

Primary Health Care in Pandemics: Barriers, Challenges and Opportunities

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Abstract

COVID-19 has become a major global public health threat. It started from Wuhan a province of China in December 2019 and has spread in every country of the globe with over 100 million people currently infected and over three million deaths as of May 2021. Nearly a year on, with many town and cities are in lockdown and with all public health measures to minimize transmission of the virus SARS-CoV-2 and the scientific achievements with many vaccines developed in record time, the transmission in the second wave is still strong with new variants of the virus emerging. The pandemic has caused a serious impact on the economic, social, political, and cultural dynamics of people, globally. The majority of people with mild and moderate symptoms of COVID-19 seek primary care (PC) service as the entry point for getting medical intervention, reducing flow to hospital care. Currently, primary care

settings are facing major challenges including lack of funds, poor infrastructure in some countries, and shortage of health care workers and equipment. Most, if not all primary care centers are not designed to separate people with the virus. The pandemic so far shows that strengthening primary care as the first point of contact with the health system is vital. The health systems of the future cannot be resilient without strong primary care for all, capable of meeting population health needs and aspiration for good health and well-being.

Key words:

COVID-19,
Pandemics,
Epidemic,
Primary Health Care,
Primary Care Services

Introduction

Cases of a novel coronavirus (2019-nCoV), caused by Severe Acute Respiratory Distress Syndrome Coronavirus 2 (SARS-CoV-2), first appeared in Wuhan, Hubei province, China, in December 2019, and since then, it has spread to every country around the globe (1). Deeply concerned by the alarming levels of spread and severity of COVID-19, World Health Organization (WHO) on 11th March 2020 declared COVID-19 as a pandemic. Public health experts recommend that personal hygiene and social distancing are necessary to curb the spread of coronavirus (1-3). Apart from the health issues, the pandemic has caused a serious impact on the economic, social, political, and cultural dynamics (4).

Globally, as of 22nd May 2021, there have been 166,840,355 confirmed cases of COVID-19 and 3,464,312 deaths (5). There are over 8,588,626 confirmed cases across the MENA region and fatalities are 168,140 (10th May 2021) (5). Approximately one-third (33%) of the total confirmed cases from the MENA region are from Iran 2,823,887 and the death toll is amongst the highest i.e. 78,381(6). Among Arab countries, Saudi Arabia has the most confirmed cases 439,847, followed by Qatar (215,160) and United Arab Emirates (554,516). Countries that account for over 80% of all deaths in the region include Iran (78,381 deaths), Morocco (9,115), Egypt (14,611 deaths), Iraq (16,158), Lebanon (7,670), and Saudi Arabia (7237 deaths) (6).

Due to the surge in the number of COVID-19 cases and fatalities, the public health sector is also put to test thereby, forcing governments to make quick decisions, manage crises and implement drastic measures such as lockdown strategies and restrictions in travel, to protect communities at risk. Some countries had invested in the preparedness

of pandemics that had benefited them during the crisis situations such as, the Republic of Korea, Singapore, and Taiwan (7, 8).

Governments from the MENA region had also taken measures to slow the transmission of COVID-19 by limiting the movements of millions of people (9, 10). Borders were closed and travel was restricted from affected nations. Countries such as Bahrain, Lebanon, and the United Arab Emirates (UAE) took early measures to contain the outbreak, enforcing school closures, and other forms of social distancing. Authorities in Saudi Arabia canceled Umrah, pilgrimage, and access to Mecca to non-residents to contain the rapidly spreading virus (11). Social media platforms and mobile operators were used to spread awareness and promote physical distancing.

After nearly a year, with many towns and cities in lockdown and with all public health measures to minimize transmission of the virus SARS-CoV-2 and the scientific achievements with many vaccines developed in record time, the transmission in the second wave is still strong with new variants of the virus are emerging and weighing upon the health care delivery system.

The pandemic so far confirms that strengthening primary care as the first point of contact with the health system is essential. The health systems of the future cannot be resilient without strong primary care for all, capable of meeting population health needs and achieving good health and well-being.

This paper through exploring countries' experiences during the COVID-19 pandemic, addresses how primary care of the future should be shaped to meet people's health needs in all circumstances including acute events such as pandemics.

