Susceptible Factors, Awareness And Health Care Management Of Covid-19 Patients Discharged From A Tertiary Hospital In The Pune District

Sachin B. Palve[1], Suchitra Palve[2], Vaishaly Bharambe[3], Rajkumar Patel[4], Kounteyo Roychowdhury[5], Aditya Hegde[6]

1st: * Professor & Head, Community Medicine, Symbiosis Medical College for Women(SMCW), Symbiosis International (Deemed University)(SIU), Pune, India
2nd:**Professor & Head (officiating), Physiology, Symbiosis Medical College for Women(SMCW),Symbiosis International (Deemed University) (SIU), Pune, India
3rd: Deputy Director: Organ donation, Professor Anatomy., Dr. D Y Patil Medical College, Hospital and Research Centre, Pune, India
4th: Addl.Professor, Community Medicine, AIIMS, Bhopal, India
5th: Data Scientist at Neal Analytics pvt. Ltd, India
6th: Symbiosis Statistical Institute, Pune, India
CORRESPONDING AUTHOR: Dr. Sachin B. Palve, 15, Shree Hari, Renavikar Nagar, Behind Savedi Naka, Ahmednagar-414003, India. E-mail: drsachinpalve11@gmail.com
DOI: 10.47750/pnr.2023.14.S02.128

Abstract

INTRODUCTION: Coronavirus disease (COVID-19), an infectious disease caused by a new coronavirus called SARS-CoV-02, causes mild to moderate respiratory illness, and patients with benign disease conditions recover without requiring special treatment.

The best way to prevent and slow down transmission is to be well-informed about the COVID-19 virus, the disease, its causes, and how it spreads; hence a qualitative research tool using focus group discussion was carried out with the following objective.

To determine various symptoms, awareness, course of the disease, and health care impact on COVID-19 cases seeking health care.

METHODOLOGY: A cross-sectional qualitative study was conducted at a tertiaryhospital attached to a medical college in April 2020. Information about the discharge of patients with a number equal to or more than 12 patient groups and their ward numbers was obtained from the office of the hospital's CEO. The collective proportion of content analysis of all the groups interacted, Word cloud, text mining, and ATLAS-TI software were used for analysis.

RESULTS: The investigator interacted with the groups until saturation in reply was achieved. The average age group was 41 years. 91% of patients ranged from middle-aged adults. There were 62% male and 38 % female patients. The patients could recollect and guess the likely source of infection. A specific inquiry was made to remind them to obtain the answers. Those aware of the confirmed case, either in the family, relatives, workplace, neighbours, or mass testing of patients in their chawl, could guess the reason for their positivity.
CONCLUSION: Health experts should remove the fear among the patient during such pandemic situations after the patients enter isolation. The patients experienced stigma from the society they lived in.

Keywords: Awareness, COVID-19, Health care management, Susceptible factors.

Introduction:

Coronavirus disease (COVID-19), an infectious disease caused by a new coronavirus called SARS-CoV-02, causes mild to moderate respiratory illness. The newly confirmed cases during the last seven days in 2022 Mid-December in China were 159232. This again triggered an alarm worldwide for the likely occurrence of a third COVID-19 wave globally. [1 2 3]

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it is essential to practice proper respiratory etiquette. [4]

The best way to prevent and slow down transmission is to bewell-informed about the COVID-19 virus, the disease, its causes, and how it spreads. One must be aware of how to protect oneself and others from infection by washing hands with soap, using a face mask, maintaining social distance, and frequently using an alcohol-based rub and not touching the face.[5]

Social stigma in health is the negative association between a person or group of people who share certain characteristics and a specific disease. In an outbreak, this may mean people are labelled, stereotyped, discriminated against, treated separately, and experience loss of status because of a perceived link with a disease. Such treatment can negatively affect those with the disease and their caregivers, family, friends, and communities. [6]

People who do not have the disease but share other characteristics with this group may also suffer from stigma. The current COVID-19 outbreak has provoked social stigma and discriminatory behaviours against people of specific ethnic backgrounds and anyone perceived to have been in contact with the virus. [7]

As research into COVID-19 continues, several facts keep changing, and several myths are also prevalent in the general population regarding the prevention and management of the infection. In the time of widespread use of social media, these myths and fake news around corona are spreading rapidly.[8] These are sometimes very disturbing for specific individuals. The World Health Organization (WHO) providesmyth-buster and factual information. Governments also urged people to check the authenticity of such messages before sharing them.[9,10,11]

As the first group of patients admitted was being discharged,we decided to conduct the study using an FGD approach with the following objectives,

1. To determine the awareness about COVID-19 determinants and their prevention.
2. To determine various symptoms among the COVID-19 cases
3. To assess the health care service and its quality utilized by the patient at the health centres.
4. To study the social stigma faced by the patients.

