

COVID-19 AND HEALTH CARE SERVICES IN RURAL INDIA: CHALLENGES AND CONSEQUENCES

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Abstract

Though more than half of the people in India are living in rural areas, it has been less prepared to handle the impact of the COVID-19. The health conditions of rural people are more likely to be infected by virus due to the higher rates of chronic conditions as diverse diets that weaken their immune system and make them more vulnerable to the pandemic. The challenges in accessing rural health services also include having less access to adequate sanitation, health services, education, communication technology, and public infrastructure. This article depicts the challenges in accessing the health care services in a rural area by filtering the data from authentic sources and argues that to overcome the consequences of the COVID-19 pandemic, the accountable institutions or organizations should make use of this opportunity and should strengthen the facilities in accessing the rural health care services.

Keywords: COVID-19, health care facilities, challenges, and consequences

Introduction

The emergence of novel coronavirus (CoV) [severe acute respiratory syndrome-CoV-2 (SARS-CoV-2)] which causes CoV diseases or COVID-19 was first identified in Wuhan city of China in December 2019. The initial cases were from a seafood wholesale market in Wuhan city; subsequently, many cases rapidly emerged with no linkage to the seafood market, indicating a person-to-person spread. On January 30, 2020, the World Health Organization (WHO) Director-General under the International Health Regulations (2005) declared the CoV epidemic or COVID -19 in Wuhan in Hubei province as a Public Health Emergency of International Concern (PHEIC) (Andrews et al,2020) and as a pandemic on March 11, 2020 (WHO, 2020). The preventive measures adopted in COVID – 19 follow the strategy devised by John Haygarth's 18th-century 'rules of prevention' for eradicating smallpox based on three principles: find every case, isolate the infected individual and immunize all their contacts (Boylston, 2014). Based on the earlier experience of outbreaks especially SARS or Ebola epidemics it is assumed that the spread of the COVID-19 virus can be controlled by the lockdown and complete ban of normal activities for ordinary people that stop community spread. At the moment, these are only assumptions partly. It is important to note that the COVID-19 pandemic has initially occurred in well-developed countries that have achieved the so-called health transition. However, the virus does not differentiate between rich-poor or rural-urban dichotomies. It is particularly a threat to a country like India, where 70% of the population lives in rural areas that also have the highest overall burden of disease globally (Mitra, 2020).

History of pandemics

Before Covid-19, the entire world has witnessed many pandemics of viral acute respiratory illness. In 1918, the "Spanish flu" (though it had little to do with Spain), infected approximately one-third of the world's population at that time and resulted in 20-40 million deaths worldwide (CDC 2019). In India alone, 12-15 million people died between 1918 and 1920, about five percent of the country's population (Arnold, 2019). Since then, there have been other five flu pandemics: the "Asian flu" of 1957-58 which caused about two million deaths worldwide, the "Hong Kong flu" of 1968-69, which killed a million people, the bird flu of 1997

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and the swine flu of 2009 approximately killed between 151,000 and 575,000 people worldwide (**Rettner, 2020**). There have also been two outbreaks of coronavirus-related acute respiratory illness in recent years. The first of these is a severe acute respiratory syndrome (SARS) caused by the SARS coronavirus, which affected 30 countries in 2003-04. It infected about 8,500 persons who died about 813 – a mortality rate of 9.5 percent, similar to that of the flu in 1918. In 2012, the Middle East Respiratory Syndrome (MERS) was first identified in Saudi Arabia. It affected about 2,500 persons and caused 858 deaths a mortality rate of 34 percent (**Sullivan, 2018**). In summary, pandemics are not new phenomena, though we see more frequent outbreaks and generally all nations are expected to maintain a level of preparedness for a timely and adequate response to such pandemics.

