Public Health in Practice 1 (2020) 100009

Contents lists available at ScienceDirect

Public Health in Practice

journal homepage: www.journals.elsevier.com/public-health-in-practice

Commentary

COVID-19: Challenges and its consequences for rural health care in India

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ARTICLE INFO

Keywords:
COVID-19
SARS-CoV-2
Public health
Rural health care
India
Pandemic

ABSTRACT

This commentary highlights the potential consequences of the COVID-19 pandemic for India's rural population. The rural health care system in India is not adequate or prepared to contain COVID-19 transmission, especially in many densely populated northern Indian States because of the shortage of doctors, hospital beds, and equipment. The COVID-19 pandemic creates a special challenge due to the paucity of testing services, weak surveillance system and above all poor medical care. The impacts of this pandemic, and especially the lockdown strategy, are multi-dimensional. The authors argue for the need to take immediate steps to control the spread and its after-effects and to use this opportunity to strengthen and improve its primary health care system in rural India.

The current global pandemic of COVID-19 necessitates a public health strategy with more emphasis on epidemiology, especially with regards to understanding the causes as well as identifying appropriate population-based behavioral and educational programs. It is important to realize that the pandemic of COVID-19 has initially happened 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 65–68% of the population live in rural areas that also have the highest overall burden of disease globally [1].

The Indian rural health care system is a three-tier system comprising Sub-Centres, Primary Health Centres (PHC), and Community Health Centres (CHC). There is currently a shortfall in health facilities: 18% at the Sub-Centre level, 22% at the PHC level and 30% at the CHC level (as of March 2018) [2]. Although the number of facilities has increased over the years, the workforce availability is substantially below the recommended levels as suggested by the World Health Organization. Rural India has 3.2 government hospital beds per 10,000 people [3]. 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 [4]. 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. Overall, there is a shortage of specialists working at the CHC level (81.9%). This includes a shortage of surgeons (84.6%), obstetricians & gynaecologists (74.7%), physicians (85.7%) and paediatricians (82.6%) [5].

The health care services and systems in India are still developing and have challenges of workforce shortages, absenteeism, poor infrastructure and quality of care [6]. Despite the National Health Mission and Government's commitment, adequate and affordable healthcare is still a mirage. The healthcare system in rural India faces a chronic shortage of medical professionals which is detrimental to the rural health system in terms of the quality and availability of care for rural people. The State focus has been on curative care, whereas poor infrastructure and poor coordination between the line departments makes it difficult to tackle public health emergencies such as COVID-19. The health care system is not adequate or prepared to contain COVID19 transmission in the rural areas, especially in many northern Indian States because of the shortage of doctors, hospital beds and equipment, especially in densely populated underserved states [7]. We have failed to manage tragic medical emergencies in the past, such as the unfortunate death of over 150 children in Muzzafarpur in Bihar triggered by malnourishment. Public health challenges, including elimination of persisting communicable diseases like Tuberculosis and ensuring equitable health care, add to the challenges ahead, with the emergence of new pandemic.

We still do not know the real statistics of the epidemic in rural areas. The country is at a tipping point and we do not know what direction it will take. The outbreak can head either way. COVID-19 creates a special challenge considering the poor testing services, surveillance system and above all poor medical care including shortages that were mentioned earlier. The lack of full understanding of the pathogen and the realization

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https://doi.org/10.1016/j.puhip.2020.100009
Received 10 April 2020; Received in revised form 30 April 2020; Accepted 30 April 2020
Available online 5 May 2020

that there is no effective cure has played an important role in determining government strategies and this is evident when official actions are examined. The preventive strategy adopted in relation to COVID-19 does not appear to be very innovative. It follows the strategy devised by John Haygarth's 18th-century 'rules of prevention' [8] for eradicating smallpox based on three principles: find every case, isolate the infected individual, and immunise all their contacts. In the case of COVID-19, vaccine is not yet available nor any drugs. However, the strategy has evolved further from a focus on individual patients and their contacts to the entire population. The shutdown and complete ban of normal activities for ordinary people seeks to stop community spread. But the obvious question is for how long? It is assumed that the spread of COVID-19 virus can be controlled by these actions. At the moment, these are only assumptions partly based on the experience of earlier outbreaks especially SARS or Ebola epidemics.

The impacts of this pandemic, especially the lockdown strategy in the social sphere is multi-dimensional. What could be important from a public health point of view is its impact on employment of millions of people in the rural areas who are migrant workers in many cities and educational opportunities. The emotional impacts of the strategies may add to this. The people are walking back to their villages in groups covering 500–1000 km after losing their jobs in the cities which is alarming and may exacerbate the problem as the chance of community transmission widens further. Apart from the economic suffering of the already famished society, this could disseminate or spread the disease in rural areas. We do not know about their exposure and status of infection of these population. It is a serious concern because if even one percent of them are infected, we will not be able to control the spread of the epidemic due to the resource limitations, poor health services in rural areas and other factors mentioned above.

It is a wakeup call and what is important at this moment is to use the lessons of this pandemic in the rural areas of many Indian states where the health care systems have to be improved considering the huge population in rural areas, untrained staff in caring and handling of patients during an outbreak of infectious diseases, and a huge shortage of beds, and equipment. 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 programme 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.

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 [9]. 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 definitely help in the future. The coming weeks and months is challenging for India and it needs to take strong actions to meet this emergency and its aftereffects.

Declaration of competing interest

Authors declare that there is no conflict of interest.

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