Strengthening of Primary Care

Strengthening of PC is imperative as it is the first point of contact with the health care delivery system and meets the needs of people of every age and at every stage of life and can truly fulfill the notion of 'health for all' as emphasized in the declaration of Astana 2018 (12). In addition, to being both accessible and affordable services, the distinguishing feature of the PC system is that it provides an infrastructure to decrease the burden from tertiary care hospitals and also provide essential preventive and curative services. COVID-19 is affecting all countries, whether developed or developing, alike. However, the Low-Income Countries (LICs) and Lower Middle-Income Countries (LMICs) are more overwhelmed due to the fragile health care system. Hence, any acute events such as epidemics can paralyze the whole system (13).

Role of PC during pandemics:

During the pandemic, PC is challenged to a maximum extent, being in the frontline and community-based. It is a threat that enforcement of prevention strategies fall on PC and its failure due to reasons beyond control, questions its functioning and usefulness (14,15).

Being in the frontline during pandemics, maximum exposure to Covid-19 is experienced by PC practitioners. In addition, the primary care settings are overloaded due to the additional inflow of complicated patients (13-15). Moreover, the lack of evidence-based approaches makes it difficult to manage the pandemic situation.

Role of PC in implementing HiAP approach:

A Health in All Policies (HiAP) approach emphasizes that public policies and decisions made concerning areas other than health (e.g. transport, agriculture, education, employment, etc.) have the most impact on citizens' health, on health determinants, and on the capacity of health systems to respond to health needs (16).

PC cuts across and interacts with other areas of human activity and development and is, therefore, best suited to help implement the HiAP approach to counter the challenges of a pandemic (16).

PC leadership role in pandemics

It is crucial that for the success of the health system in general and PC in particular during pandemics, effective leadership demonstrates its leadership role. Effective leadership helps organize relief efforts to combat the pandemic. It includes situational analysis, resource mobilization, effective communication, and coordination among all stakeholders. PC is known to have a favorable impact on health-related outcomes despite the availability of limited resources. It is at times of pandemics that leadership gets an opportunity to demonstrate its maximum potential.

During the current Covid-19 pandemic, lack of effective leadership from health care providers and policymakers led to politicians making decisions that were against the

available evidence base, and that led to the spread of the pandemic in several countries.

Role of PC at each stage of Pandemic:

Initial Stage:

During the initial phase, the patients and the community should be informed regarding the disease. Moreover, the HCWs should be trained and infrastructure changes should be made to help accommodate the number of patients visiting PC centers.

Moderate to Severe Surge/Lockdown:

The HCWs should be trained to refer patients to appropriate hospitals/clinics. PCs should regularly inform people regarding early signs and symptoms of the disease and preventive measures.

The PC settings should have enough supplies of PPEs and medications; moreover, the staff should be trained about infection control strategies, use of PPEs, surveillance system, and management of COVID-19 cases in primary health care settings.

A plethora of unverified information is available on the social media platforms regarding COVID-19 (17); therefore, the HCWs should also be informed about the authentic sources to keep them updated with the current scenario.

The PC settings should reduce the inflow of patients with common ailments, instead, tele-clinics may be used during this phase. Besides that, medications can be delivered to the patient's home to avoid overcrowding.

The PC center's role during the pandemic is also to arrange counseling facilities for patients and their family members, to reduce patients' and families' anxiety.

Exit Phase:

The PC health care facilities would return to their normal routine and the prior appointments of the patients should be rescheduled. Debriefing sessions should be organized for the staff and they should be given some time off to spend time with their families. Moreover, updated information regarding the epidemic should be shared with the staff and the patients.

In the last stage of the pandemic, primary care centers should collect and analyze the data collected during the incident to prepare and improve the PC system for any future pandemics.

Role of technology as a Public Health Initiative:

Innovations in technology are the need of the time, be it tele-clinics or providing key health messages to the community at large; technology has played its part well (18). Many countries have used technology to manage the COVID-19 pandemic effectively. In Bahrain, an application 'BeAware Bahrain' was launched to alert users about nearby active cases of COVID-19 or locations visited by positive cases of COVID-19 (19). Oman also launched a COVID-19

interactive map on the ‘Tarassud application’ (19). UAE has successfully adopted tele-clinics to help patients avoid the risk of infection and minimize the burden on the health care system. Greenhalgh et al. suggested that tele-clinics can be important tools in dealing with mild or moderate COVID-19 patients (20). The Ministry of Health in Saudi Arabia has also established an e-Health strategy for the use of telemedicine.