Conceptual Framework

Empowered Action Group (EAG) States include Bihar, Jharkhand, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Orissa, and Rajasthan. This group was created under the Ministry of Health and Family Welfare to give a higher focus to health interventions, which together accounted for about 48 percent of India's population, and had much higher fertility and mortality rates than the other States of India. Out-of-pocket expenditure (OOPE) is the total amount household pays from its savings or after borrowing from others. OOPE was calculated by adding total medical expenditure and transportation cost followed by deducting reimbursements paid to households from insurance companies

Over-the-counter medicine is also known as OTC or non-prescription medicine. It refers to medicine that one can buy without a prescription. They are safe and effective when following the directions on the label and as directed by the health care professional. Infodemic is a blend of information and epidemic that usually refers to a rapid and far-reaching spread of both accurate and inaccurate information about something, such as a disease. As facts, rumors, and fears mix and disperse which becomes difficult to learn essential information about an issue. Infodemic was coined in 2003 and seen renewed usage in the time of COVID-19

Review of Related Literature

The study conducted by **Garg et al (2020)** in determining the primary health care facility preparedness toward the provision of safe outpatient services during the COVID-19 pandemic in India found that the existing services in PHC are constrained in their functioning during a the COVID-19 pandemic due to weak infrastructure that contributes suboptimal patient safety and infection control diseases. Further, they stated that there is a need for effective planning, communication, and coordination between the centralized health policymakers and health managers working at primary health care facilities to ensure overall preparedness during public health emergencies.

Chakraborty and Chattopadhyay (2020) stated that rural regions which support 70% of the Indian population lack adequate health facilities or manpower and their expenditure on health care “out of pocket”.

Kumar, Nayar, and Koya (2020) revealed that in rural India, the health care system has a chronic shortage of medical professionals, a detrimental to the rural health system in terms of quality and accessibility of care for rural people. They highlighted that the poor infrastructure and lack of proper coordination between the line departments make it difficult to tackle public health emergencies such as Covid 19.

Islam et.al (2020) in their study on COVID -19 - related infodemic and its impact on public health: A global social media analysis found that Misinformation fuelled by rumors, stigma, and conspiracy theories can have serious implications on the individual and community if prioritized over evidence-based guidelines. They recommended that health agencies must track misinformation associated with the COVID-19 in real-time and engage local communities and government stakeholders to debunk misinformation.

During this pandemic, it is vital to realize the health scenario of India which helps to correlate the existing situation of the country. The Global Burden of Disease, Injuries, and risk factors study (2019), published by the Lancet reveals that in India lower respiratory infection is one of the major diseases (which has been placed 6th place out of major 10 diseases) that cause deaths irrespective of age. Rural regions that support 70% of the Indian population, lacks enough health facilities or manpower in many aspirational districts demarcated by the Government (**Institute for Health Metrics and Evaluation, 2019**).

The Global Health Security Index (GHSI) (2019) which measures pandemic preparedness for countries ranked India 57 out of 195 countries which falls under more prepared country with a score of 46.5 of 100 however is lower than the US at 1, the UK at 2, Brazil at 22, and Italy at 31, suggests that India would be more vulnerable to the pandemic than countries that have most prepared for pandemic and seen a high number of fatalities so far.

Structure and methodology

After setting out the main challenges faced by the common people in accessing the health care services in rural areas, different secondary sources such as The Global Burden of Disease, injuries and risk factors study (2019), The Global Health Security Index (2019), and Rural Health Statistics (RHS) 2018-2019, Ministry of Health and Family Welfare (MOHFW), National Health Profile (NHP) 2018 and 2019 and national newspapers were accessed to authenticate these challenges. This article is a comprehensive review that is based on a rural health perspective.

Major Challenges confronting the rural health care facilities during COVID-19

Paradoxically, the pandemic has led, in many parts of India, to an unprecedented decline in healthcare services (**Chetterje, 2020**) because of four relatively independent trends. Firstly, the cessation of all public transportation has made it difficult for people to reach a healthcare facility. This is a far greater problem in rural areas where ambulance services are virtually non-existent and public transport is scarce. A second important factor is that a large proportion of private healthcare facilities have closed out of fear of their staff getting infected by patients. A third factor is a planned suspension of public healthcare services by local administrative authorities to prevent the spread of diseases. Fourth is a repurposing of major public healthcare facilities in preparation for Covid-19 patients (**The Lancet 2020**). At the primary care level, this takes the form of diverting the minimal workforce already available to undertake contact tracing and other Covid-19 related tasks.

The lockdown due to COVID 19 posed a significant challenge in accessing healthcare in rural areas. This includes care for maternal and child services, infectious diseases, non-communicable diseases as well as emergency and elective surgical care. All of these were affected to various extents. The need to have medical care closer to villages is prominent now more than ever. Patients with chronic conditions such as high blood pressure and diabetes often seek care from a distant district or a taluka center and the lockdown has forced them to stop their treatments, potentially increasing the risk of mortality in the short term. For example, it was found that in India, a 3-month lockdown and a protracted 10-month restoration could lead to an increase of 12.32% TB patients between 2020 and 2025, and an additional 19.31% TB deaths between 2020 and 2025 (**Stop TB Partnership, 2020**).

