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The Outbreak of COVID-19, Financial Vulnerabilities, and Safeguarding Healthcare Infrastructure Management in Pakistan

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ABSTRACT:

This paper aims to highlight the vulnerabilities raised by COVID-19 pandemic in Pakistan's healthcare infrastructure and the measures taken by Pakistan to control and contain the spread of this infectious disease especially the prevailing second wave of COVID-19. In emerging economies like Pakistan, the impact of this pandemic is even higher due to existing inefficient and defective healthcare infrastructure. Furthermore, due to breach of standard operating procedures (SOPs) and lockdown measures, the promptly increasing new infections caused an overload on the healthcare providers. The prevailing situation is also raising apprehensions about the competence of the government to address the infection and fatality rate in healthcare providers, for instance, as of 27 January 2021, 13,655 confirmed positive cases and 132 deaths were reported amongsthealth professionals. This pandemic could bring more devastation in terms of fatalities; therefore, Pakistan must ensure utmost protection measures for the health professionals. To fight this pandemic in an efficient manner, investing in the persistently underfunded healthcare infrastructure is indispensable.

KEYWORDS: Healthcare infrastructure, first and second wave of COVID-19, Coronavirus Pandemic, Pakistan,Vaccination Facilities

1. INTRODUCTION

In December 2019 the outbreak of the novel form of the coronavirus, which is referredas COVID-19 has suppressed all the nations of the world in terms of living standards and subsistence of the people(Arshed, Meo, & Farooq, 2020). Eventually, this pandemic impacted relentlessly the monetary proceedings throughout the world. This infectious virus has acute respirational disorderliness, fever, body aching, dry cough, and pneumonia(Sharma, Talan, & Jain, 2020). Currently, according to a report of Worldometer authenticated total confirmed cases at 96,742,468, death at 2,068,745, and recovered cases at 69,433,327 worldwide as on January 27, 2021[1]. Moreover, in every industry the severe worldwide effects of this pandemic can be witnessed, for instance, the COVID-19 is backing roughly 40-60 million humans into rigorous povertyand scarcity; financial express reveals that this pandemic affect the global GDP by $250 billion(Meo, Sabir, Chaudhry, Batool, & Farooq, 2020). The effects of this pandemic are not only restricted to GDP or Poverty, however every industry, such as, stock markets, financial institutions, transportation, hospitality, and food industries throughout the world is hit by this pandemic.

All the countries irrespective of their level of growth and revenue are vastly impacted by this pandemic.The COVID-19 has also immensely affected the economy of Pakistan and all the industries are considerably affected. In Pakistan, the Worldometer has recordedtotal confirmed cases are 524,783, fatalities are 11,103, recoveries are 478,517, and total tests are 7,481,688 as on January 27, 2021. Furthermore, poverty and unemployment rate is also increased during this pandemic, nevertheless, in 2018 when Pakistan Tehreek-e-Insaf (PTI) leadership came into power, the growth rate of GDP was 5.8%, though now the GDP has dropped to 0.98%, which is a significant decline(Meo et al., 2020). In Pakistan the existing public health framework has been vulnerable with just one hospital bed per 1,608 people and ratio of one doctor for 1,000 people[2]. It implies that there has been already an excruciating absence of doctors, nurses, and hospitals in the country for many years. The present-day pandemic has strengthened the susceptibility of healthcare system as a result of hundreds of sick and suspected patients.

2. SECOND WAVE OF COVID-19

As a result of the second wave of COVID-19, once again the everyday lives of Pakistanis are distressed, and it has instigated vagueness and insecurity about the extent of the current wave of this pandemic. In February 2020 the first COVID-19 case was registered in Pakistan, since then the number of infections begun increasing steadily. Due to the upsurge in the number of positive cases in June 2020, major cites briefed that hospitals were missing the capacity to accommodate to all the patients. Nevertheless, few weeks later, the number of cases begun failing, and to a significant degree, life was restoring to usual as educational institutions, businesses, workplaces, and hospitality industry startedrecommencing phase-wise.