Role of PC as Triage in pandemics:

During pandemics, PC facilities play a vital role in providing information about the disease. They also act as gate-keeper by differentiating patients with other symptoms from those with COVID-19, making an early diagnosis, helping the vulnerable population to cope with their anxieties, and in turn reducing the overflow on other tertiary care hospitals and emergency departments (20). Studies suggest that around 80% of COVID-19 cases are mild and the majority of these cases seek PC services for treatment (14, 15). In addition to this, the PC centers also try to sustain their routine care regimens (21,22).

Role of PC in Surveillance:

Effective surveillance is critical to containing infectious disease outbreaks such as COVID-19. Electronic surveillance tools should be implemented on PCs to transmit information to a central station that can be accessed in real-time by the decision-makers (23,15).

Integration of PC and Public Health during pandemics:

A primary health care system and Public Health system in the context of dealing with pandemics such as COVID-19 serves the same ultimate objective that is improving the health of individuals. While the public health approaches take this challenge from the macro-level i.e. moving from the national level down to the community level, primary care approaches the challenge of providing individual clinical care to the patients, at the local community level (24,25).

It is important to have an integrated health care delivery system as without the support of a strong public health system there would be a lack of ability to monitor epidemiological disease patterns and the system will be unable to plan and mobilize the scale of response required to contain an outbreak. A public health system is necessary as without strong primary care capabilities it will lack both the “radar screen” to pick up the initial cases of an outbreak and also the delivery system to execute an effective and efficient response strategy (25).

Safety of PC team during pandemics:

There has been an exceptional threat to the HCWs as they are the front liners in caring for the patients and protecting them, which is amongst the most important interventions for successfully managing the COVID-19 pandemic. WHO and other international public health authorities have recommended the implementation of safety protocols for HCWs. However, basic PPEs are not always available in many medical institutions dealing with COVID-19 patients

(26). A study from India reported, that there were only a few medical colleges that were providing N95 to FPs/GPs in OPD clinics (21).

Challenges in PC activities

Delay in Routine Care:

The maintenance of essential health care services during the COVID-19 pandemic is a big challenge. This can impose a double burden on the already exhausted health care system (21,22). UNICEF estimates that approximately 117 million children from 37 countries are at risk of missing out on the life-saving measles vaccine (27). A study reported that disruptions in health services during the 2014-2016 Ebola outbreak in West Africa resulted in approximately over 10,000 additional preventable deaths due to malaria, HIV/AIDS, and tuberculosis (29).

Case Definition and Treatment:

In the early days of the pandemic, it is difficult to identify the cases and the possible treatment modalities (30). The case definition and treatment are constantly evolving based on evidence-based research and the primary care practitioners have to keep themselves abreast of the latest developments.

Infrastructural Capacity:

It is a major challenge since not all PC settings have such an infrastructure to deal with pandemics. For instance, in airborne pandemics such as COVID-19, there is a need for ventilation and spacious clinic space to maintain physical distancing. Separate spaces for COVID patients are needed for screening and testing (26). The primary care providers working in LICs and LMICs are already working in resource constraint settings. Studies have reported the unavailability of proper personal protective equipment (PPE) in some PC centers (26, 31). The health data website reported that in terms of absolute numbers 95% of mask use can avert the (25,194), deaths in Pakistan, Egypt (20,930 deaths), and Bangladesh (20,344 deaths) (32). Therefore, the availability of PPEs is vital for the proper functioning of PC centers.

Shortage of Staff:

Healthcare systems across developed and developing countries are being put to test to limit the spread of the virus and the majority of this responsibility is being shouldered by frontline HCWs (33,34). Endless hours, draining shifts, staff shortages and lack of resources all take a toll on the physical and mental health of the personnel, and in due course, some HCWs may become sick and even die (33,34). This havoc has created a shortage of staff and simultaneously, the upsurge in the number of COVID-19 patients poses a double burden on the primary care delivery system.

Lessons learned:

Primary Care is one of the main pillars of a health care delivery system that runs on the notion of universal health care and provides comprehensive, accessible, and socially and culturally oriented health care to the people.

The lessons learned from this review are suggestive of the need for a strong primary health care system. It is imperative to maintain effective channels of communication between various stakeholders and PC personnel for ensuring continuity of health care services during any future waves of the COVID-19 and to achieve health for all. As a way forward, the government of the countries should substantially invest in infrastructure, capacity building, and the strengthening of primary health care services to ensure their effective functioning during any public health crisis.