The impact of the pandemic on rural India emerged in three phases. The first phase was that of an extended lockdown, the second phase was of migrants being allowed to travel back to their homes in rural India. The third phase started when travel increases as the restrictions are gradually removed.

The main challenges confronting the rural health care facilities during COVID-19 are as follows:

- Deficient health facilities
- A chronic shortage of health professionals
- Insufficiency of hospital beds
- Underinvestment in the Public healthcare system
- Unmanageable patient load and
- High out of the pocket expenditure

Deficient health facilities

People all over the world are facing challenges in accessing health care facilities in different magnitudes. Shortage in medical facilities and inability to provide adequate testing facilities are the major issues that India today in covid-19 pandemics. As of March 2019, there are 157411 sub-centers (SCs), 24855 Primary Health Centres (PHCS) and 5335 Community Health Centres (CHCs) are functioning in India. Compare to the year 2005. There is a substantial increase in the number of SCs (7.8%), PHCs (7.0%), and CHCs (59.4%) from 2005 to 2019. But while comparing with 2018, there is a decrease of 1006 SCs, 888 PHCs, and 289 CHCs and which includes 23% of the shortfall in SCs, 28% in PHCs, and 37% in CHCs (**RHS, 2019**). Table 1 provides the rural facilities status in the EAG as of July 2019. It is evident from the table that the average shortfall in health facilities is three times more in EAG states as compared to the non-EAG states. With notable, Bihar, Jharkhand, Madhya Pradesh, and Uttar Pradesh the shortfall in facilities is much higher than the Indian average. The other EAG states Rajasthan, Chattisgarh, Odisha, and Uttarkhand may be illusionary because the mere availability of Health centers does not mean delivering the required services. Lack of awareness about the health care practices, inequity and gender imbalances, poor sanitary and environmental conditions, also restricts people in accessing the health and social care services in rural areas. (**Sindhuja and Murugan, 2020**). Though there are some deficiencies in the Primary Health Centres, there is a need to create awareness about the existing health care services to promote the accessibility of health care services in rural areas (**Bhuvanewari, 2020**)

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Table 1.
A shortfall in health facilities in EAG states as of July 2019

| S.No | State | SCs | | | PHCs | | | CHCs | | |
|------|---------------------|--------|---------|---------|-------|---------|---------|------|---------|---------|
| | | Req. | In pos. | % Short | Req. | In pos. | % Short | Req. | In pos. | % Short |
| 1. | Bihar | 21337 | 9949 | 53 | 3548 | 1899 | 46 | 887 | 150 | 83 |
| 2. | Chhattisgarh | 5323 | 5205 | 2 | 843 | 792 | 6 | 210 | 170 | 19 |
| 3. | Jharkhand | 6768 | 3848 | 43 | 1079 | 298 | 72 | 269 | 171 | 36 |
| 4. | Madhya Pradesh | 13935 | 10226 | 27 | 2233 | 1199 | 46 | 558 | 309 | 45 |
| 5. | Odisha | 8382 | 6688 | 20 | 1345 | 1288 | 4 | 336 | 377 | * |
| 6. | Rajasthan | 12761 | 13512 | * | 2073 | 2082 | * | 518 | 571 | * |
| 7. | Uttarakhand | 1509 | 1847 | * | 250 | 257 | * | 62 | 67 | * |
| 8. | Uttar Pradesh | 34726 | 20782 | 40 | 5781 | 2936 | 49 | 1445 | 679 | 53 |
| 9. | EAG states combined | 104741 | 72057 | 32.2 | 17152 | 10751 | 37.4 | 4285 | 2494 | 44.1 |
| 10. | All India – EAG | 85024 | 85354 | 9.2 | 13922 | 14104 | 9.4 | 3471 | 2841 | 7.1 |
| 11. | India | 189765 | 157411 | 23 | 31074 | 24855 | 28 | 7756 | 5335 | 37 |

Source: Figures are taken and calculated based on figures in Table 08, RHS, 2018-2019, MOHFW, GOI (p 146).
* indicates surplus

