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Impact of COVID-19 Pandemic on Health and Socio-Economic Scenario in Rural areas of Assam, India

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ABSTRACT

The breakdown of the COVID-19 has delivered an excessive emergency that has affected the economy, social status and health sector at global level. The rural sector of the country has undergone a major catastrophe during the COVID-19 crisis. With the aim to assess the community awareness; social, economic, employment and administrative aspects along with the best strategies to be adopted by the rural communities to combat the challenges of the pandemic a survey was conducted from 26th April -25th June, 2021 where responses were collected from the people of the village areas of 14 districts of Assam, India through online questionnaire and interviews. Further, the study also highlighted the initiatives taken by the district administration and health department in handling the impact of COVID-19 pandemic. The study revealed that peoples' awareness on health-related issues during the pandemic in the study areas are quite satisfactory. The district administration has adopted best strategies for vaccination and provision of health care facility. The present study paved a way for better preparedness at prevention and response to the future pandemic by community –based and relevant management approaches in rural areas of Assam, India.

Keywords: Rural, Economy, Health, COVID-19, Social, Employment.

INTRODUCTION

One of the substantial features of the country depends on the rural section of the economy that nearly all the functioning of the nation has its footprints. Health is one of the main causes of human well-being and acts as an apparatus for growth of income levels. COVID-19 still remains an utmost concern for susceptible and undeserved population globally, though the rate of contraction with the virus, hospitalization and death rates in some countries and regions have improved. [1] The increase in transmission of COVID-19 is of high attention due to nations huge and densely populated area with boundless poverty and high migration rate integrated with high occurrence of chronic conditions.[2] With the enforcement of strict lockdown measures, and the economic shocks associated with it, is expected to hold up efforts in increasing health issues like the chronic disease. [3] The catastrophe caused by COVID -19 has not only shaken the health sector, but also led to a global economic crisis. From small to large scale economies, COVID-19 has shown its impact, change in any sector of the economy in a country, shows affects to the other economic sectors of the world as well, due to high globalization, economic integration and interconnectedness among different sectors.[4] The threat by the pandemic were not only restricted to the health sectors but also to the socio-economic factors.[5]

With the aim to highlight the scenario of rural areas of Assam on people's perspective and attention to issues related to COVID-19 pandemic especially for lower income and underprivileged groups.

The following objectives were proposed for the study:

i) to assess the awareness levels of the rural communities.

ii) to understand the challenges posed by pandemic.

iii) to assess the best strategies adopted by the rural communities to overcome the challenges.

METHODOLOGY

Study Areas

A total number of 14 districts of Assam namely, Nagaon, Morigaon, Karbi-Anglong, Sonitpur, Udalguri, Biswanath, Lakhimpur, Tinsukia, Dibrugarh, Charaideo Sibsagar, Jorhat, Golaghat and Bongaigaon of Assam, India (Figure I.) were selected for the study.

Nagaon: Nagaon is one of the largest districts in Assam. The district is bounded by Sonitpur districts and Brahmaputra river in the north, KarbiAnglong and North Cachar Hills in the South, KarbiAnglong and Golaghat district in the east. According to the 2011 census, Nagaon was the most populated state in Assam. The total area covered is 3831 km^2.

Morigaon: The district is bounded by the mighty Brahmaputra on the North Karbi Anglong district on the south, Nagaon district on the east and Kamrup district on the west. The district covers a total area of 1704.02 km^2. According to the 2011 census, the total population of the districts in 957,423.

Lakhimpur: The district is bounded on the North by Siang and Papumpare districts of Arunachal Pradesh and on the Esat by Dhemaji Districts and Subansiri River Majuli districts stands on the southern side and Biswanath District is on the west. The districts cover a total area of 2,277 km^2. According to the 2011 census, Lakhimpur has a total population of 1,042,137.

Udalguri: Udalguri is a district in the Bodoland Territorial Region (BTR) of Assam. The district is bounded by Bhutan and West Kameng districts of Arunachal Pradesh State in north, Sonitpur district in the east, Darrang districts in the south and baksa district in the west. The total area of the districts is 1,852.16 $km^{2.}$ The total population is 831,688 according to the 2011 census.