Way Forward

- The current situation entails the implementation of palliative care in the community particularly psychosocial care for patients who were at risk of feeling isolated, mainly the elderly. WHO has also identified that palliative care is an essential aspect of the primary health care system (35).
- There is a need for collective planning, communication, and coordination between the policymakers, managers, epidemiologists, and the primary health care team, to ensure the preparedness for any impending epidemics.
- There is a need for a culturally diverse workforce of health care professionals at PC centers. The staff should be able to provide culturally sensitive and appropriate services to vulnerable populations in the pandemic.
- Innovative technology measures should be used to effectively manage the pandemic with applications and other social media platforms.
- Disease surveillance systems should be strengthened to benefit the response to future epidemics.
- International funding agencies should collaborate with the Government to strengthen PCs, their infrastructure, and the health care delivery system to decrease the impact of the public health crisis and improve vaccination coverage.

Conclusion

The primary care system has an important role to accomplish in response to any public health crisis. They are accessible health care facilities and the first point of contact for the people. PC centers are key to effectively diagnosing and reporting cases thus, helping to slow the spread of the outbreak across and within countries. Currently, primary care settings are facing major challenges including lack of funds, poor infrastructure in some countries, shortage of health care workers, and types of equipment. In this regard, it is essential for the donors' agencies, Government, and stakeholders to join hands and work towards strengthening PC.

References

1. Dahab M, van Zandvoort K, Flasche S, Warsame A, Spiegel PB, Waldman RJ, et al. COVID-19 control in low-income settings and displaced populations: what can realistically be done. *Confl Health*. 2020.
2. Siordia Jr JA. Epidemiology and clinical features of COVID-19: A review of current literature. *J Clin Virol*. 2020;104357.
3. Tu H, Tu S, Gao S, Shao A, Sheng J. Current epidemiological and clinical features of COVID-19; a global perspective from China. *J Infect*. 2020.
4. Gupta S. Coronavirus Pandemic: A Serious Threat to Humanity. *Journal of Health Management*. 2020;22(1):1-2.
5. Worldometer. COVID-19 CORONAVIRUS PANDEMIC: Reported cases and deaths by Country & Territory 2020 [cited 2021 May, 22]. Available from: <https://www.worldometers.info/coronavirus/>.
6. GCC-STAT. Coronavirus Pandemic Counts Map (COVID-19) for The Cooperation Council for The Arab Countries of The Gulf (GCC) 2021 [cited 2021 May, 22]. Available from: <https://geogcc.gccstat.org/portal/apps/opsdashboard/index.html#/917d2690711b402192af82b7398e470c>.
7. Wang CJ, Ng CY, Brook RH. Response to COVID-19 in Taiwan: big data analytics, new technology, and proactive testing. *Jama*. 2020;323(14):1341-2.
8. Wiah S, Subah M, Varpilah B, Waters A, Ly J, Ballard M, et al. Prevent, detect, respond: how community health workers can help in the fight against covid-19. *BMJ*. 2020.
9. OECD. COVID-19 crisis response in MENA countries [cited 2021 April, 25]. Available from: <http://www.oecd.org/coronavirus/policy-responses/covid-19-crisis-response-in-mena-countries-4b366396/>
10. World Health Organization. WHO policy brief: the economic and social impact of COVID-19 in the Eastern Mediterranean Region: World Health Organization. Regional Office for the Eastern Mediterranean; 2020 [cited 2021 April, 2021]. Available from: <https://apps.who.int/iris/handle/10665/332818>.
11. Ebrahim SH, Memish ZA. COVID-19 – the role of mass gatherings. *Travel Med Infect Dis*. 2020;34(101617).
12. Binagwaho A, Ghebreyesus TA. Primary healthcare is cornerstone of universal health coverage. *BMJ*. 2019;365.
13. Rawaf S, Allen LN, Stigler FL, Kringsos D, Quezada Yamamoto H, van Weel C. Lessons on the COVID-19 pandemic, for and by primary care professionals worldwide. *Eur J Gen Pract*. 2020;26(1):129-33.
14. Sarti TD, Lazarini WS, Fontenelle LF, Almeida APSC. What is the role of Primary Health Care in the COVID-19 pandemic? : SciELO Public Health; 2020.
15. Alnaser FA. Role of Family Doctors and Primary HealthCareinCOVID-19Pandemic. *WorldFamilyMedicine/middle East Journal of Family Medicine*; volume 18 issue 9 September 2020. Doi 10.5742MEWMF.2020.93857