Even though nearly 11,600 Pakistanis have lost their lives during this pandemic tillJanuary 2021, Pakistan has accomplished considerably better than the Western nations where both the death and positivity ratio have been apparently higher. The reasons for Pakistan's early victory against the first wave included: prompt lockdown nationwide in March 2020 followed by 'smart lockdowns' in certain localities where the virus outbreak was contained were sealed. This assisted in limiting the spread of the first wave of COVID-19; in all the provinces the National Disaster Management Authority (NDMA) was able to accelerate the process of supplying medical provisions and personal protective equipment (PPE) to hospitals; the eastern and western borders were sealed off, and domestic and international flight operations were postponed[3].

These strategies had practical outcome with the number of COVID-19 cases tumbling to less than 500 every day, and in late august the death ratio dropped to single figures. These rational measures taken by Pakistan, not only aimed to contain the COVID-19 cases, but also to accommodate daily paid workers.

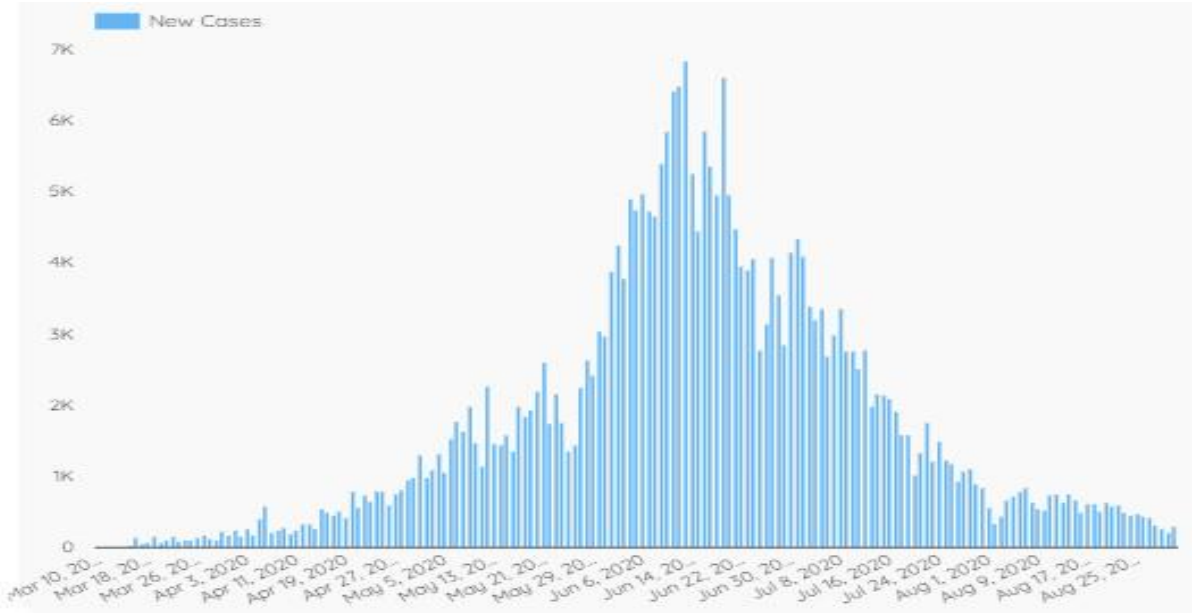

FIGURE 1 First wave of COVID-19 in Pakistan[4]

As the winter begin, all over the world there was a fresh spike in COVID-19 positive cases. The second wave affected all the countries which were efficient in flattening the curve of first wave. Likewise, in Pakistan after October 29, 2020 the cases also began to surge in thousands. By the first week of November, the number of COVID-19 positive cases spiked to 148 percent in Karachi, 114 percent in Lahore, 65 percent in Islamabad, 200 percent in Multan and 200 percent in Peshawar. Moreover, six percent of the individuals undergoing COVID-19 tests were tested positive by the end of November which was certainly a cause of distress. By mid-December, the daily fatality rate once again exceeded 100 which placed substantial burden on the healthcare professionals. Furthermore, the pandemic's second wave has also interpenetrated into the rural localities which were earlier unaffected throughout the first wave. This is particularly alarming considering that SOPs are particularly complicated to enforce in such localities.

