COVID-19;
- Understand the social institutions<sup>2</sup> or forums<sup>3</sup> most actively contribute on prevention of COVID-19;

### Profile of the Respondents

As stated earlier that 72 respondents submit their responses through digital platform manly using the google form and telephonic interviews. A range of different age group who are from different occupational background participated in this study. All the respondents had given their consensuses to participate in this study. Out of the 72 respondents, 44 (61.1%) respondents are from rural areas and remaining 28 (38.9%) are from urban areas. Profile of the respondents are given in the below table - 1.

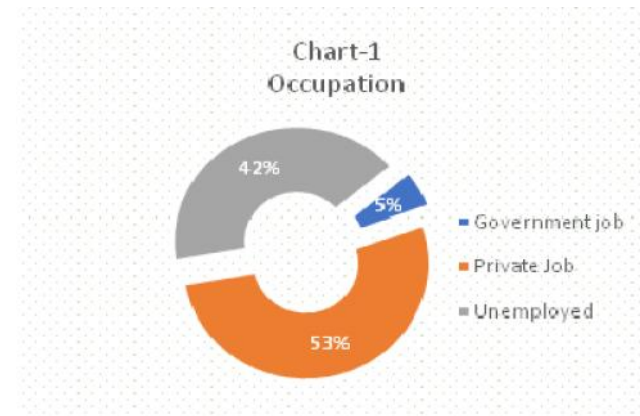
**Table 1: Profile of the Respondents**

	Total	Age group (Years)									
		Below 18		19-35		36-45		46-60		Total	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Rural	44	0	4	16	10	6	0	6	2	28	16
Urban	28	0	0	16	8	4	0	0	0	20	8
Total	72	0	4	32	18	10	0	6	2	48	24

<sup>1</sup> [https://www.wbhealth.gov.in/uploaded\\_files/corona/WB\\_DHFW\\_Bulletin\\_21st\\_DECEMBER\\_REPORT\\_FINAL.pdf](https://www.wbhealth.gov.in/uploaded_files/corona/WB_DHFW_Bulletin_21st_DECEMBER_REPORT_FINAL.pdf)

<sup>2</sup> Social institutions – is a complex, integrated set of social norms organized around the preservation of a basic societal value. (source: sociology guide)

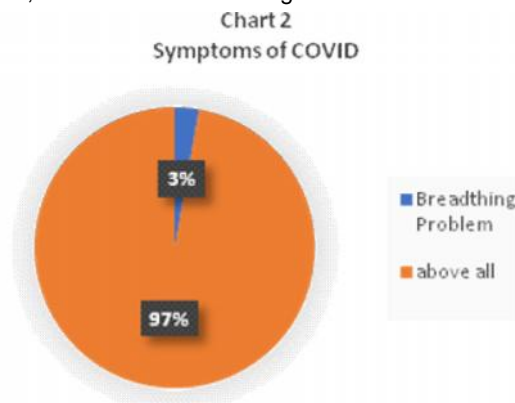
<sup>3</sup> Forums - is an open meeting place for civil society organizations and individuals (Source- Wikipedia)



One third of the total respondents are female. Majority of the female respondents are from 19 to 45 years age group. Only 4 female respondents are below 18 years old. It was found that 25% (n=18 and N=72) respondents are still studying their higher education. Only 5% respondents are doing government jobs; whereas over 53% respondents are involved in private sector job and remaining 42% are still unemployed.

#### Result & Discussion

- Information about COVID-19:** 100% respondents know that COVID-19 is a contagious disease caused by a newly discovered Corona virus widely known as COVID-19 disease. The data depicted that 97% rural and urban people are well informed about the signs and symptoms of COVID-19 disease.<sup>1</sup> Only 3% people from rural area informed that only breathing problem is the symptom of COVID-19 infection. A multiprong dissemination of COVID sensitive messages through using different medium contributed to inform community about the same. Electronic media, print media and social media disseminated key COVID messages. It was challenge to control dissemination of wrong information over social media. As a result, incidents of discrimination with the COVID warrior took place across India. Such incidents become less in numbers as people started to receive trusted information from reliable sources such as getting information from WHO, UNICEF or other UN agencies and the Government platforms.