Karbi Anglong: The district is administrated by Karbi Anglong Autonomous Council according to the sixth schedule of the constitution India. The district is bounded by the state of Nagaland and Golaghat district in east, Hojai district in the west, Golaghat and Nagaon district in the north and Dima Hasao district and Nagaland in the South. The district covers a total area of 7,366 km^2. According to the 2011 Cenus, the district has a total population of 660,955. It is largest district in Assam.

Biswanath: The district is bounded by Arunachal Pradesh on North, Golaghat, Brahmaputra river on the south, Lakhimpur district on the east and sonitpur district on the west. The administrative headquarter is located at Biswanath Chariali. The total area of the district is 1,100 km^2.The total population is 612,491 according to the 2011 census.

Golaghat: The district is bounded by the River of Brahmaputra to the north, The state of Nagaland to the south, Jorhat district to the east and Karbi Anglong and Nagaon district to the west. The district occupies an area of 3502 km^2. The total population of the district is 1,066,888 according to the 2011 census.

Jorhat: Jorhat is bounded by Majuli on North. Nagaland state on the south, Charaideo on the east and Golaghat on the west. On the north of the district, Jorhat covers a total area of 2,852 km^2. The total population of the district is 924,952 according to the 2011 census.

Dibrugarh: Dibrugarh is bounded by the Dhemaji district on the north, Tinsukia district on the east, Tirap district of Arunachal Pradesh on the south –east and Sibsagar district on the north and south-west. The area stretches from the north bank of the Brahmaputra, which flows for a length of 95 km through the northern margin of the district, to the patkai foothills on the south. The district occupies an area of 3381 km^2. According to the 2011 census, the total population of the districts is 1,326,335.

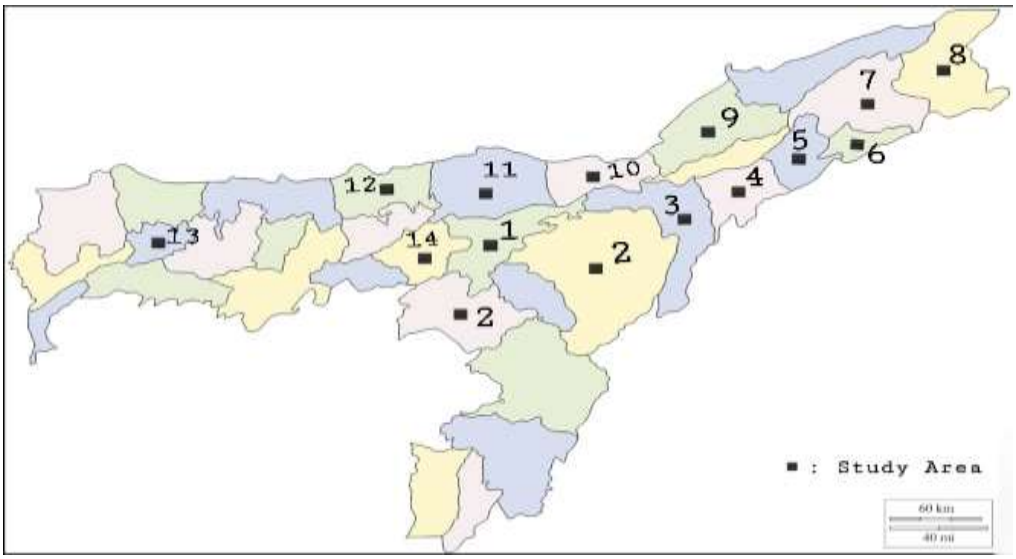
Tinsukia: Tinsukia district is sharing border with Changlang District to the South, East Siang District to the North, Lohit District to the East, Lower Dibang Valley District to the North, Dibrugrah District to the West. It is sharing Border with Arunachal Pradesh State to the West. Tinsukia district occupies an area of 3790 km^2. According to the 2011 census Tinsukia district has a population of 1,327,929.

Sivasagar: The district is bounded by the Brahmaputra River to the north, Nagaland to the south, the Chariadeo district to the east and the Jhanji river to the west. Sivasagar district covers an area of 2,668 km^2. The total population of the district is 1,151,050 according to the 2011 census.

Charaideo: Charaideo district is bounded by the state of Nagaland to the South, Dibrugrah District to the North & East and Sivsagar district to the West. The total area of the district is 1,069 km^2. According to the 2011 census, the total population of the district is 471,418.