Along with health care centers, the quality of health services depends upon the infrastructure facilities such as availability of water, beds, the medical and paramedical, and spatial distribution of available infrastructure. The non-availability of basic amenities such as water and electricity deeply undermines the functioning of existing facilities. If the facility has one resource and it may not have other resources to optimally utilize the available resources: for example, if a health worker is available at the health care center and the center may not have a water/electricity facility, thus undermining the ability of the health worker to perform her/his functions optimally in pandemic and epidemic situations. Rural populations are more likely to have to travel long distances to access healthcare services, particularly subspecialist services and lack of road services exacerbated challenges for patients in accessing health-care services, especially those living in rural areas and economically underserved settings. In addition, the health care provided by the public authority is a select, minimal package of essential services, largely consisting of maternal care; family planning; immunization; and control of tuberculosis (TB), prevention of HIV, and vector-borne diseases. All of these account for less than 15 percent of healthcare needs (**Sundaraman & Ranjan, 2020**). Table 2 illustrates some of the deficiencies in infrastructure which undermines the functional status of health centers in rural India.

Table 2.
Some of the deficiencies in the infrastructure

| S. No | Indicator | Shortfall in % |
|-------|---|----------------|
| 1. | Subcenters without regular water supply | 18.9 |
| 2. | Subcenters without electric supply | 26.3 |
| 3. | Subcenters without all whether the motorable road | 11.5 |
| 4. | PHCs without regular water supply | 8.2 |
| 5. | PHCs without electric supply | 4.8 |
| 6. | PHCs without all whether a motor able road | 8.2 |

RHS,
2019,

2018-

MOHFW, GOI. P-181& 183

A chronic shortage of health professionals

World Health Organization (WHO) has promulgated desirable doctor–population ratio as 1:1000. Yet, over 44% of WHO Member States reported less than one physician per 1,000 population (**Global Health Observatory, 2020**). In rural areas, this doctor-patient ratio is as low as 1:10,926 doctors as per National Health Profile 2019. There is the unwillingness of doctors and other health personnel to serve in rural areas; on the other hand, even in the urban areas, there is a preponderance of the health manpower in the private health sector of the country, thereby putting their services beyond the reach of the majority of poor in the country. Deficiency of human resources in health occurs at several levels-between regions, rural & urban areas, and the public & private sectors.

A significant percentage of posts are vacant at all levels. 8.9% of the sanctioned posts of HW (Female)/ ANM are vacant as compared to 35.5% vacancies of Male Health Workers in 2019. At PHCs, 35.9% of the sanctioned posts of Female Health Assistant/ LHV, 45.8% of Male Health Assistant, and 23.5% of the sanctioned posts of Doctors are vacant in 2019 (RHS, 2019, p.43).

Table 3.
Deficiencies in the functioning of PHCs and CHCs in India

| S. No | Indicator | Shortfall in % |
|-------|--|----------------|
| 1. | sub-centers without ANM | 9.2 |
| 2. | sub-centers without Male Health Worker | 54.1 |
| 3. | sub-centers without both ANM as well as Male Health Worker | 3.8 |
| 4. | PHCs are without a doctor | 9.6 |
| 5. | PHCs without a Lab Technician | 33.4 |
| 6. | PHCs without a pharmacist | 23.9 |
| 7. | PHCs without AYUSH facility | 49.5 |
| 8. | surgeons in CHCs | 85.6 |
| 9. | Obstetrician & Gynaecologist in CHCs | 75 |
| 10. | Paediatricians in CHCs | 79.9 |
| 11. | Dental Surgeons in CHCs | 79.2 |
| 12. | Ayush doctors in CHCs | 40.3 |
| 13. | Radio graphers in CHCs | 59.0 |

Source: RHS-2018-2019, MOHFW, GOI. Compiled from the page 152 to 173

Overall, there is a shortfall of 81.8% of specialists at CHCs as compared to the requirement for existing CHCs (RHS, 2019, p.45). The above table indicates that in CHCs only 25% of gynecologists & 30% of paediatricians are available in rural India. In pandemic situations, these deficiencies have a disastrous effect on pregnant women who faces specific challenges such as antenatal postnatal services and micronutrient supplements. In addition, without regular check-ups, there are chances of certain unidentified danger signs, which makes them vulnerable to complications related to pregnancy and childbirth. It is estimated that there could be a considerable rise in maternal mortality and under-five mortality rate at a global scale due to the COVID-19 crisis (Robertson et al, 2020).