- Preference of Health Services in Case of any COVID-19 Symptom Found:** It is important to understand the attitude of the people regarding the approach for health services. This study aims to highlight the people's attitude towards government/private or qualified health service providers. Qualified health services may be rendered by institute or individual. There are evidences where people used to approach to local healers during health emergency instead of approaching to qualified health service providers. According to this study, people's attitude has changed during this COVID-19 pandemic situation.

<sup>1</sup> Indicators: Fever, Cough and sneezing, breathing problem

**Table 2: Preference of Receiving Health Services in Case of COVID-19 Symptom (N=72)**

Response Options		Visit Health Center	Visit Local Doctor	Quack	Option i & ii
		I	ii	iii	vi
Rural	Number	32	4	8	4
	%	(72.7)	(9.0)	(18.1)	(9.0)
Urban	Number	10	12	6	10
	%	(35.7)	(42.8)	(21.4)	(35.7)

(Responses are mutually not exclusive)

According to the above table 2, 72.7% rural people prefer to visit health center in case of any symptom arises whereas this is low (35.7%) in urban areas. The urban people prefer to receive health services from health centers and consult with their qualified medical practitioners. The above table also depicts that preference of taking health services from local or rural medical practitioners is 18.1% in rural areas and 21.4% in urban areas. There are evidences that certain section of the people from rural and urban areas especially who are socio-economically backward prefer to visit locally available medical shops. According to Census 2011, the education rate is high in urban areas. But it has limited direct correlation with the urban literacy and access of medical services. Rather it has negative correlation. The most important finding from this study is that mind-set of common people irrespective of rural or urban people has shifted to institutional health service centers or medical doctors or practitioners rather visiting to traditional healers.

- Reasons of Hiding the COVID-19 Symptoms:** The COVID-19 virus is newly detected infectious disease. There are many scientific facts and figures yet to be revealed. Many facts about COVID-19 disease are unknown to the world. Because of unknown facts people had fear and hiding tendencies to disclose their symptomatic signs of COVID-19 infection. As a result, the incidents of discrimination due to COVID-19 disease increasing still date because of fear about COVID-19 disease. Detail of the reason of hiding the symptoms are given below table -3. The substantiate secondary evidences also depicted that common people fear approach to health services because stigma. Even the mothers who were admitted in the health center fear to take services for looking after their new born baby. Even the professional health practitioners also fear of direct contact with the patients. These fearful environments created a disrespectful atmosphere at the very beginning of the COVID pandemic. Such environment has changes subsequent with the current period because fear about COVID has become less.

**Table 3: Reasons of Hiding the COVID-19 Symptoms (Multiple Response)**

Responses	Become isolation from the society	Fear of losing near family members	Low knowledge about COVID-19	Fear of unavailability of medical services in Govt. Health service points	Fear of death caused by COVID-19	Fear to Lose of Job	Meeting with COVID-19 positive people with their other family members in the COVID-19 centers
number	48	32	30	22	20	16	8
%	(66.6)	(44.4)	(41.6)	(30.5)	(27.7)	(22.2)	(11.1)

(Responses are mutually not exclusive)

In this study, it was observed that over 66.6% people responded that they fear to become isolated from the society in case they are detected COVID-19 positive. Over 44% people deemed that they will lose their family members if their COVID-19 test result is positive. According to the respondents, 41.4% people hide their COVID-19 illness because of low knowledge about the preventive measures of COVID-19. The study also reveals that 30.5% people have low level of confidence over the COVID-19 services available in the government facilities. A substantiate percentage of people (27.7%) have fear of death in case they become COVID-19 positive. Out of total, 22.2% working people also reported that they may lose their jobs. Above 10% people hide the COVID-19 symptoms because of government is not allowing family members or relatives of their COVID-19 positive people who are admitted in the hospital or in isolation center.

