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Impact of second wave of COVID-19 on rural areas and rural healthcare of India

Yilanthung M. Sangma

Ph.D. Research Scholar, Department of Economics, Annamalai University, Annamalai Nagar, Tamil Nadu, India

Email: yilanthungsangma@gmail.com

Dr. T.R. Jeyaraaj

Professor, Department of Economics, Annamalai University, Annamalai Nagar, Tamil Nadu, India

Email: prof.trjeyaraaj@yahoo.com

Abstract---India has been severely affected by the second wave of the COVID-19 pandemic. The number of cases and deaths has risen sharply, and challenges and uncertainties about livelihoods have increased. In addition, the new variant of the virus, omicron, is also spreading in India. Furthermore, there is growing evidence that the COVID-19 spreads in rural areas, affecting public health infrastructure, which is already overburdened and under-resourced at financial, technical and human resources levels. The present study discusses the impact of the second wave of COVID-19 on rural areas and rural healthcare in India. The study also suggests sustainable short and long term measures for strengthening India's rural healthcare system. The present study can help the policymakers design suitable and effective policies and programmes to improve sustainable short and long term measures to help policymakers strengthen India's rural healthcare system.

Keywords---COVID-19, Omicron, Pandemic, Rural Healthcare, Health System in India.

Introduction

India has been severely affected by the second wave of the COVID-19 pandemic. The number of cases and deaths has risen sharply, and challenges and uncertainties about livelihoods have increased. According to the Ministry of Health and Family Welfare data, 1331648 active cases and 501114 deaths were reported in India on 5 February 2022 (*MoHFW*, 2022). However, these numbers are considered underreported, mainly because cases in rural areas are likely to go

undetected, unreported and untreated (Cohen, 2021). The attention of the government, the global community and the media has been focused on megacities and urban areas, while the virus has made a strong presence in rural areas, especially after significant events such as election campaigns and religious gatherings.

Impact on Rural Areas

There is growing evidence that the COVID-19 is beginning to spread in rural areas and may be affecting public health infrastructure, which is already overburdened and under-resourced - financial, technical and human resources. The emergence of the COVID-19 pandemic in rural India is alarming, with nearly 50% of reported cases in rural areas. COVID-19 is a significant threat because two-thirds of India's population live in rural areas and already have the highest burden of emerging infectious diseases (Mitra, 2020). On 10 March 2021, of 738 districts, 599 were mapped green, meaning they reported fewer than 10 cases per day, while on 10 May, 501 (68%) were mapped red with 100 or more cases per day. Only 75 areas reported fewer than 10 new infections per day, and these areas were primarily located in the Northeast, India (Rai, 2021). In his speech on 7 May 2021, Prime Minister Narendra Modi advised caution, saying that if the COVID-19 crisis reaches Indian villages, the impact will be devastating. Factors contributing to the increase in infection in rural areas include the return of migrants to villages, poor nutrition, reduced food consumption, and reluctance to be tested (Inbaraj et al., 2021). Poor contact detection and less testing combined with a reluctance to vaccinate are other factors that are expected to lead to an increase in the number of cases in rural areas (Ranscombe, 2020).

Due to long-standing systemic, functional and health inequalities, rural communities are at increased risk of being affected by COVID-19 and suffer from a lack of basic healthcare services (Singh & Leo, 2015). The burden of disease in rural areas shows that disability-adjusted life years (DALY) rates are higher in rural communities, especially for many infectious diseases. DALY rates in rural areas are at least twice as high in urban areas for perinatal and nutritional conditions, chronic respiratory diseases, diarrhoea, and fever of unknown origin (Menon et al., 2019). Pre-existing respiratory diseases and poor nutritional conditions were reported to exacerbate the adverse effects of COVID-19 infection. Several factors add to the current situation, including misinformation, inadequate financial support, ignorance, poor health care infrastructure, market and governance failures in government responses to livelihood issues, lack of lessons learned from the first wave in preparedness, and priority setting by central and local governments.