16. Cairney P, St Denny E, Mitchell H. The future of public health policymaking after COVID-19: a qualitative systematic review of lessons from Health in All Policies. *Open Research Europe.* 2021;1:23.
17. Shimizu K. 2019-nCoV, fake news, and racism. *Lancet.* 2020;395(10225):685-6.
18. Gupta R, Pal SK, Khattar A, Baliyan K, editors. *Technology Applications for Health Safety Decision Making under COVID-19 Pandemic Management.* 2020 International Conference on Decision Aid Sciences and Application (DASA); 2020: IEEE.
19. El-Saharty S, Kheyfets I, Herbst C, Ajwad MI. *Fostering Human Capital in the Gulf Cooperation Council Countries:* The World Bank; 2020.
20. Greenhalgh T, Koh GCH, Car J. Covid-19: a remote assessment in primary care. *BMJ.* 2020;368.
21. Garg S, Basu S, Rustagi R, Borle A. Primary Health Care Facility Preparedness for Outpatient Service Provision During the COVID-19 Pandemic in India: Cross-Sectional Study. *JMIR Public Health Surveill.* 2020;6(2): e19927.
22. Deepthi R, Mendagudli RR, Kundapur R, Modi B. Primary Health Care and COVID-19 Pandemic. *International Journal of Health Systems Implementation Research.* 2020;4(1):20-9.
23. Ramraj B, Marimuthu A, Hussain A, Sowmiya K. Combating Covid19 pandemic with effective surveillance: experience from Tamilnadu. *National Journal of Research in Community Medicine.* 2020;9(2):67-72.
24. Harzheim E, Martins C, Wollmann L, Pedebos LA, Faller LdA, Marques MdC, et al. Federal actions to support and strengthen local efforts to combat COVID-19: Primary Health Care (PC) in the driver's seat. *Cien Saude Colet.* 2020;25:2493-7.
25. National Academy of Medicine S. Strengthening Public Health as the Foundation of the Health System and First Line of Defense. *The Neglected Dimension of Global Security: A Framework to Counter Infectious Disease Crises:* National Academies Press (US); 2016.
26. Ranney ML, Griffeth V, Jha AK. Critical supply shortages—the need for ventilators and personal protective equipment during the Covid-19 pandemic. *NEJM.* 2020;382(18):e41.
27. Figueiroa KI, editor *Impact of Childhood Vaccinations Suspended Due to COVID-19. Symposium* 2020.
28. Acharya R, Gundi M, Ngo T, Pandey N, Patel SK, Pinchoff J, et al. COVID-19-related knowledge, attitudes, and practices among adolescents and young people in Bihar and Uttar Pradesh, India: *Population Council;* 2020 [Available from: <https://www.popcouncil.org/research/covid-19-related-knowledge-attitudes-and-practices-among-adolescents-and-you>.]
29. Parpia AS, Ndeffo-Mbah ML, Wenzel NS, Galvani AP. Effects of response to 2014–2015 Ebola outbreak on deaths from malaria, HIV/AIDS, and tuberculosis, West Africa. *J Emerg Infect Dis.* 2016;22(3):433.
30. Tang Y-W, Schmitz JE, Persing DH, Stratton CW. Laboratory diagnosis of COVID-19: current issues and challenges. *J Clin Microbiol.* 2020;58(6).
31. Chirico F, Nucera G, Magnavita N. COVID-19: Protecting Healthcare Workers is a priority. *Infect Control Hosp Epidemiol.* 2020;41(9):1-.
32. IHME. COVID-19: What's New for June 25, 2020 [cited 2021 April 5]. Available from: <http://www.healthdata.org/covid/updates>.
33. Barella S, Palamenghi L, Graffigna G. Burnout and somatic symptoms among frontline health care professionals at the peak of the Italian COVID-19 pandemic. *Psychiatry Res.* 2020(290):113129.
34. Mascha EJ, Schober P, Schebold JC, Stueber F, Luedi MM. Staffing with disease-based epidemiologic indices may reduce shortage of intensive care unit staff during the COVID-19 pandemic. *Anesth Analg.* 2020.
35. Carey ML, Zucca AC, Freund MA, Bryant J, Herrmann A, Roberts B. Systematic review of barriers and enablers to the delivery of palliative care by primary care practitioners. *Palliat Med.* 2019;33(9):1131-45.