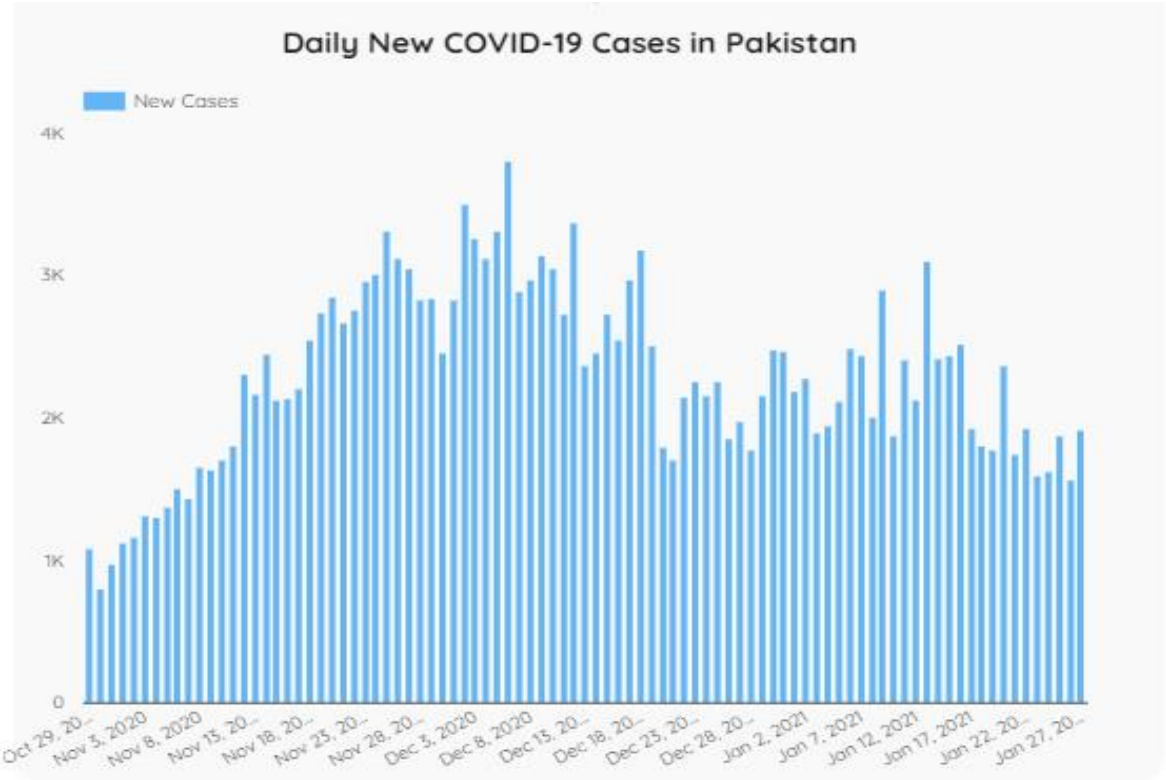

FIGURE 2 Second Wave of COVID-19 in Pakistan[5]

The prevailing increase is the result of several reasons:firstly, wedding halls and educational institutes were permitted to re-open in mid-September under strict COVID-19 measures. Regrettably, it was widely noticed that neither the educational institutes nor the wedding halls were fulfilling entirely with the given course of action. As a result, once again the total number of new infections spiked drastically. In fact, although indoor dining and gatherings are forbidden temporarily given the prevailing spike, public is still organizing home-based large-scale private functions and gatherings. Secondly, as soon as the lockdown measures were laid-back, people have been less frightened, especially since the first wave had not cause a significant death ratio in Pakistan. Hence, this absence of fear led both the public and legislators to follow to precautionary measures much less than before. Furthermore, during this period, instead of leading the way, countless government representatives also carried out large gatherings, conferences, and summits publicly in the absence of social distancing and face mask. Many of these officials have even lost their life battling against this infectious virus, and several are tested positive for COVID-19. Thirdly, the political demonstrations and marches by various opposition groups have also played a vital role in the surge of the second wave. In the last four months, the opposition parties have organized numerous anti-government protests in several cities. Therefore, individuals grouped in significant numbers, making it impractical to keep social distancing.