Impact on Rural Healthcare

India's health care system is primarily concentrated in urban centres, where tertiary level services, laboratory tests, and other medical support services are available. Treatment of COVID-19 requires tertiary-level services with intensive care units (ICUs), availability of tests and a rapid supply of oxygen, which is more scarce in rural areas. Of the total number of health workers, 59.2% are located in urban areas, where 27.8% of the population live, and 40.8% in rural areas, where

72.2% live. The density ratio between urban and rural doctors is 3.8, and for nurses and midwives 4.0 (Anand & Fan, 2016). There are 11.9 beds per 10,000 inhabitants in urban areas, but only 3.2 beds per 10,000 in rural areas (Government of India, 2016). Private healthcare facilities account for 40% of all available beds; they are concentrated in urban areas and major cities (Taskin & Bhardwaj, 2021). Studies report a 45 per cent absence of physicians in rural primary health centres (PHCs), which are closed 56 per cent of the time, with an unpredictable pattern of closure and absence during regular visiting hours (Iyengar & Dholakia, 2012). Concerning health care expenditures, about a quarter of rural households report that a large portion of hospital expenses must be covered by borrowing. The rural poor are not aware of and do not avail of the benefits of the various government insurance schemes such as Rashtriya Swasthya Bima Yojana (Safi, 2015). As the pandemic and economic downturn have been prolonged and many migrant workers have returned to rural villages as unemployed, the chances of being able to afford COVID-19 treatment are lower. Against this backdrop, the rural population can't pay out-of-pocket for COVID-19-related medical care. Better access to and use of health information helps people improve their knowledge, increase utilization of health services, reduce health care costs, and adopt healthier behaviours, and thus improve their health. It appears that rural communities have lower access to and use of health information than urban communities, and this is also true for the COVID-19 health communication.

In rural areas, poor health and nutrition indicators combined with inadequate health care infrastructure, low health insurance coverage, and insufficient and inaccessible health communication channels make strategies to mitigate COVID-19 challenging to implement. In a country as large and diverse as India, health inequities, particularly the gap between urban and rural areas, are significant for health policy development. The meagre allocation of budgetary resources to health, combined with targeted investment strategies, contributes significantly to the sizeable urban-rural gap. Poor management of health resources and lack of investment in infrastructure are other reasons for this alarming disparity in health indicators and infrastructure. In addition, rural communities have, rural communities are socio-economically and educationally disadvantaged, making them more vulnerable to pandemics such as COVID-19. Unless countries develop public health infrastructure, resources, and management strategies appropriate for rural areas, achieving sustainable development goals won't be easy.

Measures

Short term

As a short-term measure, we urgently need to curb the spread of COVID-19 in rural areas and minimize the number of deaths. Rural communities need strategies better suited to their health needs and local culture (Rice, 2020). Health communication strategies should be targeted at rural populations. For example, traditional and creative communication methods can spread transparent and appropriate messages, such as songs and street theatre. Work with community leaders, faith-based organizations, and other stakeholders. Involving different stakeholders can help better understand community knowledge, needs, barriers,

and prevention challenges in COVID-19. It is time for a large-scale campaign to promote mask-wearing in rural areas, including fostering mask-wearing in public places and indoors. Double masks should be used in both public and enclosed places, and continued use of masks should be used even after vaccination.