Materials and Methods

A cross-sectional qualitative study was conducted from April 2020 – June 1st, 2020,after a month'sdeclaration of COVID-19 as a Pandemic by the World health organization and the initiation of national and state lockdowns to discover patients' views and experiences.

The present study was conducted at a tertiary care hospital attached to a medical college in April 2020. Information about the discharge of patients with a number equal to or more than 12 patient groups and their ward numbers was obtained from the office of the hospital's Chief Executive Officer (CEO).

A convenience sampling was undertaken in a dedicated COVID tertiary hospital, the first in the city to volunteer and the first among private to seek approval as a dedicatedCOVID-19 hospital in the district.

The norm of the 8-12 patients forming a single group for interaction was followed.

Android mobile using a voice recorder, a soft copy of 11 open-ended questions proforma list were used for conducting the session.

Patients who tested their two samples negative for COVID-19 obtained a discharge from the hospital andcompleted their hospital isolation period were interacted with by the investigator in a separate room adjacent to the isolation ward.

Many patients from the initial groups belonged to a single religion andwere related to each other.

Group discussion continuation was planned until we obtained the saturation of information.

Written informed consent was obtained for the study.

Inclusion criteria:

- All patients discharged from the hospital, accompanied by the informant in case of a minor.

Exclusion criteria:

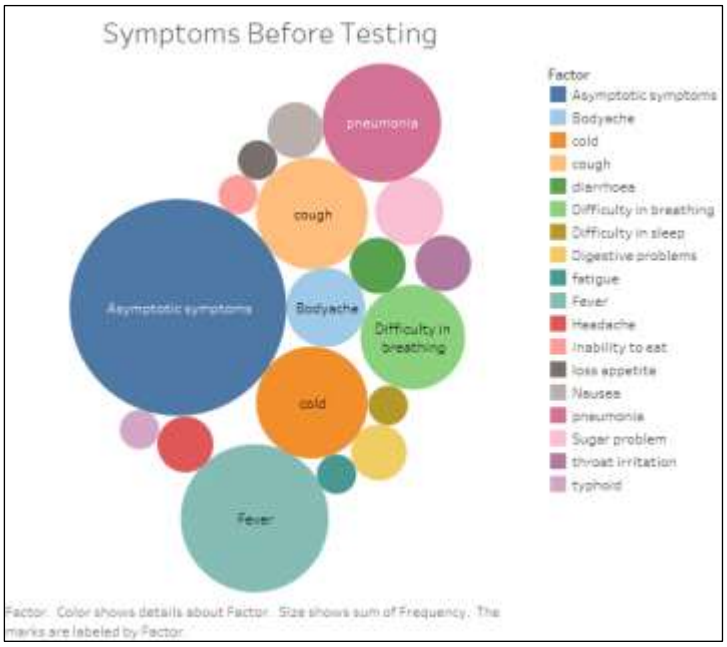
- Patients unable to gather in the separate discussion room due to physical disability.

Statistical analysis:

Word cloud (Pythons), text mining (Pythons), and ATLAS-TI software were used for analysis.

Results:

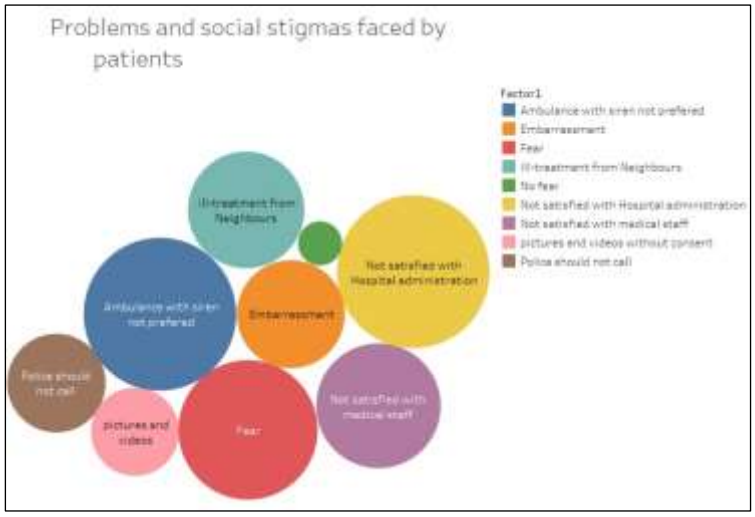
A total of six groups consisting of 11 or 12 patients were interacted (n=69) with by the investigator till saturation of reply was achieved. The average age group was 41 years, the highest age group noted was 80, and only four patients were minors accompanied by their informant. 91% of patients ranged from middle-aged adults. There were 43 (62%) male and 26 (38%) female patients.