3. IMPACT OF COVID-19 ON BASIC HEALTH INFRASTRUCTURE

Due to this current COVID-19 pandemic, the health infrastructure is overwhelmed in Pakistan. However, despite this pandemic rages, vital health amenities should continue. It will imply challenging policy making to equalize COVID-19 reaction, alleviate the risk of infrastructure breakdown, and continue life-saving facilities. The health framework in Pakistan comprises of private and public health services. The private health segment offers facilities through key hospitals, general physicians and individual consultants, humanitarian societies, and NGOs. The

18th Amendment has been passed in 2020 in Pakistan, since then the provincial authorities are responsible for public sector health, with some assistance and counselling from the federal government. Meanwhile, the Department of Defense supervises Cantonment Board and military hospitals. Both private and public health system incorporate precautionary, promotive, restorative, and rehabilitative.

At the health infrastructure level, the provincial governments have terminated all out-patient departments (OPDs), and the concentration is merely on COVID-19 patientsand emergency cases. The health sector in Pakistan is already under severe trauma, particularly as several groups of healthcare are restructured to tackle the current pandemic, reducing their potential to offer non-emergency treatment. The lockdown measures and social distancing have attenuated the functions of public healthcareworkers. Redirecting the current resources and facilities to this pandemic response implies limited capital for vaccination and essential health provisions comprising voluntary, parental and infant health facilities-decreasing admittance for patients who depend on sponsored or free health services. This compels to involve core health enforcement agencies, including public health groups, to determine and offer vulnerable groups with provisions and crucial information.

Healthcare providers, such as doctors from private and public sector, paramedics, pharmaceutical specialists, nurses, and laboratory consultants are at the frontline of this pandemic response. This exposes them at risk of contracting this infectious virus. As of 27 January 2021, 13,655 healthcareproviders[6] were infected from COVID-19 in Pakistan.

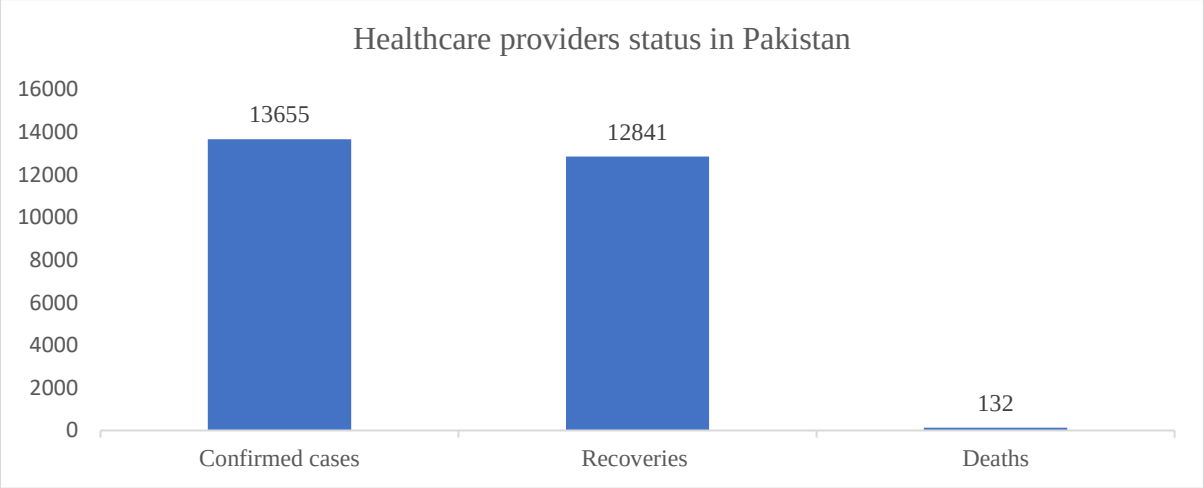

FIGURE 3 Confirmed cases, recoveries and deathsamongst healthcare providers[7]

In primary health care (PHC) services fever clinics and a triage schemes are established. In societiesquarantine infrastructure have been established, where patients with COVID-19 symptoms are kept until they are tested. Rigorous infection anticipation and control policies are indispensable in quarantine facilities, which can alternatively be a cause of transferring the virus. The PHC workers established isolation centers for pre- and mildly indicative patients. Secondary care duty schedule, with well-timed recommendation to tertiary centers, were positioned. The tertiary centers acted as a transfer and recommendation amenities, accepted patients from secondary health centers at the constituency and region level. Nevertheless, in practice, for critical health facilities people used tertiary care as a first point of contact.All these health care divisions and hospitals are swamped accepting and treating the patients, pushing optional facilities on hold.