- Knowledge about Spreading of COVID-19:** It is important to community have information about routes of transmission of the diseases. Informed and responsible people of the community can stop the spreading of COVID. According to the WHO report dated 11 June 2020, there are evidences that one infected symptomatic people become more active to spread virus unknowingly before clinically confirmed positive. The same report also confirmed that available contact tracing reported by countries that asymptotically infected people are less likely to transmit the virus than who develop symptomatic. Contact tracing is critical to break the chain of spreading infection by any COVID-19 positive person. This study was intended to find out the knowledge level of people on spreading of COVID. The responses are compiled and demonstrated in the below table 4.

**Table 4: Knowledge about Spreading of COVID-19 (Multiple Response)**

Responses	Unprotected close contact with infected person	Touching smart phone screen	Touching surfaces where droplets present	Touching ATM bottoms and currency note	Moving unprotected in contaminated areas	Droplets from infected person	Don't know
Number	60	46	28	28	34	8	2
%	(83.3)	(63.8)	(38.8)	(38.8)	(47.2)	(11.1)	(2.7)

(Responses are mutually not exclusive)

The above table depicted that over 83.3% people have information that unprotected close contact with any infected person increase the chances to become COVID-19 positive. Nearly 63.8% people have information about the spreading of infection through touching screen of mobile. Out of the total respondents, 47.2% have knowledge that infection also spread through moving unprotected in the contaminated areas. About 38.8% respondents believe that infection may spread through touching ATM counters, currency notes and touching surface where infected people did cough or sneezing. Only 2.7% people don't know about any transmission route.

#### Knowledge and Practices about COVID-19 Preventive Behaviors:

- Hand Washing:** Evidences and researches say that possible route of infection to a human body is through opening of mouth, nose and eye. There are certain prescribed behaviors need to be followed to protect from COVID-19 infection. These protective behaviors are very important until the effective vaccines are available. The knowledge about the protective behaviors among the people is given in below table 5.

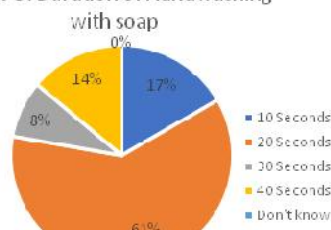
**Table 5: Knowledge about COVID-19 Preventive Behaviors (Multiple Response)**

Responses	Proper usages of mask <sup>1</sup>	Hand wash with soap or using 70% alcohol-based hand sanitizer	Maintain physical distance	Cover nose and mouth during cough/sneezing	Don't know
Number	64	66	64	54	2
%	(88.8)	(91.6)	(88.8)	(75.0)	(2.7)

(Responses are mutually not exclusive)

Out of the total respondents, 91.6% people believe that hand washing with soap or using 70% alcohol-based hand sanitizer is safe. Out of the total respondents, 88.8% respondents believe that proper usages of mask and maintain physical distance are two other important behaviors to protect COVID-19 disease. Only 75% respondents have knowledge regarding the safe respiratory hygiene practices i.e. covering mouth and nose during coughing or sneezing by handkerchief or tissue paper. Alike the information about transmission, 2.78% people don't know about the any preventive measure.

Chart-3: Duration of Handwashing with soap



<sup>1</sup> Proper usages of mask – means covering of mouth, nose and cheeks

According to the Global Hand washing Day factsheet, 40% world's population don't have proper access to a basic hand washing facility and 900 million school aged children lack basic hand washing facilities at school across the globe. According to the National Statistics Office survey<sup>1</sup>, only 35.8% households do hand washing with water and soap/detergent before meal. But our data depicted that, 86.1% people wash their hands before taking food and 75% people wash their hand before serving the food. So, there is high possibility to transmit infections through food intake. The below table- 6, also showed that 72.2% people do practices hand washing after using the toilets. It was reported that 61.1% mothers wash hands with soap and water after cleaning the feces of their children. In this COVID-19 pandemic, the people are practicing hand washing after touching any surface. According to the WHO, hand washing with soap and water should for 40-60 seconds and during of hand washing with alcohol-based sanitizer is for 20-30 seconds. The study reflected that only 14% people do practice hand washing with soap for 40 seconds. The effectiveness of the hand washing with soap depends upon the duration and process followed for hand washing.

