



Review Article

EMERGENCE OF PUBLIC HEALTH CRISIS IN INDIA AMIDST COVID-19

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ABSTRACT

The Coronavirus Disease 2019 (COVID-19) has affected largest population of world in several aspects. The consequences of this pandemic are multidimensional. Developing countries like India, where health care system is already struggling with many problems, and sudden outburst of COVID-19 created major challenges in terms of public health management. During management of COVID-19 patients, in second most populous country of world, Indian health care system is overburdened. This has left impact on overall health care management of COVID-19 and non COVID-19 patients. **Objective:** To review the public health crisis created during COVID-19 in India. **Method:** Various articles and studies performed during COVID-19 related to health care management are referred to have critical review of COVID-19 situation, its management and public health care challenges. **Result:** In the process of containing COVID-19 spread and treatment various measures and guidelines has been adopted regarding health care like restrictions on hospitalization of other than COVID-19 patients, curtailing surgeries etc. Diversion of health care system to COVID-19 patients has affected essential health services like Immunization, ANC services, treatment for Non-communicable diseases. **Conclusion:** Preparation of health care system for future pandemic like conditions by instituting a regular audit at health care centres and hospitals has become necessary. Need of investing in infrastructure, effective planning and overall strengthening of primary health care services has been identified. It is foremost step to ensure their functioning during emergencies without affecting regular basic health services, which majorly contributes in population health.

KEYWORDS: COVID-19, Disaster management, Health services, Pandemic, Public health care crisis, Public health management.

INTRODUCTION

On the beginning of 2020, whole world was stirred by sudden news of outbreak of new viral disease. In December 2019, a provisionally named 2019 novel coronavirus infection or 2019-nCoV emerged in Wuhan city of China which caused a global epidemic and raised a major concern and threat for public health. It was renamed on 7th January 2020 as severe acute respiratory syndrome coronavirus by the ICTV (International Committee on Taxonomy of Viruses), causing a disease called coronavirus disease 2019 or COVID-19. On 30th January 2020, WHO (World Health Organisation) declared Global Public Health Emergency posing a greater threat to countries/regions with susceptible health systems. Till 26th March 2020, COVID-19 has been affected more than 195 countries/regions/territories^[1]. Almost every affected country has set advisory and surveillance to manage this sudden outburst situation. Globally, as of 5.13 pm CET, 8th December 2020, there have been 6,72,10,778 confirmed cases of COVID-19, including 15,40,777

deaths, reported WHO^[2]. According to WHO report 2020 almost 30% of nations have no preparedness and response plans towards COVID-19 spread^[3]. Health systems in lower and lower middle income countries are experiencing major challenges in coping with the COVID-19 pandemic due to high pre-existing vulnerability from the limited public health infrastructure combined with diversion of essential medical resources for the provision of dedicated care and management to presumptive COVID-19 cases^[4].

Necessity appears to know exact gap between havoc situations created because of COVID-19 and overall preparedness of public health care deal with health emergencies. This is not only important to cope up with only COVID-19 affected patients but also to achieve regular equilibrium of general health.

Public Health Care Management in India

In a developing country like India, where 1.5% of GDP is spending on health sector (whereas, in European countries its 7-8% of GDP)^[5], where

65%-68% of the population live in a rural areas, main concern is maintaining equilibrium of community health among this pandemic.

There is currently a shortfall in health facilities: 18% at the Sub-centre level, 22% at Primary Health Centres (PHC) and 30% at the Community Health Centres (CHC) (as March 2018). Although the number of facilities has increased over the years, the workforce availability is substantially below the recommended levels as suggested by WHO. Rural India has 3.2 government hospital beds as per 10,000 people. Many states have a significantly lower number of rural beds than the national average. There is a shortage of specialists working at the CHC level (81.9%). This includes a shortage of surgeons (84.6%), obstetricians and gynaecologists (74.7%), physicians (85.7%) and paediatricians (82.6%)^[6].

The health care services and systems in India are struggling hard with challenges of workforce shortages, absenteeism, poor infrastructure and quality of care.

The International Health Regulations 2005 mandate that every member country should have a robust surveillance system. The lack of disease surveillance system makes a country extremely vulnerable to attacks by infectious diseases. The Integrated Disease Surveillance Project (IDSP) in India is functional, but weak^[7].

COVID-19 Situation in India

On 30th January 2020 India reported the first confirmed case of a COVID-19 patient in Kerala, returned from Wuhan city of China. On 11th March 2020, the Government of India declared COVID-19 a 'notified disaster' under the Disaster Management Act 2005 and appealed power under the Epidemic Diseases Act 1897 to augment the preparedness and repression of the virus. The government has announced to make use of SDRF (State Disaster Response Fund) to provide aid and compensation to the infected people and families of those who died due to the effect of this virus^[1].