4. IMPACT OF COVID-19 ON VACCINATION FACILITIES

Pakistan's vaccination facilities have been interrupted by the current pandemic. The fixed sites only provided the services, whereas outreach services were postponed during the lockdown, the risk of transmission and the insufficiency of essential PPP for vaccine team. The flight restrictions and lockdown (incorporating in economies that manufactured vaccines) can initiate interruptions in vaccine supplies, interrupting immunization process further. As this pandemic diminishes resources and health structure capacity,millions of adolescentsand children will go without vaccine and essential health services. This might worsen the occurrence of vaccine avertible diseases (polio, typhoid, and measles), malnutrition and non-communicable diseases.

5. IMPACT OF COVID-19 ON REPRODUCTIVE AND MATERNAL HEALTH FACILITIES IN PAKISTAN

This pandemic especially the second wave of COVID-19 is confining women's accessibility to resuscitative generative and maternal, neonatal and child health (MNCH) facilities. This could influence care atvarious phases:

- The health professionals restructured to tackle COVID-19 are gradually unreachable to offer vital services such as, newborn and child health and maternal care.
- During the lockdown, the community health providers are vulnerable to offer MNCH services, a distinct issue as nearly 44% of childbirthsare home-based deliveries.
- Decrease in the budget of MNCH and those who depend on subsidized and free health services may decrease as the existing financial resources are redirected to the COVID-19 response.
- Due to supply chains interruptions**,** the health infrastructuremay face scarcities of medication (antibiotics for infections, contraceptives, antiretroviral drugs for HIV, etc.). Furthermore, the risk of unsafe abortions and pregnancies may raise since roughly8 million females in Pakistan will loseregular access to contraceptives (672,000 intrauterine devices, 500,000 oral pills, 800,000 injectable contraceptives, and 3 million use condoms)[8].

The burden on the weak reproductive framework may deteriorate current vulnerabilities in its operational, technological, and human capacities. This endangers the 0.3 million deliveries in health facilities per month, due to disruptions in maternal care 15% of these are assumed to comprise complexities. The pandemic may deteriorate susceptibilities and reverse gains in reproductive structure. Figure 6 emphasizes crucial indications where emergency medical assistance will be required for newborns and females in the next few months.

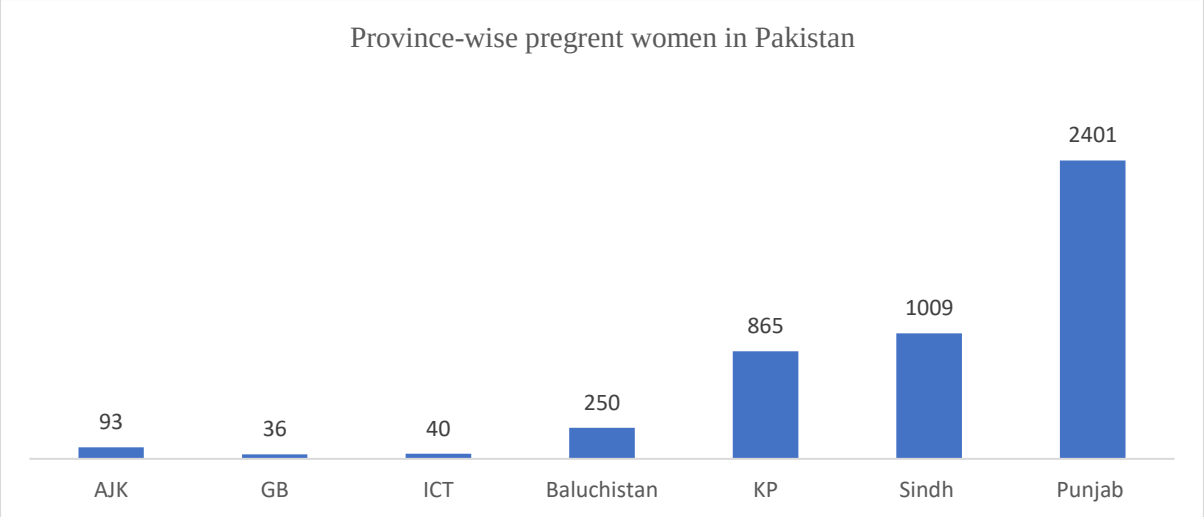

FIGURE 4 Currently pregnant women in Pakistan(in '1000')[9]