Darrang: The district is bounded by the Country of the Bhutan, Sate of Arunachal Pradesh and Udalguri Ditrict in the North. The river Brahmaputra Flows in the South. The district Sonitpur and Kamrup district are in the East and West respectively. The district occupies an area of 1585km^2. As the 2011 census, the total population is 928,500.

Sonitpur: Sonitpur district lies on the plains between the foothills of the Himalayas and the valley of the Brahmaputra which forms its southern border. The total population of the district is 1,311,619 according to the 2011 census and covers a geographical area of 5,324 km^2.



1.Nagaon	2.Karbi Anglong	3.Golaghat	4.Jorhat	5.Sibsagar	6.Charaideo	7.Dibrugarh
8.Tinsukia	9.Lakhimpur	10.Biswanath	11.Sonitpur	12Udalguri	13.Bongaigaon	14Morigaon

Figure I: Map of Assam showing the 14 districts where the survey was carried out

Sampling and data collection

A mixed-methods approach was deployed in the survey using Google form as a tool for gathering information through online questionnaire and direct interviews that had both quantitative and qualitative inquiry methods with both closed and opened ended responses. The tool was finalized and tested internally for its reliability, validity and responsiveness of the instrument was ensured. A team of hundred Field Investigators (FI) was commissioned from the National Service Scheme (NSS) volunteers of Nowgong College (Autonomous). A purposive sampling method was adopted for the selection of the villages and simple random sampling method was used to select the sample households within the villages of 14 districts are taken into consideration for the study. The questionnaire executed for data collection contained five important segments covering the questions on Awareness of CCOVID-19 and its implications, Income & Employment, Social Impact, Health and Administrative & Policy Measures. The 100 dedicated FIs had collected the data from 700 households (3500 population) using a structured questionnaire from the study areas. A survey team consists of 10 members monitored the study areas while data collection process was continued in the field. The study started from 26th April, 2021 to 25th June, 2021 at regular interval through online survey questionnaire. Meeting with FIs was arranged every day during the survey period. Data checking, collection and entry was ensured using excel worksheets. Field notes, audio and video recordings, photographs were transcribed to validate the collected data. Descriptive analysis for quantitative and thematic analysis for the various qualitative data was undertaken.

Analytical strategies

Descriptive statistics analysis was performed where information on the questionnaire were entered into SPSS software package. Analyzed data were presented as frequency distribution tables.

RESULTS

Gender and age-wise distribution

The age of the respondents ranged between 17 and 68 years with a mean age of 36.8 years. The study considered gender as a significant component to understand the survey questions. 2048 (58.5%) male and 1452 (41.5%) female respondents in different age group participated and responded the survey questions (Table 1).

Table 1: Socio-Demographic variables of the respondents

Socio –Demographic variable	Frequency (%)
SEX	
Male	2048 (58.5)
Female	1452 (41.5)
Age (in years)	
≤ 20	452 (12.9)
21-30	1523 (43.5)
31-40	856 (24.5)
41-50	380 (10.9)
51-60	187 (5.30)
> 60	102 (2.9)
TOTALN= 3500 (100)	
Education level	
Primary	642 (18.3)
Secondary	954 (27.3)
Undergraduate	1231 (35.2)
Postgraduate	459 (13.1)
None	214 (6.1)
Total	3500 (100)
Occupation	
Student	1067 (30.5)
Teacher	443 (12.7)
Businessman	994 (28.4)
Housemaker	336 (9.6)
Farmer	181 (5.1)
Other	479 (13.7)
Total	N= 3500 (100)

Health aspects

COVID-19 pandemic related issues

About 2905 (83%) respondents were both aware of the term corona and the disease caused by it and got the information on COVID-19 through media, visual and social sources. It was found that 2772 (79.2%) respondents were aware of the symptoms, preventive measures and when to seek medical help. They mentioned that following guidelines published and broadcasted in newspaper or TV or other social media were able to identify the common symptoms of the same. However, a few of them have limited knowledge about the recent guidelines for symptoms. About 1915 (54.7%) respondents expressed fear of the disease and its consequences while 1585 (45.3%) opined that it's a mild disease and is just like any cold.

COVID-19 testing centers

The awareness about access to testing centers in the community as ascertained by the survey was satisfactory, 2772 (79.2%) respondents knew about the testing centres in their locality and also were aware as to where they should go for getting a COVID-19 test whereas nearly 728 (20.8%) respondents did not know about facilities for testing.