Bubble diagram 1 shows the **initial symptoms in patients**, occurring before undergoing the SWAB test for diagnosis. The larger the symptomatic condition's size, the more commoner the presentation among the groups, interacted. Besides the most common symptoms, body aches, pneumonia, and sugar problems in the patient's language were alsocommonly faced health problems by the patients, followed by other symptoms like diarrhoea, throat irritation, headache, nausea, and digestive issues. Uncommon symptoms were also reported, e.g., giddiness, loss of taste, loss of appetite, no smell, and pneumonia.

Regarding the likely **susceptible source of infection**, most patients' perceived it as their close contact, who were symptomatic relatives and later got diagnosed. 6% of patients mentioned their contacts were diagnosed positive but were asymptomatic, and few mentioned having doubts at their workplace. Others perceived the source as outdoor while purchasing the basic needs, and a few mentioned while accompanying their relatives for diagnosis and management.

No person had a history of international travel. But, in one of the groups, the patient's relative worked as a maidservant in a house whose owner had returned from Dubai. Another person had given a history of travel outside the state within the country.

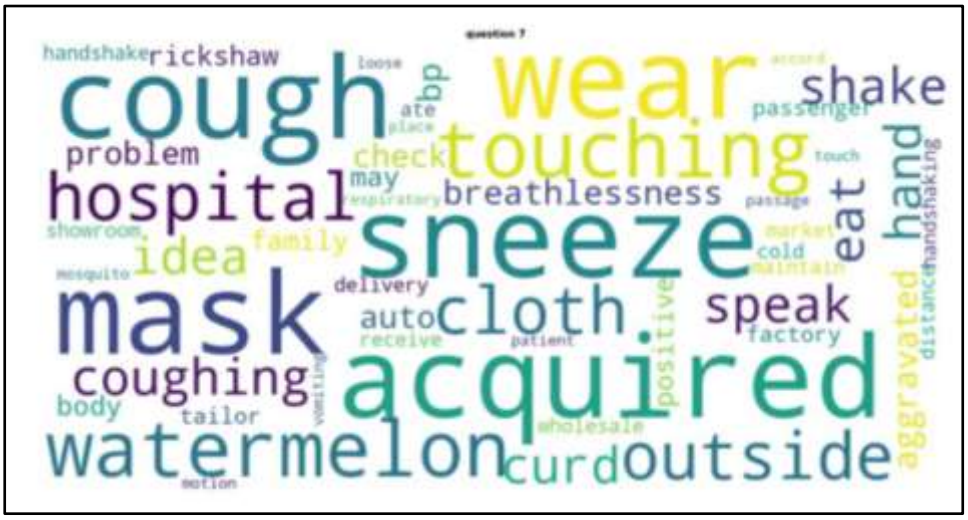


The bubble diagram shows the **problems faced by the patients** due to fear after their family member living together was diagnosed positive for COVID-19. The patients also faced **social issues** intheir society and previous healthcare institutes during their first place of isolation. Due to less bed capacity to isolate the newly diagnosed, the patients were shifted to other nearby dedicated COVID centres.Most patients had developed **fear** about themselves worrying about the outcome after being diagnosed as positive, especially when they were picked up for quarantine in the ambulance, which had no ventilation, as all the window glasses were locked. Thehighest level of fear was noticed after they received phone calls from the Policemen before being carried for isolation. The patients felt **stigmatized** when society people filmed them whiletheir escorted into the ambulance and forwarded the videos to their relatives. Patients' relatives conveyed over the phonethat they felt neglected and stigmatized due to the strange behaviour of their neighboursinkeeping their doors and windows closed; sprinkled water in front of their house. Some patientsmentioned experiencing **stigma during their care** while they were isolated first in a public hospital where the healthcare worker slid the food despite wearing a PPE kit.