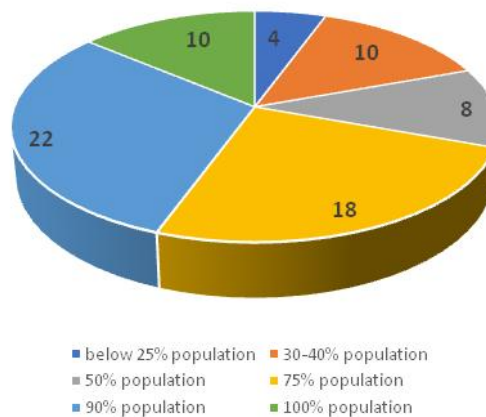
**Table 6: Timing of Hand Wash (Multiple Response)**

Responses	Before having Food	Before Serving Food	After using Toilet	Touching any Surface	Cleaning of Child Feces
Number	62	54	52	58	44
%	(86.1)	(75.0)	(72.2)	(80.5)	(61.1)

(Responses are mutually not exclusive)

- **Usages of Mask:** All the respondents confirmed that the alcohol-based hand sanitizer and mask are available in their respective areas. 97.2% people are using the mask when they are out for any emergency work. The same percentage of population also confirm that they are covering their mouth and nose by face mask. The respondents also informed about the percentage of population using mask who are out for emergency work.

Chart-4: Population Using Mask



Mask usages is one of the most effective preventive behaviors. It has evidences that people are aware about the proper usages mask. But the practice of using mask properly at the time when require is vary place to place. According to the chart-4, only 10 out of 72 total respondents replied that 100% population in their respective areas using mask. According to the chart- 4, 22 respondents replied that 90% of the population in their respective areas using mask. Referred chart also says that 18 respondents confirmed that 75% population in their respective areas using mask. The below chart also depicted that 8 respondents confirmed about 50% population using mask in their respective areas. Remaining 14 respondents informed that mask usages rate is below 40% population in their areas. In the previous section, we have seen that people have knowledge about the importance of using of mask and its proposer usages. But mask usage is low at community level. Transformation of knowledge into practice is a challenge. This study has limited access to bifurcate the mask usages in rural and urban people. Surrounding evidences shows that mask usage is low in both -rural and urban areas.

<sup>1</sup> <https://indianexpress.com/article/coronavirus/coronavirus-india-homes-hygiene-hand-washing-6330240/>

- Social Responsibilities of Respondents:** One of the objectives of the study was to find out the social responsibilities contributed by the respondents. The people should know about the risk behaviors and protect themselves from getting infected. Most importantly, it is also considered as large contribution to the society who are following the government guidelines and maintaining new norms during such emergencies. According to below table – 7, 25% of the respondents stop their family members not to go out without any emergency works. We have received responses of 38.8% respondents who were involved to aware people of their respective areas about proper mask usages, hand washing with soap and water or alcohol bases hand sanitizer. The study also observed that 30.5% people were involved in monitoring the mask usages. Only 5.5% people didn't contribute in awareness generation activities in their respective.