The establishment of temporary laboratories in rural areas and the training of micro teams for rapid antigen testing with the participation of multiple stakeholders are essential steps to strengthen surveillance systems and more accurately estimate the number of cases and deaths. The COVID-19 vaccination campaign is also unique, organized through the COVID-19 Vaccine Intelligence Work (COWIN) application. Low digital literacy, limited connectivity, and lack of appropriate devices in rural areas mean that a large portion of the population will be excluded from vaccination campaigns. Recently, the government informed the Supreme Court that rural residents could register on the COWIN platform through the Common Service Centres (CSCs) managed by the Ministry of Electronics and Information Technology. There are about 300,000 CSCs, but only 54,460 actively provide services (Aryan, 2021). Mass vaccination campaigns in rural areas should be managed by the three-tier health system rather than forcing villagers to use digital devices and online systems. Rural areas should have more accessible registration and vaccination facilities, including the Tamil Nadu model for mass vaccination campaigns. Some states, such as Kerala and Tamil Nadu, have relied on active surveillance and capacity building of field staff to help limit the spread to rural areas; Delhi has promoted home testing and quarantine as necessary case-control and management measures. In Mumbai, aggressive testing and timely declaration of the restricted regions appear very practical. Capacity building of health workers and providing appropriate rewards or financial incentives can improve the morale of health workers in rural areas. Micro-planning, home visits, and simultaneous surveillance and monitoring, all of which are part of the routine immunization program in India, should also be used in the COVID-19 immunization programme. A decentralized approach to patient monitoring, screening, and isolation at the community level would also be helpful. Public Distribution System (PDS) coverage should be extended to the poorest migrants returning to their villages (Sinha, 2021). A reduced food basket and inadequate nutrition, especially among women and children, are serious problems that require urgent attention during a pandemic. The midday meal schemes and supplementary nutrition programmes provided by schools and Anganwadi centres need to be revived as soon as possible.

Long term

The pandemic experience also provides essential lessons for long-term health planning in the country. First, public health spending as a percentage of gross domestic product (GDP) should be increased to the proposed 2.5% without further delay and 70% of this spending should be allocated to primary health care. Second, it is crucial to strengthen health surveillance by creating an epidemiological database and registers for communicable and non-communicable diseases. Third, primary care should move from selective to guaranteed comprehensive care, linked to referral hospitals. Finally, this policy should prioritize financial and non-financial incentives for physicians and other health

professionals to remain in rural areas and open new medical schools (Ministry of Health and Family Welfare, 2017).

Introduction of medical social workers (MSWs), mid-level care providers, training, and skills up-gradation for the accredited social health activists (ASHAs) and multi-purpose health workers (MPWs) should also be introduced, who are neither registered nor trained in rural areas and do not know what to do in such an emergency situation. Therefore, providing clinical guidelines, training, and support can help (Kumar et al., 2020). A complementary human resource strategy establishes a framework for intermediate care providers to expand primary care from selective to comprehensive care. Rural households are well connected, and the involvement of other stakeholders that villagers trust is also essential to ensure good health and quality health care. Nongovernmental organizations, companies with corporate social responsibility components, religious organizations, educational institutions, Panchayati-raj institutions, and research institutes need to plan, along with the government, practical projects that are locally feasible and involve the communities themselves (Panneer et al., 2021). This will significantly contribute to the sustainability of the health system. The provision of health care in rural areas depends on the affordability of treatment and diagnostics. By creating innovation clinics, scientists and consulting physicians could join hands to translate their respective knowledge, which helps prevent and cure various diseases that concern rural communities (Panagariya, 2014).

Conclusion

At this stage of engagement, it is critical to address vaccine equity concerns, strengthen health communication, address stigma and vaccination hesitancy, and implement bottom-up planning with the community to break the chain of contagion. The pandemic experience also provides important lessons for the country's long-term health planning, which explicitly identifies the need to strengthen the primary health care system, followed by more research and stakeholder engagement. There is a need to develop sustainable and economically viable primary health care systems in rural areas. Effective and accountable health administration and good governance of the health system, which values contributions from a multidisciplinary perspective, will develop a strong primary health care system, which can address urban-rural health inequities to a greater extent. Equitable allocation of resources, including public health infrastructure, prioritization of budgetary resources, training of frontline health professionals with mental health support, better management of misinformation, the political will to ensure timely availability and accessibility of essential health services, addressing resource shortfalls in public health infrastructure, community participation, adequate health system preparedness, and bridging the urban-rural gap are necessary for the development of a sustainable health system.

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