Rural communities often have more elderly residents who have chronic conditions with multiple diseases require frequent visits to outpatient healthcare facilities. It was found that more than 70% of deaths in the COVID 19 pandemic are due to comorbidities (MOHFW, 2020). The elderly person with multiple diseases may find very difficult in accessing rural health facilities which have some deficiency in their functioning.

In other cases, if a person tests positive, the system needs to conduct contact tracing to identify and quarantine all those who might be susceptible and also to identify geographic hotspots, and seal them to prevent mobility. The government launched the Aarogya Setu app on April 2, to be installed by all smartphone users, so that they can easily map out the people who might have unknowingly come in contact with COVID-19 patients. But here is the catch — India has only about 500 million smartphone users. Hence, contact tracing would largely fall upon the shoulders of the ASHA workers (Accredited Social Health Activist is a community health worker instituted by the Ministry of Health and Family Welfare as a part of the National Rural Health Mission) who are already overburdened with other responsibilities. In many states, there are about nine ASHA workers for every 10 crore people, so the enormity of the problem is apparent (Ramasamy 2020).

Insufficiency of hospital beds

There is a huge disparity between rural and urban health care. 23400 hospitals are having 679827 beds in the country. Out of these 19756 hospitals are in rural areas with 278104 beds and 3644 hospitals are in urban areas with 401723 beds. The average population served per government hospital is 54932 and the average population served per government hospital bed is 1891. (NHP, 2018). Rural India has 3.2 government hospital beds per 10,000 people. Many states have a significantly lower number of rural beds than the national average. The state of Uttar Pradesh has 2.5 beds per 10,000 people in rural areas, whilst Rajasthan and Jharkhand have 2.4 and 2.3, respectively. Maharashtra, which has seen the largest number of COVID-19 cases, has 2.0 beds per 10,000 population and Bihar has 0.6 beds per 10,000 (Kumar, 2020).

During COVID-19, the lack of beds in rural areas significantly cause disadvantages to pregnant women, a patient who needs surgical, aged people, and general people.

Underinvestment in the Public healthcare system

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In 2004, the Government of India committed to raising public spending on health to at least 2-3% of GDP over the next five years. A similar commitment was reiterated in the 2017 National Health Policy, which commits to increasing public spending on health to 2.5% of GDP by 2025. Till now, there is no significant sign in increasing the investment in health by the government (Muttreja, 2020).

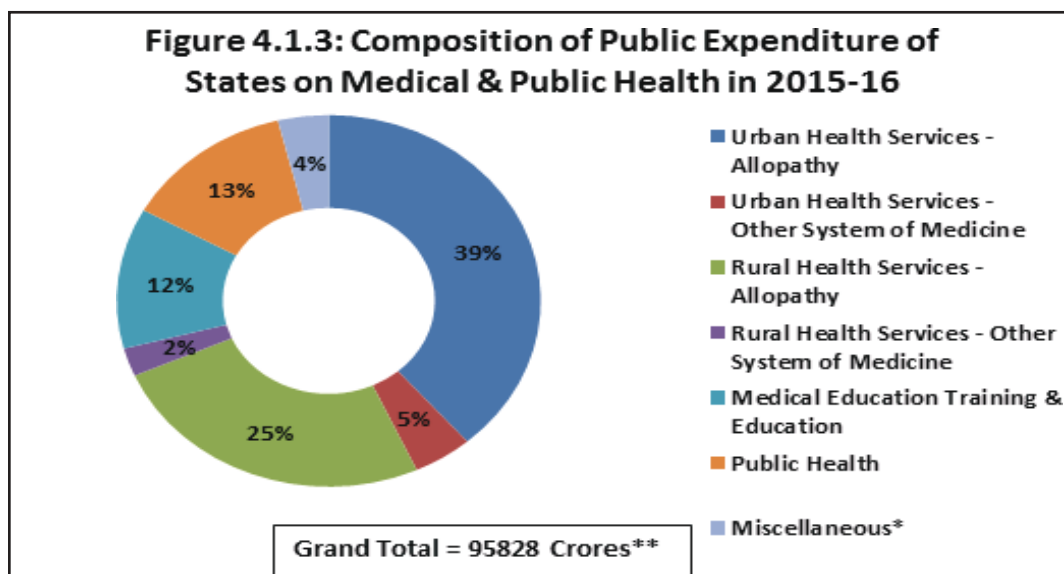
Increasing expenditure in the public health system is key to building trust. The cost of treatment has been on rising in India and it has led to inequity in access to health care services. India spends only 1.28% of its GDP (2017-18 BE) as public expenditure on health. Per capita, public expenditure on health in nominal terms has gone up from Rs 621 in 2009-10 to Rs 1657 in 2017-18. The Centre: State share in total public expenditure on health was 37:63 in 2017-18. An overstretched public healthcare system forces millions of Indians to turn to the unregulated private healthcare sector. Private insurers in India introduce many innovative products like family floater plans, top-up plans, critical illness plans, hospital cash, and top-up policies. Ayushman Bharat a National Health Protection Mission and Pradhan Mantri Jan Arogya Yojana (PMJAY) world's largest health scheme were announced in the Union Budget 2018-19 is the latest initiative in expanding the health insurance net and targets 10 crores poor and deprived rural population. The PMJAY aims to provide a cover of Rs.5 lakh per family per year for secondary and tertiary care procedures (NHP, 2019).