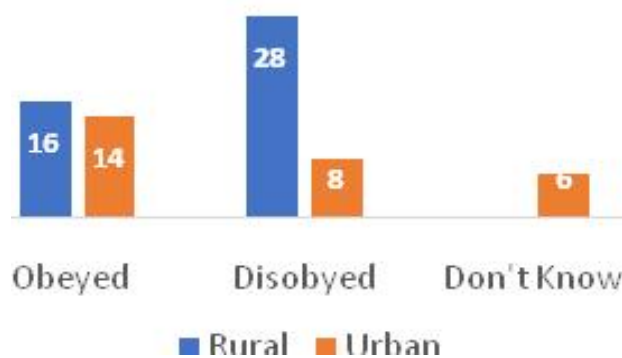
**Table 7: Contribution to Aware People in Respondent's Areas**

Responses	Stop other family members to go out during lockdown period	Aware people to use mask and hand washing with soap or alcohol-based hand sanitizer	Community level surveillance for mask usages	Didn't contribute
Number	18	28	22	4
%	(25.0)	(38.8)	(30.5)	(5.5)

**Chart -5: Importance of Lockdown**



**Chart -6: Status of Observation of Lockdown**



- Lockdown and Its Observation during Pandemic:** Available evidences and facts depicted that maintaining physical distance is one of the measures to stop the infection rate. As a result, restriction of people's movement was essential. Complete lockdown was declared on 22<sup>nd</sup> March 2020 by the Government of India where movements for the general population was restricted for over one month. Our study was interested to know about the importance of lockdown. Out of the total respondents, 92% realized that lockdown was important.

The responses regarding the observation of the lockdown are very exciting. Respondents from the rural areas in compared to the urban people informed that they obeyed lockdown norms. More people in rural areas informed that lockdown norms were not maintained. Most interestingly, the few urban respondents tactfully informed that they don't know about the status of observation of lockdown in their respective areas.

**Table 8: Reasons for Disobey Lockdown Guideline**

Responses	Lack of Awareness	Work Pressure	Didn't give Weightage to Lockdown Guidelines
Number	36	16	20
%	(50.0)	(22.2)	(27.7)

We tried to find out the reasons for disobey the lockdown in the study areas. Responses are compiled and tabulated in the Table-8. Out of the total respondents, 50% respondents think that lack of awareness among the people is one of the reasons of disobey the lockdown norms. It is very true that 22.2% people could not respect the lockdown because of their work pressure. There might be a fear of losing job or fear of punishment which forced them to go out of home and make them in the risk environment. On the other hand, government might have taken more systematic plan to continue the supply of essential services at the community level home delivery system through government machinery like engaging – PRI /ULB, PDS, SHGs and registered youth clubs, youth associations like national social services (NSS) volunteers, national CC (NCC) members and volunteer organizations like RED Cross, Rotary Clubs etc. Study also found that 19.4% respondents think that people did not consider that lockdown was important steps to stop the COVID-19 infection. According to the below table-9, only 8.3% respondents considered that a large number of people didn't give weightage to the lockdown guidelines. This data has evidence of movement of the migratory labor from their work place to their native places. The migratory labors forced to leave their work place due to sudden shutdown. No alternate arrangements were arranged or assured basic needs of the labor and their families. The movement of the labor was one of the burning issues during the lockdown period. Government could have managed this movement of labor systematically and safely. Government could engage local authorities and community-based organizations for effective management of migration of labors.

**Table 9: Respondent's role to Obey Lockdown Guidelines**

Responses	Stay at Home	Not to Go out Without any Emergency Work	Avoid Crowded Places	Not to Organize/Attend Social Functions or Events
Number	19	23	18	12
%	(26.3)	(31.9)	(25.0)	(16.6)

According to the first lockdown guideline, the movement of the common people was restricted. People were only allowed to move out of their houses at the time of emergencies purposes such as collecting rations, water or medicines or some other emergencies arises. According to the table -9, out of the total respondents, 26.3% of them stayed at home during the lockdown periods; 31.9% people didn't go out without any emergency to obey the lockdown norms; and 25% responded avoided crowded places in case they had to go out; 16.6% respondents replied that not to organize any social events/functions during the lockdown period.