On enquiring about the **health care services and care provided** in the current hospital, as expected to hear very well from all the groups as the investigator was a part of the hospital's COVID management in the initial phase. All the group members praised the hospital's CEO for his regular visits and interaction with all the patients in the ward at their bedside. The patients also mentioned that they gained confidence whenever they were assured of being all right, which lowered their stress, and their fear came down.

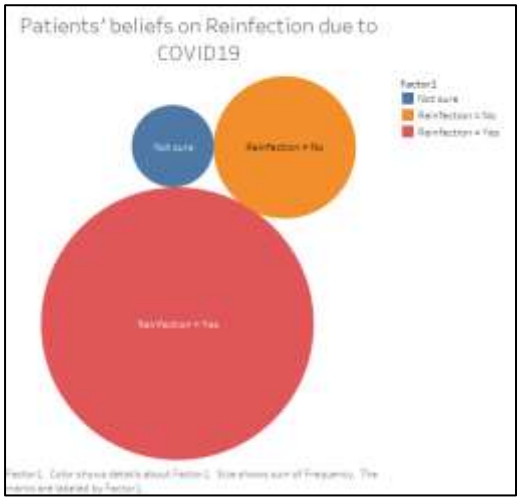
Most group members praised all the hospital staff for their excellent work and the provision of better food. Only one of the groups had complained ofa cleaning issue in the washroom, which was resolved within half an hour through the Patient care assistant (PCA). The patients expressed satisfaction with regular floor cleaning and Sodium hypochlorite solution spray at their bedside; the food trolley and sitting stool were regularly wiped with a separate wet cloth using a chemical disinfectant. A few diabetic patients in the two groups also mentioned their control of blood sugar levels without any treatment alteration. The reason still needed to be discovered. Other facilities mentioned by the patients were receipt of masks three times a day, i.e., every neighbour, and provision of separate hand sanitizer bottles on their admission, during their stay, and while getting discharged.

Mostof the group members mentioned that their houseswere locked, and their remaining relatives were admitted to the other hospitals in the city. Those groups having part-time maidservants had sent the maid on leave. One of the group members mentioned that his wife was left for swab testing against COVID-19.



The above figure mentions the **patient's knowledge regarding the mode of transmission** of COVID-19 infection. Besides the commonly expected answers, surprisingly,7 %of patients from one group had a misconception about acquiring the disease after eating cold itemslike watermelon and curd. Few others said acquiring the infection from symptomatic employees at their workplace.

The groups were then enquired about listing the **preventive measures against COVID-19**. To this, consuming food inside the house and avoiding spitting were the measures told by one of the group members apart from all other standard preventive measures of hand hygiene, use of face masks, maintenance of social distancing, and covering mouth and nose while sneezing. 09%of discharged patients could mentioncoughing or sneezing into the elbow.10% of patients expressed becoming aware of social distancing practices after being informed in the hospital. The most challengingcourse for preventing the disease was maintaining social distancingas per 12%of patients, and 75% believed none of the prevention was difficult.



From the above figure, the members from the two groups **needed clarification about the re-infection**, and only some were sure of its non-occurrence. 88% of patients were confident about its re-occurrence and decided to continue practicing COVID-19 etiquette.

In the end, all the group members were **asked for doubts**they thought were necessary for the discussion. On this, the group members expressed their concerns: whether society people will accept them because of their disease status. Why home quarantine cannot be permitted for the asymptomatic diagnosed contacts, new patients'

psychology is disturbed due to fear thinking about COVID-19/ corona. Nobody in the previous health centres clarified or gave health information about the rising COVID-19 condition. More questions and fear persisted until the doubts were cleared. Is there any need to take a bath and wear washed clothes before leaving the hospital, whether they can do fasting for long days?

Is there any need for sanitizing household items after two weeks before re-entering inside? Whether to use a mask inside the house. Can a report of negative COVID-19 be obtained from the hospital for the 2nd sample?

The number of days of survival of the virus outside the body, whether they will receive a certificate of clearance or negative or become free from COVID-19 infection, whether social distancing and use of mask should be followed at home, whether turmeric milk helps protect against the disease, why COVID-19 did not affect people living in bungalows, whether lock-down is effective, whether sanitizer bottle will be provided at home. Relatives tested negative for COVID-19and are at home for 14 days; will they have any problems? Does pneumonia mean it is corona? Whether we can take Vitamin C at home, whether Ayurvedic medicines for immunity can be taken, and how to disinfect an auto rickshaw. How can we differentiate common-cold fever from Corona/ COVID-19 infection? One patient shared that one of the PMC hospital experiences of raising a voice and causing injustice to her relatives, e.g., food and breakfast for kids not in time –got published in the newspaper. There were suggestions from the group members as follows doctors everywhere in the country/world should take bedside rounds and remove patients' fear about COVID-19; once information about staying for 14 days is obtained, the patient is mentally prepared. Fear among people – Corona, a dangerous disease, should be removed. People should come by themselves to test. Healthawareness among the people near their households about COVID-19 symptoms should be done.