One of the reasons why the government failed to invest in building public hospital capacity was because it considered purchasing healthcare from private providers through insurance. It claims coverage of over 500 million people, who constitute the poorest 40 percent of the population. The expectation was that it would help the poor gain access to better quality care in private hospitals (Porecha, 2018). But in the current crisis, the private-sector response has been abysmal. Even private diagnostic laboratories are testing less than 20 percent of the total number of people tested as of May 23, 2020, which is highly inadequate considering the private sector's reach in the market (Ghosh, 2020). Infectious disease surveillance and in particular, the timely detection and early warning of disease outbreaks are the strengths and capacity of the health system. So, this is the time to win the trust of people with a thoughtful approach. This can only be done by increasing the health expenditure by the government as a percentage of GDP compared to what it is now and not just through health insurance. Creating a reliable system with public health care will address these problems.

Table 4.
Public Expenditure on Health

| S. No | Year | Public Expenditure on Health (in Rs. Crores) | Population (in Crores) | GDP | Per capita Public Expenditure on Health (in Rs.) | Public Expenditure on Health as Percentage of GDP (%) |
|-------|---------|--|------------------------|----------|--|---|
| 1. | 2009-10 | 72536 | 117 | 6477827 | 621 | 1.12 |
| 2. | 2010-11 | 83101 | 118 | 7784115 | 701 | 1.07 |
| 3. | 2011-12 | 96221 | 120 | 8736039 | 802 | 1.1 |
| 4. | 2012-13 | 108236 | 122 | 9951344 | 890 | 1.09 |
| 5. | 2013-14 | 112270 | 123 | 11272764 | 913 | 1.00 |
| 6. | 2014-15 | 121600.23 | 125 | 12433749 | 973 | 0.98 |
| 7. | 2015-16 | 140054.55 | 126 | 13764037 | 1112 | 1.02 |
| 8. | 2016-17 | 178875.63 | 128 | 15253714 | 1397 | 1.17 |
| 9. | 2017-18 | 213719.58 | 129 | 16751688 | 1657 | 1.28 |

Source: NHP– 2019. MOHFW. GOI. p 172.



Source: NHP- 2019. MOHFW. GOI. p -174

Note:

- * Miscellaneous includes the items “General” and “Deduct Recoveries”
- ** This total differs from the total in Table 4 because it excludes all UTs.

Unmanageable Patient Load

Secondary or tertiary level public hospital in bigger cities is today bursting at due to a heavy rush of patients. The unplanned increase of Indian cities has resulted in the urbanization of rural poverty causing expansion of slums and marginal populations starve of health and other basic amenities. Deficiency of urban health infrastructure, overcrowding in hospitals, lack of outreach and referral system, standards and norms for urban health care delivery system, unavailability or ignorance of information for accessing health care facilities are some of the issues in accessing the urban healthcare in the country. In such a situation senior citizens are extremely vulnerable to COVID-19. Coronavirus patients with heart ailments have an almost 10 percent mortality rate and those with diabetes have a mortality rate of seven percent. The age distribution of those who succumbed to COVID-19, less than 45 years made up for 14 percent; between 45 and 60 year age group accounted for 34.8 percent; 51.2 percent fell in the category of more than 60 years, whereas 42 percent belonged to the age group of 60-75 yr, 9.2 percent accounted for above 75 yr category and those with comorbidities formed 78 percent (Wang et al, 2020).