- Awareness and Contribution to Safeguard Community:** One of the study objectives was to understand the role of frontline workers on awareness generation about COVID. As stated in the below table -10, according to the 77.7% respondents replied that each citizen has important role to aware others in their respective areas. The health and AWWs are the second most important workforce who can take led to aware people about key COVID preventive behaviors. Respondents also think that SHG and youth are two important platforms to aware community about COVID. Teacher has also important role to aware COVID but unfortunately their input is low because the schools are still closed. Very significantly, respondents realized that local government has limited capacity to aware people; whereas the local governance played important role to prevent COVID pandemic especially management of COVID isolation and camp for migratory labors. We received low responses, because of low quality services provided by the local governances at those COVID centers. The media also highlighted the same pictures of mismanagement of COVID centers by the local bodies.



**Table 10: Community Level Awareness (Multiple Response)**

Responses	Health Workers (HW) – ANMs/ASHAs	AWWs	Teachers	SHGs	Youth	Citizens	Local Governance
Number	48	34	26	28	32	56	14
%	(66.6)	(47.2)	(36.1)	(38.8)	(44.4)	(77.7)	(19.4)

(Responses are mutually not exclusive)

- **Supportive Environment:** Only the health workers or frontline service providers can't do much until responsible community members support them. An enabling environment is most important for bringing any change in the society. It is more important for developing certain new norms during such crisis period. It has been reported that local authorities especially district administrations took proactive role to minimize the rate of infection, support infected families and sustain the supply chain of essential services. Local youth also took leading role to support health workers through identification of the risk families, support to aware risk families, ensure emergency supplies, coordination with the HWs and local health service centers.

**Table 11: Support Provided to Health Workers (HW) (Multiple Responses)**

Responses	Identify risk families	Support HWs to aware risk families	Ensure availability of emergency supplies such as medicine and rations to infected families	Surveillance of the areas	Coordination among the HWs and others	Didn't Contribute
Number	30	18	12	28	20	24
%	(41.7)	(25.0)	(16.7)	(38.9)	(27.8)	(33.3)

(Responses are mutually not exclusive)

Although their contribution was below the 50%. But it is encouraging that at least, youth group extend their support during this pandemic situation. It also proves that the social values among the youth are still alive. Youths are always ready to voluntarily contribute for their betterment of their society. Another interesting observation found through this study. All the respondents are given their positive nodes regarding involvement of youth members in this pandemic situation. The respondents also depicted the following specific roles which are specified in the table 12.

**Table 12: Role of Educated Youths (Multiple Responses)**

Responses	Ensure every member follow health-hygiene practice to prevent COVID	Prevent for dissemination of feck news through digital media	Discuss with other friends' networks	Surveillance within families	Prevention of S&D <sup>1</sup>
Number	64	62	56	46	40
%	(88.9)	(86.1)	(77.8)	(63.9)	(55.6)

(Responses are mutually not exclusive)

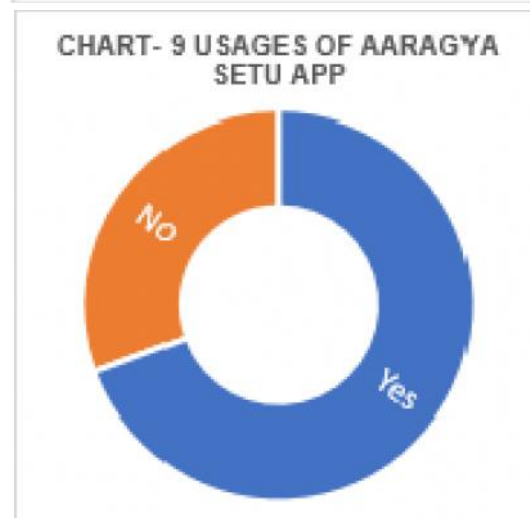
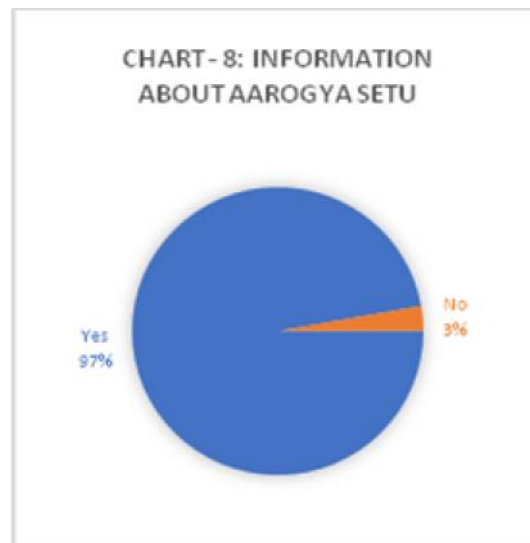
It was realized that mass media channels received the most credential for dissemination of the COVID-19 appropriate behaviors. According to the below table -13, the respondents depicted that over 50 to 60 percent information disseminated through local governance like panchayats and municipalities and frontline health workers deployed in the study areas. The outdoor campaign materials like poster, banner and billboards has comparatively less impact. Because people were stuck inside the residence and movement was restricted due to the lockdown norms.