Present in India, on 9th December 2020, 8.00 IST (GMT+5.30), there has been 3,78,909 active cases (3.89%), 92,15,581 discharged cases (94.66%) and 1,41,360 deaths (1.45%)^[8].

India's Response to COVID-19 Hurdles

The strategy for containment of spread of COVID-19 varies from country to country depending upon many factors like demographic structure, public health preparedness, socio-economic condition and so on. In spite of several challenges Government of India has taken commendable early steps^[1] to prevent COVID-19 spread.

- Public health preparedness- health facilities, contact tracing, follow-up around confirmed cases, diagnostics, hospital preparedness, infection control.
- Strengthened hospitals in terms of bed capacity for contaminated people, isolation wards, etc. by associating private sector.
- Surveillance of Logistic and risk communication
- Airlifting of more than 600 people from Wuhan, screening them for the illness at the port of entry, quarantining them in special facility at Manesar, Haryana.
- Strategic Health Operation Centre by (NCDC)
- Screening of symptoms at 21 airports
- Issued travel advisory guidelines and updated it from time to time regarding quarantine period, restriction of travelling, suspension of visas, cancellation of international as well as domestic passenger aircraft, suspension of train service including sub urban, metro rail, interstate passenger service, etc. Passengers were monitored under community surveillance.
- Advised states to open control room and helpline contact numbers
- Designated ICMR, Pune as a Nodal Centre
- Establishment of laboratories
- Initiated exchange of information with ICMR and WCO on research and development related to COVID-19
- Detailed advisory for all health establishments to avoid trivial hospitalization and to curtail elective surgeries.
- Closure of educational institutes/ cinema halls in all states
- 'Janata Curfew' on 22nd March 2020, enforcing public-led social distancing interventions
- Nationwide lockdown:
 - i) Phase 1: 25th March 2020- 14th April 2020 (21 days)
 - ii) Phase 2: 15th April 2020- 3rd May 2020 (19 days)
 - iii) Phase 3: 4th May 2020- 17th May 2020 (14 days)
 - iv) Phase 4: 18th May 2020- 31st May 2020 (14 days)Unlock:
 - i) Unlock 1.0: 1st June 2020- 30th June 2020 (30 days)
 - ii) Unlock 2.0: 1st July 2020- 31st July 2020 (31 days)
 - iii) Unlock 3.0: 1st August 2020- 31st August 2020 (31 days)
 - iv) Unlock 4.0: 1st September 2020- 30th September 2020 (30 days)

v) Unlock 5.0: 1st October 2020- 31st October 2020 (31 days)

vi) Unlock 6.0: 1st November 2020- 30th November 2020

Crisis Created During COVID-19

In the process of containing COVID-19 spread and treating COVID-19 patients priorly, Essential health services has been affected to some extent. In India, a network of over 25,000 primary health centres, the first and lowest tier, provide essential preventive, promotive and curative health services such as maternal and child health, essential drugs, and health education in the rural, suburban and underserved hard-to-reach areas^[4]. It's been another challenge to meet with current health needs of population and containing transmission of COVID-19 because of weak infrastructure availability (cross ventilation, proper spacing for entry exit gates), inadequate hygiene facilities (hand washing facility, hand sanitizer), lack of measures to provide patient safety and care etc.

Outpatient services were significantly disrupted during COVID-19. Among the OPD clinics at the PHC sites, the maximum reduction in clinic operations was reported for the non-communicable diseases and the immunization clinics; ANC services were less disrupted^[4].

Frontline community health workers, including the accredited social health activists, were engaged in the surveillance and contact tracing activities related to COVID-19. This resulted in the absence of community mobilization of women and caregivers for continuing with immunization and regular ANC services at the PHCs^[4].

Parents of immunization eligible children and antenatal women possibly refrained from visiting primary health facilities due to increased risk perception of contracting the coronavirus infection from other patients. In India, government guidelines have stipulated the functioning of fever clinics at primary care facilities subject to the availability of adequate space^[4].

In India, where care and management of non-communicable diseases like cardiovascular diseases, diabetes, chronic respiratory illness, leading cause of mortality, has been significantly affected due to reduced accessibility of health services and shifting of priority to COVID patients from non-COVID patients, which is again collateral damage from COVID-19. The National Health Mission reported available data on healthcare facilities provision of health services. Many services, including inpatient and outpatient care had decreased in March 2020 compared with February 2020, as well as March 2019. Outpatient treatment for diabetes, hypertension, stroke, acute

heart diseases, and other non-communicable diseases, including cancer and mental illness, vastly declined. Standardized data show an almost 30% decrease in reported acute cardiac emergencies and about 50% decrease in outpatient disease care. Inpatient treatment for communicable diseases and number of emergencies were greatly curtailed as well^[9]. This scenario may leave negative impact on overall population health.