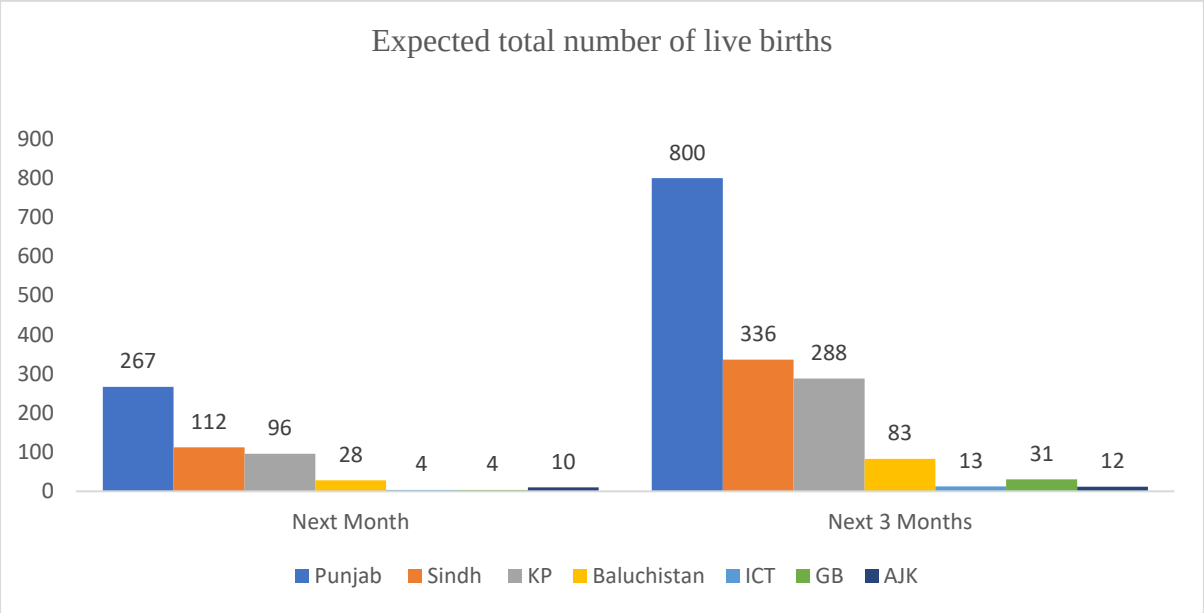

FIGURE 5 Province-wise total number of live births anticipated in next month and next 3 months in Pakistan (in '1000')[10]