The following solutions were given to the patients, and answers to their queries were solved. Society people should care more about themselves, as the patient's immunity after recovery is better than theirs.Regarding conveying a message to the ambulance drivers, it was mentioned that the government officials would be informed.

Regarding initiating home quarantine, the patients were informed that the government wants to control the spread by admitting all the confirmed cases, as even asymptomatic patients may be transmitting the infection while developing short, symptomatic episodes over a daywith or without a runny nose.

To remove the fear from the patients and maintain the patient psychology, the practice of interacting with every patient at the bedside and assuring them about their health care during their stay was done by the executive and operating officer.

The nursing staff had given additional advice about taking baths and wearing washed clothes while leaving the hospital. Those asking doubtsabout fasting were told to avoid it for more than a day as there is a risk of developing gastritis and lowering immunity. The patients were advised about carrying out the disinfection of household items, except clothes, in case the house is unlocked for up to 3 days or 72 hours. They were advised to use proportionate hypochlorite solution inside the vehicle, footwear stand, door handles, elevator, and outside house passage. Those in the household developing symptoms shall use masks and distant isolation, preferably in a separate room. Mask use was mainly promoted for use outside their house.

Some of the patient's misbelief that COVID-19 doesn't affect the rich people living in bungalows was corrected by giving examplesfrom NEWS about celebrities and ministers who were positive for the infection. The use of lockdown was explained to them as a. People will avoid crowding, and the disease will not be transmitted; b. The government's initiative to take care of public health. c. Countries following the lockdowncontrolled infection. The patients were told about the hospital policy of exit discharge by evening 4-5 pm and the provision of tablets like Vitamin C, multivitamins, and hand sanitizers during exit. Patients were advised about the cheaper availability of hypochlorite solution in medical shops and their proportionate dilution before use. To differentiate it from the common cold and flu, we told that though it is difficult, symptom-wise, a runny nose is typicalin the cold. The bodyache is familiar in the flu, whereas, in COVID-19, fever is commonly expected among symptomatic patients.

Table 1: Patients' perception of the transmission of SARS-CoV-02

Factor	Sample Proportions (p)	95% Lower Bound	Exact P-Value
Touching	0.307692	0.486998	0.627
Speaking	0.038462	0.169831	0.001
Sneezing	0.115385	0.271902	0.026
Coughing	0.269231	0.446767	0.46
Shaking hand	0.115385	0.271902	0.026
not maintaining distance	0.038462	0.169831	0.001
Mosquito bite	0.038462	0.169831	0.001
Not wearing mask	0.115385	0.271902	0.026

Regarding the awareness among people, after applying the test of significance to the sample proportions, it is clear that people need to be made aware that the mode of acquiring infection is based on the transmission by talking within a meter and a half distance, sneezing, shaking hand, not maintaining proper distance, not wearing a mask. It is not caused or proven through a mosquito bite.

The following other symptoms should also be told in general during health education which are likely to be developed in a COVID-19-infected patient, like loss of taste & or smell, body ache, headache, giddiness, weakness, and symptoms of pneumonia.

Due to the high number of respondents and a less experienced (cut-off proportion) of the occurrence of social stigma felt by a few patients, certain factors in the society they live in depict its non-acceptance though it was not statistically significant; the same concept applies to calculating the fear factor among the patients due to COVID-19.

Conclusion:

Most patients (84%)knew COVID-19 originated from a neighbouring Asian country caused by a virus.10% of patients mentioned social distancing as a problematic measure for preventing COVID-19.

Most (98%) patients were aware of the common respiratory symptoms. Few (3%) patients complained about the loss of smell and taste.

There were few (13%) of patientswhose diagnosis was delayed despite being symptomatic. The health care management was better at both private and public health care systems, with better emotional care and counselling at the private hospital they were discharged from.