Half of the orthopaedic surgeons witnessed fall in outpatients over 90%. Most had stopped elective surgeries (64%) and even emergency ones (21%) altogether^[10]. On the good side, drastic reduction in road accidents, homicide cases has been observed in this period. But at a same time, rise in domestic violence injuries, suicide cases is observed.

The Impact of this pandemic on cancer patient is far-reaching, affecting cancer management, quality of life and survival. Cancer treatment is being offered only to those patients in whom the benefits of therapy outweigh the risk of death and morbidity from COVID-19. For substantial group of patients with metastatic cancer considered low-priority and for older cancer patients, deferring treatment will ring in a fresh wave of uncertainty, fear, and physical suffering. The government policies of national lockdown, social distancing and staff shortages have further impeded the ability of palliative care providers to provide quality care^[11].

The mental health care services in India have been badly affected by this pandemic. Limitation on hospitalisation of patients, disruption in inpatient care is seen. Consultation-liaison psychiatry services have also been curtailed; electroconvulsive therapy (ECT) and brain stimulation services have also been affected^[12]. In the time where, increase in psychological distress is observed among the population during tension building pandemic, this disruption of mental health services has been resulted in many tragic conditions like suicide, violation, depression etc.

Inaccessibility to contraceptive methods, lack of expert counselling, lack of staff service at clinics during COVID-19 because of diversion of services to COVID patients has been raised issues like unintended pregnancies, unsafe abortions, depression in women^[13].

The inadequate availability of PPE for health care providers during the COVID-19 pandemic has also been observed worldwide. Under these circumstances, the allocation of PPE has been subject to expert criteria that recommend limiting the provision of N95 masks to only those health care providers who are directly involved in the management of COVID-19 cases^[4]. Panic buying,

unnecessary stocking by general public in shadow of fear of infection increases shortage of these resources. This again results into stress on safety of health care workers which should be priority. Disposal of these PPE and masks is another challenge. Careless handling of these wastes and unlawful reuse may increase the spread of highly contagious COVID-19 spread^[14].

Shortage of ventilators has been seen because of sudden demand for COVID-19 severe patients. This resulted in burden on supply of ventilators which were occupied by other health ailments. Shortage of trained manpower to operate ventilators was another constraint^[14]. To deal with inadequacy of safety resources like PPE, Government of India has taken early and appropriate steps to meet the demand (launched Aatmanirbhar Bharat to become more self-reliant with investment in building lifesaving equipment's like PPE, ventilators, oxygen supply, etc.)^[15].

CONCLUSION

The impact of COVID-19 pandemic is multidimensional. It's been seen that this global health crisis has affected every country in many other ways including socio-economic strain. In developing country like India, where health system is underfunded, present health care facilities are overburdened by this sudden and unexpected pandemic situation. In spite of this, Indian health system dealing with COVID-19 in very appropriate swiftly manner, managing with crisis raised out of this situation. But it's a wakeup call, highlighting the importance of strengthening of public health care system to deal with fulfilling optimal requirement arises out of outburst of health emergency, without making essential basic health services standstill. Several gaps have been identified in preparedness of health system to face pandemic emergency.

Need of investing in infrastructure, effective planning and overall strengthening of primary health care services has been identified. It is foremost step to ensure their functioning during emergencies without affecting regular basic health services, which majorly contributes in population health. Establishment of well organised and coordinated laboratory setting throughout the country is necessary for speedy and appropriate results ensure early containment of spread of disease. Major health human resource crux has put more pressure on health care facilities which resulted in extreme stress on present health care workers due to overburdening of work. To avoid staff shortage, appointing well trained efficient staff at health care centres and hospitals as per their requirement and capacity, is stable preferable solution over contractual

employment at last minute. Identification of appropriate optimistic strategies for Non-COVID patients is important step to overcome pandemic related restrictions imposed on their management.

Indulgence of lifestyle management to promote health has been highlighted during this COVID-19 era. Prevention is better than cure coined term significantly marked its importance. It is seen adaptation of healthy habits (frequent hand washing, hand washing before meals), balanced diets, regular exercise especially *Yoga* and *Pranayam* (breathing exercise as per ancient classics) has played magnificent role as preventive measures. Till the development of vaccine it is better to take all preventive steps for COVID-19 infection. Raise in awareness level about health among the population as good impact is seen during COVID-19.

Involvement of traditional health care (AYUSH) in the management of COVID-19 is promptly step taken by Government of India. Interdisciplinary approach of AYUSH medicine for dealing with present condition is important step to lower the burden on health system. Integration of traditional and modern medicine and commencement of their guidelines to mass population is very helpful to combat this disastrous condition. Preparation of health care system for future pandemic like conditions by instituting a regular audit at health care centres and hospitals has become necessary.

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