High out of the pocket expenditure

WHO’s health financing profile for 2017 shows that close to two-thirds of expenditure on health in India is out of pocket, while the world average is just 18.2%. Over 63 million Indians are faced with poverty every year due to health costs alone. It reveals that during the COVID-19 pandemic rural people living below the poverty line suffer in spending money in accessing the health care facilities from the private sector.

Other factors affecting the utilization of public health care Services

Telemedicine

As patients under lockdown and health workers at risk of infection, the healthcare system is adopting virtualized treatment approaches that reduced the physical meeting between patients and health providers. Digital health technologies are being adopted at a huge rate now without any technological barriers in the adoption of virtual health care. As a result of this, most of the outpatient visits have been shifted from hospitals toward telehealth visits.

Fear of contact

Patients’ fear of seeking hospital-based care may have been an important determinant of hospital services utilization during the SARS COVID-19 outbreak. Although it was concluded at an early stage that the infection spreads by droplets and it was not immediately recognized that the virus was so tenacious that it could survive outside the body on surfaces for long periods. The estimates of the time that the virus could survive on various surfaces grew longer and longer – from hours to days throughout the outbreak – as an understanding of the virus increased. The fears of SARS COVID-19 significantly influenced people’s health-care-seeking behavior and that this fear seriously compromised their access to quality care. It is not just a problem of common people, even nearly 70% of the medical students were reluctant to attend clinics for fear of getting infected or passing on to others during the outbreak because of the lack of awareness about the mode of spread of the virus at the initial phase (Agarwal et al, 2020).

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Homemade medicines/self-medications

Many patients have started self-medication, risking health. Since the commencement of lockdown, there is a lot of usage and preparation of homemade medicines by patients. Many families have fallen back to traditional ayurvedic and herbal medicines that can be easily prepared at home. This practice of using homemade medicines has also picked up in villages and towns as they do not have transportation facilities to reach the hospitals and clinics. This concept has gained more importance when the AYUSH ministry brought measures for enhancing the body's natural defense system (immunity) which also included homemade remedies for illnesses such as dry cough and sore throat.

Infodemics

Fake news, misinformation, and conspiracy theories have become prevalent in the age of social media and have skyrocketed since the beginning of the COVID-19 pandemic. It undermines trust in health institutions and programs and prevents persons from accessing public health services.

Over-the-counter medicines

Due to this lockdown because of the COVID-19 pandemic, people who are suffering from non-COVID illness are unable to reach the hospital on time which resulted in further deterioration of their health condition. Only those with the knowledge and smartphone could access virtual treatment, whereas the poorer are still devoid of these facilities which made them take the over-the-counter medications including many with little evidence to support their safe use. Thus, both virtual treatment and over-the-counter medicines indirectly resulted in less utilization of hospital services.

Despite these challenges, the government can take a three-pronged approach to stop the epidemic. These are to invest and prepare healthcare providers in rural areas for the epidemic; massive education programs to educate people, and to create a strong surveillance system that can help in reducing the spread and fatality. Besides, many health care providers in rural areas are unregistered and untrained and do not know what to do in such an emergency. Hence providing clinical guidelines, training and handholding may help (**Kumar, 2020**).

WHO's Chief Scientist, Dr. Soumya Swaminathan has expressed the concern and warned that rural India may become the next coronavirus hotbed and emphasized the need to use this opportunity to strengthen and improve its primary health care system (**Sharma, 2020**). Although it is impossible to transform its primary health care in a day or a week or a month, the right steps in this direction will help in the future. Hence, it is a challenge for India and it needs to take strong actions to meet this emergency and its after-effects.

Conclusion

The task of making the primary and secondary level health institutions functional ought to be the utmost priority, such that people can access effective health care for common and easily treatable conditions nearest to their homes. As the health system adapts to cope with this pandemic, it needs to be mindful of the several moral and ethical dilemmas that may occur during patient care, confront stigma issues that would arise for patients as well as care providers, provide for the vulnerable groups who may not be able to access healthcare but require it the most, and conceptualize a post-Covid era to be able to survive the storm and still sustain itself. Since most of the people are in rural areas budget allocation for rural health centers should be increased to promote the infrastructure facilities and also for easy accessibility.

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