COVID-19 Vaccination

A total of 3105 (88.7%) respondents already registered for vaccine and 1453 (41.5%) respondents were completed their first dose of vaccine. 67 (1.9%) respondents experienced mild symptoms of COVID-19 after 1st and 2nd dose of vaccination. Nearly 2376 (67.9%) respondents were ruled out severity of COVID-19 after vaccination.

Health Services and Dealing with illness in present time

The study revealed that health department and also other Govt. and Non-Govt. organization successfully conducted awareness drive on COVID-19 as 83% of the villagers sentience about COVID-19 second wave. In matters of sanitation and cleanliness very much satisfactory work was recorded on the ground. Sanitization and community efforts to check contamination were being undertaken in the studied areas. Dealing with illness by the people was unsatisfactory, only 395(11.3%) respondents get themselves updated about the condition and its related issues, whereas rests either do not get updated or were not aware of the same. Availability of doctors and health care facilities were operational and very much satisfactory as 2972(84.9%) respondents opined positive on these.

The rural communities had started innovating and seeking essential health care through use of technology like mobile phones and contacting health care professionals or asking free call-line dedicated to COVID-19 information as 2972(84.9%) respondents opined the use mobile phone and only 528 (15.1%) respondents actually did not use technology for seeking health related information or services like consultation.

The study revealed that 2114(60.4%) respondents did not have information of any health insurance, only 1386 (39.6%) of the respondents knew about health insurance and its application in pandemic situation. It is found that 2838 (81.1%) people have practiced home remedies for boosting immunity. The health aspects of the respondents are displayed in frequency distribution chart in Table 2.

Table 2: Respondents Knowledge on Health aspects

Awareness on Corona and the disease caused by it	Frequency (%)
Yes	2905 (83)
No	595 (17)
Awareness on the symptoms of Covid-19	
Yes	2772 (79.2)
No	728 (20.8)
Awareness on Covid-19 testing centres	
Yes	2772 (79.2)
No	728 (20.8)
Covid -19 vaccination	
Registered	3105 (88.7)
First dose	1453 (41.5)
Severity after Covid -19 vaccination	
No	2376 (67.9)
Mild symptoms	67 (1.9)
Availability of doctors and health care facilities	
Satisfactory	2972 (84.9)
Unsatisfactory	528 (15.1)

Use of technology for health-related information	
Yes	2972 (84.9)
No	528 (15.1)
Awareness on health insurance	
Yes	1386 (39.6)
No	2114(60.4)
Practicing new diet for boosting immunity	
Yes	2838 (81.1)
No	662 (18.9)

Social Aspects

Social relations and social networks are important for healthy life. The study indicated that people are not completely abstained from interacting with friends and relatives during COVID-19 pandemic and subsequent lockdown in the country. In fact, they engage in direct interactions with close groups.

Interaction with the villagers revealed that 2247(64.2%) respondents were in psychological stress due to job insecurity and income loss and this is further magnified when there is prior loan or life-threatening health issues like diabetics, kidney problem, cardiovascular ailments etc. About 1050 (30%) people shifted their jobs and 700 (20%) people lost their jobs. Most of them engaged in small grocery shop, greengrocery shop, fruit seller, vegetable seller and home delivery services. Besides, the study confirmed that more than 1400 (40%) small scale businessman faced acute problems and about 490(14%) people opined that the employees of the industry shifted their jobs to daily wages due to close of small-scale industry in their locality. Majority of the villagers 2114 (60.4%) have ration cards and they informed that they received adequate ration. The study revealed that 2709(77.4%) villagers opined about food security during the pandemic period and nearly 791(22.6%) respondents mentioned that they suffer day to day food during pandemic. Benefits and entitlements like food security schemes, old age pensions, and widow/widower pensions were being made available to the communities (Figure 2). The survey also revealed that 2205 (63%) of the rural people faced internet problem due to poor network connectivity (Table 3).