Few (13 %)of patients suspected of acquiring infection from diagnosed close relatives, and 01 % suspected acquiring it from neighbours. 03% of patients thought of diagnosed people at their workplace as the reason for their infection. The majority of patients, around 23%, had doubts about fomites outside the house as a source of infection by handling cash notes, using an Automated teller machine, buying vegetableswitha mask, handling the gas cylinder during domestic delivery, buying groceries, daily needs from the market, and nearly half (45%) patients were not sure of the likely cause of their infection.

Though the patients were aware of common determinants causing the infection, misconceptions about the transmission through mosquitoes and by eating colditems also causes COVID-19were present. Many patients were stigmatized by thepeople living in their society and by the healthcare workers at the previous public health centre; they were isolated.

Discussion:

An inquiry was made to know the likely source of infection from symptomatic patients before the appearance of the first symptom, and also, the asymptomatic patients were asked about it. The patients recollected their history

of illness, guessed the likely source of infection, and were eager to share their healthcare management and the tense situation they went through at their place of residence. Those aware of the confirmed case, either in the family, relatives, workplace colleagues, neighbours, or during mass testing of patients in their chawl, could guess the reason for their positivity. In contrast, others with no confirmed cases couldn't think of the likely source of close contact. Such cases perceived the source outside their residence, either in the market, while seeking health care at the government hospital, or using an automated teller machine to handle money. Man and fomites were only mentioned during the discussion by the patients.

Since many patients had a high awareness of the sources other than direct/close contact, the reason for acquiring the infection was thus suspected by them.

The investigator expected the service and quality feedback from patients to be good or (bahut accha), and it was his own experience working in the COVID-19 ward duties. A patient whose wife remained untested against COVID-19 was immediately advised to inform his wife to undergo testing. The myths among the patients about acquiring COVID-19 infection after consuming cold curd and cold watermelon were removed by saying that it doesn't contain a virus; instead, eating cold may trigger the throat's local immunity and lead to alteration in the mucous membrane structure, enhancing the virus permeability.

Recommendations: The public health care system ambulance drivers should refrain from driving rashly while carrying patients. They should also avoid playing siren in a society where the patient is to be received. The patients may be called prior and informed of their time of pick-up; the document and minimal cash, if required to be carried by the patients before their pick-up. The fear and society-associated stigma among the patients should be removed at their time of entrance into the hospital by imparting health education on the approach to their health care. The paramedical staff, attendants, and helpers should be sensitized to use relevant PPE and assist in patient care. The community should also be educated about all likely symptoms in COVID-19 patients.

Limitation: To avoid additional fear and allow patients to respond freely during COVID-19 lockdown times, the consent of only recording audio was preferred for the discussion-based data collection.

References:

1. Sauer, Lauren M. "What Is Coronavirus?" What Is Coronavirus? | Johns Hopkins Medicine,www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus .
2. Coronavirus disease 2019 (COVID-19). (2020, April 24). Retrieved fromhttps://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963
3. World health organization. Global. China situation. online accessed on 24-12-2022, available at https://covid19.who.int/region/wpro/country/cn
4. World Health Organization, Coronavirus, overview. Online accessed on: 27-04-2020 athttps://www.who.int/health-topics/coronavirus#tab=tab_1
5. Preventing COVID-19 Spread in Communities. (n.d.). Retrieved fromhttp://dph.illinois.gov/topics-services/diseases-and-conditions/diseases-a-z-list/coronavirus/preventing-spread-communities
6. Sartorius N. Stigmatized illnesses and health care. Croat Med J. 2007;48(3):396–397.
7. Social Stigma associated with COVID-19. A guide to preventing and addressing social stigma. Online accessed on 27-04-2020 athttps://www.unicef.org/media/65931/file/Social%20stigma%20associated%20with%20the%20coronavirus%20disease%202019%20(COVID-19).pdf
8. Building trust while influencing online COVID-19 content. (n.d.). Retrieved fromhttps://www.thelancet.com/pdfs/journals/landig/PIIS2589-7500(20)30084-4.pdf
9. Coronavirus Disease (COVID-19) Focus Group Discussion guide for communities. Online accessed on 26-04-2020 athttps://www.unicef.org/documents/coronavirus-disease-focus-group-discussion-guide-communities
10. World health organization. Question and answers on COVID-19. It was accessed on 27-04-2020. Athttps://www.who.int/news-room/q-a-detail/q-a-coronaviruses
11. Novel Coronavirus disease (COVID-19), Situation update report-13, April 26- 2020. Highlights, https://www.who.int/docs/default-source/wrindia/situation-report/india-situation-report-13.pdf?sfvrsn=a8bb461c_2