**Table 13: Channels of Information on COVID-19 Appropriate Behaviors (Multiple Responses)**

Responses	Mass-media (TV/ Radio/ Mobile)	Outdoor materials (Poster, banner and billboards)	Health Workers	Local Governance
Number	68	30	38	42
%	(94.4)	(41.7)	(52.8)	(58.3)

(Responses are mutually not exclusive)

<sup>1</sup> S&D = Sigma and Discrimination



Government has developed a user-friendly mobile-based app namely *Aarogya Setu* for contact tracing app in office workplace and within containment zones. According to the response received during this study 97% respondents know about the app. Interestingly; the use of the same app is nearly 70%. The government issued different guidelines regarding the use of the app. In the first guideline issued on 1<sup>st</sup> May 2020, it was meant “mandatory” for every employer attending office. The guideline issued on 17<sup>th</sup> May 2020, it was mentioned that private employers should on a “best effort basis” ensure that *Aarogya Setu* app is “installed by all employees having compatible phones”. It is clearly depicted that people are not so habituated to follow the app-based tool for prevention of COVID-19 disease. Another reason for low usages of the app because of – (i) low level of dissemination of information regarding the benefits of this app; and (ii) low level of monitoring of the usages of app at the institution levels i.e. whether employers are using *Aarogya Setu* app or not. Regarding the information about the helpline number for COVID-19 assistance is high. Over 91% respondents informed that they have saved the COVID-19 helpline numbers.

### Conclusion

Knowledge has the power to change the attitude of any individual. The development of knowledge starts from gathering basic information about a particular issue. Accumulated information further instigates to find more and more information about that particular issue. All gathered information dots further helps to increase knowledge. The accumulated knowledge helps to change the attitude.

Subsequently the attitudinal changes with required skills contribute to gain sustainable changes. The speedy dissemination of preventive information of COVID-19 disease contributed to slow down the infection after certain period of pandemic. Hence development of informed individual is key to achieve the set objectives within a given time frame. The attitudinal changes of an individual stimulate thought process of that particular individual which helps to take appropriate decision for changing his or her lifestyle. The individual mind set change further contributes to bring changes in the community level. Enabling environment is another important factor which supports to act on key decisions.

The study also proves importance of strengthening of community level institutions and forums which are pillar of self-sustain. All the community level institutions and forums represent individual pillar. Each pillar has their own roles and responsibilities to deliver certain services at the time of crisis. We recommend for strengthening of the social forums and develop a resilience community level structure for addressing public health issues. Strengthening of social forums should initiate from proper mapping of effective social forums at the village level. It needs segregation of forums according to their potential powers and skills and above all willingness to extend volunteer services at the time of emergency. A regular coordination mechanism and continue support for essential equipment. The existing government programs for National Service Schemes (NSS), National Cadet Corps (NCC) and Nehru Yuva Kendra (NYK) may require to reform their roles and responsibilities. A strong policy level and monitoring is suggested to strengthen the community level resilience building.

#### **Conflict of Interest**

The authors declare no conflict of interests. Name of the respondents and their residential address has been withheld to keep the identity of the respondents confidential.

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