Table 3: Social aspects of respondents

Social aspects	Frequency (%)
Psychological stress	2247 (64.2)
Registered for Ration cards	2114 (60.4)
Suffered from food insecurity	2707 (77.4)
Suffered from food unavailability	791 (22.6)
Jobless	700 (20)
Shifting of Jobs	1050 (30)
Impact on small scale business	1400 (40)
Job to daily wage earner	490 (14)
Internet problem	2205 (63)

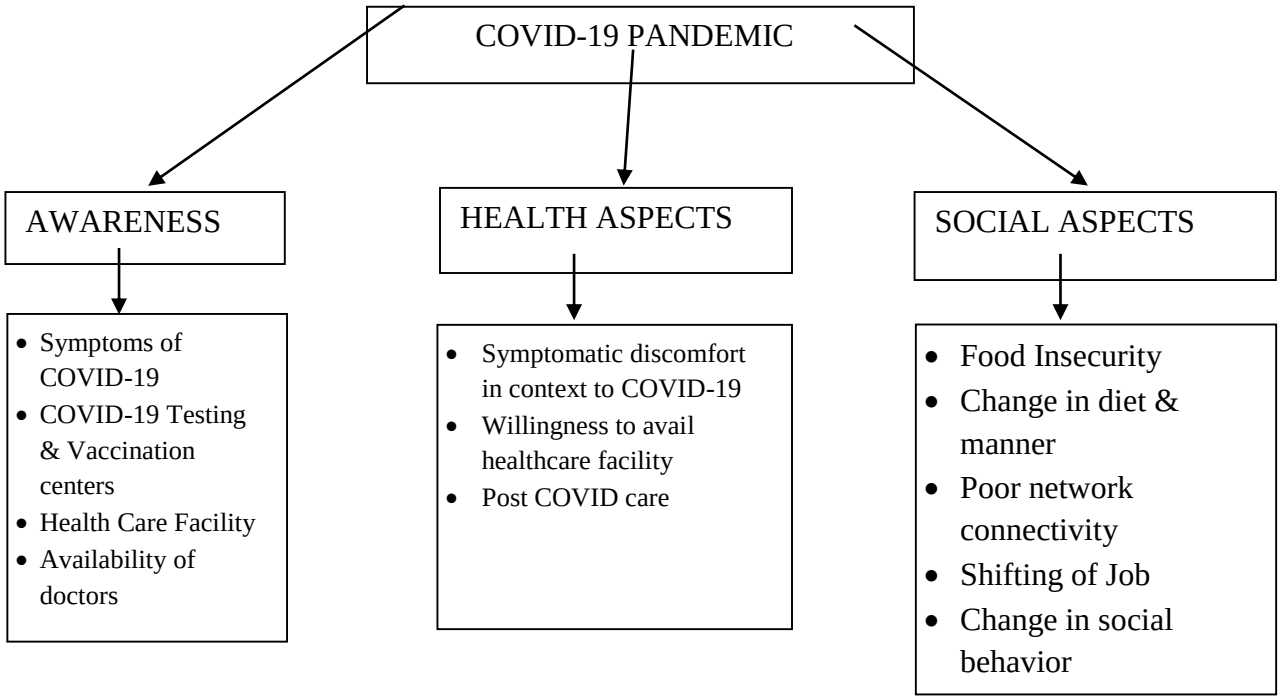


Figure II: Impact of COVID-19 pandemic on Health and Social economic sectors.

DISCUSSION

The threat of COVID-19 pandemic has resulted adverse impact on the health and socio -economic sectors. The present study revealed that a small section of people yet to be fully aware about deadliness of the COVID-19 virus, proper use of facemasks, practicing social distancing, etc. The impact of COVID-19 pandemic on health and social economic sectors in the districts of Assam considering for the study are summarizes (Figure II). Media, mass communication and social sources played a very important role in developing awareness of the disease and symptoms, among majority of the population. Mass media plays a crucial role in present world providing public platform for health care knowledge and guidelines of social distancing, as well as maintaining social connections. The importance of media and public health communication ought to be recognized, understood and further it should be look into as they will be a vital tool in withstanding COVID-19 and future outbreaks.[6] Half of the respondents feared of the disease, which ultimately leads to anxiety,stress and depression. Countries with large number of population affected by the disease can have effect on people's well being due to its potential to develop into a full-scale mental crisis.[7] In the beginning of COVID-19 vaccination drive,the rural communities showed quite a high hesitancy but the survey revealed that majority of the population came out for vaccination and the outcome was quite satisfactory.Current data on COVID vaccination indicated that reluctancy against COVID vaccine may be declining. From May 1 and June 23 where vaccination was avaerage 17.81 lakhs doses daily ,has risen upto 29.66 lakh daily i.e over 63%, in the past three weeks in rural India. This change is quite encouraging. Reluctancy towards vaccine has been more common in rural areas for several reasons, including the lack of health education, which has ruined various government programmers even before the COVID-19 pandemic, including polio elimination.[8]

The survey showed that the rural communities were encouraged towards the use of technology for seeking health care guidelines, to contact health care professionals and asking free call lines dedicated to COVID-19 information.The Government of India laid down several ICT initiatives for community awareness and support.The Department of Telecom of the Government of India has put forwarded unique methods for awareness by putting COVID-19 awareness meassages as a caller tune in place of regular ringtone.[9] Increase in health and hygiene practice by adapting safe health practices such as use of face masks,increase in washing hands and maintaining social distancing. Media came up with several health care guidelines and individuals were seen to be encouraged towards the use of telehealth for health care needs.[6]

Regarding the awareness of Health insurance,the result seemed to be quite unsatisfactory,as only a small number of the population were aware of it. A suvey in rural areas during the year 2013 revealed that only minor amount of popluation i.e over 11% were aware on the topic of health insurance and only 6% had any insurance policy.The information about health insurance in rural communities is

very low.[10] Over 10% of Indians have health insurance ,which are mostly inadequate.[11] This shows that there is high need of the hour to develop awareness and importance among the rural population about the health insurance.

Infectious disease epidemics have favorably played an unexpected repercussion effect onto the wider economy.[12] Housing facilities, enabling working conditions, nutrition and individual livelihood needs urgent attention from the state, specifically for the marginalized sections. A study showed that effect of the pandemic broadened beyond health to enclose adverse effects on household incomes, individual livelihoods, social relationships, managing skills, nutritional intake, and other factors.[3] The respondents spoke about cutting down their expenses on food, especially the intake of non-vegetarian food when their earnings reduced/stopped. In some cases, they have cut down their expenses on vegetables and only ate rice and dal. Rural household endured deprivation in household earnings, which led to consequences of plunging many to huge indebtedness and mass hunger.[13] Media report put forwarded that consumption of foods in Rural India were relatively less and often deprived of nutritious food like pulses and vegetables, as the population is unable to afford it.[14] 70% of households are not eating nutritious meals, and almost half of the populations are skipping at least one meal every day, revealed in a survey conducted in October 2020 among urban and rural communities in 11 states[15]

These were particularly reported among the lower sections especially working-class people who were doing odd jobs. Loss of income and irregular payment, the respondents faced problem about maintaining basic requirement through savings and wherever their savings have been pooped, they have taken loan. A study titled "Emerging Challenges in the Post COVID Context" put forwarded that the pandemic and lockdown phase 2020, has emerged as one of the major concerns as it has greatly impacted on the loss of income and livelihood, accessibility to food and drinking water and on children education. Only over 17% of population were able to hold on their job or to their key source of income during lockdown, over 96% of households surveyed have not been able to develop flexibility for livelihood beyond 4 months.[16]

People who are unable to afford, rely mostly on home remedies or folk medicine for treatment instead of visiting the modern doctors.[17] In the study areas though healthcare facilities were available, home remedy was also used for boosting immunity. In this study, respondents talked about taking fruits rich with Vitamin-C, drink hot-water with lemon, ginger and turmeric, gargling with cinnamomum, black peeper, honey, tulsi etc. Availability of treatment for COVID-19 is quite expensive and convenient health care facilities are not competently available in rural areas of the country. Poor who had ration card availed ration in sufficient quantity and other facilities given by Govt. departments. It was found that security personnel and health workers were regularly monitored the vicinity of the village to strict implementation of Govt. COVID-19 guidelines.

CONCLUSION

The current study provides a comprehensive understanding on community awareness regarding COVID-19 pandemic. The study documented the major findings under different segments such as community awareness, social aspects, economic aspects, employment aspects and administrative aspects. The study also highlighted how district administration and health department taking initiatives to handle the impact of COVID-19 pandemic. These findings and recommendations of this study may be useful to learn lessons and give input to direct policies and programmes at local and state level. Further detail study is required on changes occurred before, during and after COVID-19 especially related to the social, health and behavioral domains and response by the communities especially the rural communities. This may pave the way for better preparedness at prevention and response to the future pandemics by community based and relevant management approaches.

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