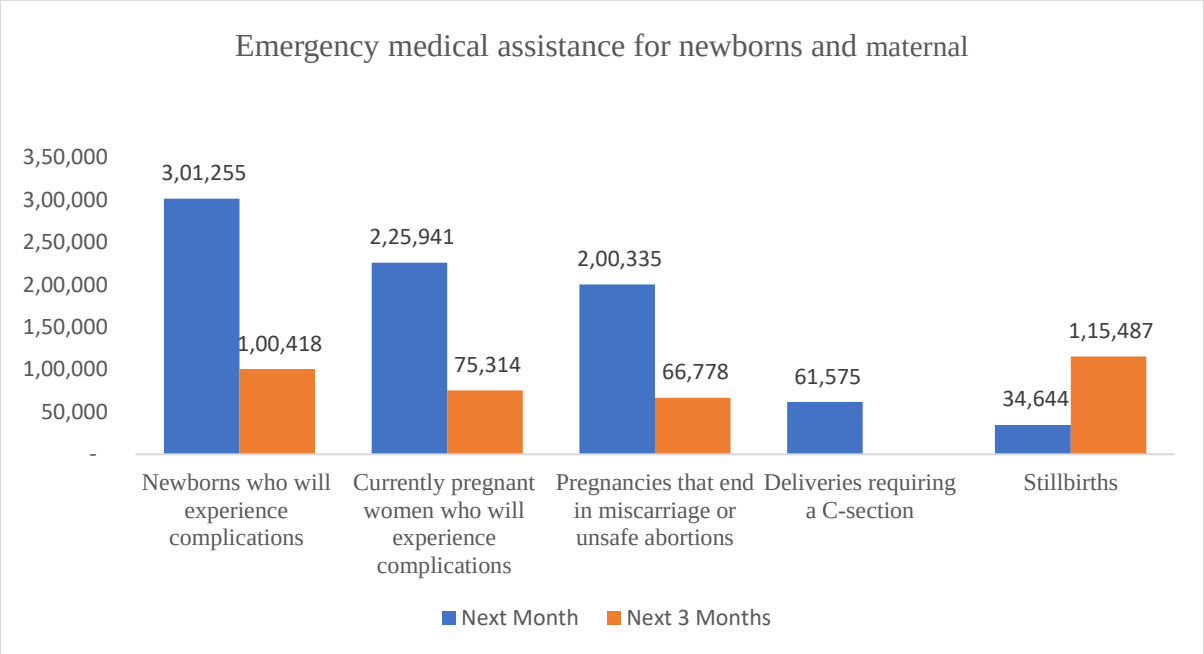

FIGURE 6 New-born and Maternal health needs in in Pakistan[11]

6. CONCLUSION AND RECOMMEND MEASURES

In an emerging economy such as Pakistan, outbreaks of disease significantly challenge the healthcare infrastructure. Lack of essential health facilities, vulnerable governance system, inadequate health strategies, and unresponsive approach of the individuals concerning the general preventative policies further deteriorate the situation.

The vital lesson to learn from this prevailing pandemic is that our vulnerable and contemptable health infrastructure is an inadequate source. Even though Pakistan has finite resources, it may make optimum utilization of them(Khalid & Ali, 2020). Once again Pakistan needs to demonstrate a well-organized, transparent, immediate, coherent, and collective efforts in containing this pandemic especially the prevailing second wave. It can be accomplished by conducting a substantial number of tests of individuals and then quarantining the positive COVID-19 patients, initiating PPE, establishing healthcare facilities, and taking authoritative measures to assure optimal protection and safety of healthcare providers. Furthermore, to offer provisions and equipment to health professionals in an optimal way facilitates them fight this infectious virus. The following preventative measures[12] can be followed by Pakistan to ensure higher recovery rate, safeguarding the healthcare providers and system, and containing the second wave of COVID-19:

- The crucial health facilities offered by rural health centers (RHCs) and basic health units(BHUs) must continue comprising immunization, mental and oral health facilities, family planning, health education and campaigns, emergency medicinal services, MNCH services, testing of different health conditions in the community, and pharmacy services.Assure that all provisions are transferred using appropriate PPE and keeping infection prevention and control (IPC) standards.
- With rigorous IPC and PPE measures in place, private clinics and hospitals should reinstate their essential services.
- Take distinctive measures to guarantee the well-being of health professionals, including: (i) guarantee the distribution and continuous supply change of PPE, (ii) provisions of PPE for healthcareproviders, and (iii) initiate and implement personal protective measures in hospital and for healthcare providers.
- Examine other options to out-patient sections, for instance telehealth and medicine, telephone counselling hotlines for private and public physicians to assist diagnosed and non-urgent patients.
- Create reliable, updated information obtainable using government networks to avert fear, anxiety, and propaganda in societies.
- Establish free access databank on research, scientific data archives, technological novelties, and informative resources.
- Establish more flexible health structures with the aim that human resources, health framework, provisions and information are expanded and controlled as vital components of readiness.
- As soon as the second wave of COVID-19 is contained, government must resume immunization drives and acceleratemeasures to continue high immunization coverageand address diseases such as polio, measles, and typhoid specifically in girls. Assure that vaccinators, lady health workers, and midwives offer immunization facilities following the strategy of National Expanded Programme on Immunization (EPI) and rigid IPC protocols as described by WHO.
- Initiate media drive for families and parents to raise health professionals' consciousness of steady and timely immunization.
- Pursue to track vaccination programs and children's immunization stages. In a proactive manner follow up with parents to assure that vaccination services are accessed regularly by children.
- Finance the concept of mobile clinics to provide health and immunization facilities in most indispensable localities; could also initiate semi-permanent infrastructure for second wave outreach (schools, telemedicine, etc.).
- Assure procurement, stock, and value-chain of vaccine in expectation of an intensified demand for vaccination facilities post-lockdown.
- Provide functional early detection, disease investigation and case declaring measures.

- Follow and contact endangered population segment such as infants, breastfeeding, and pregnant females for promotive and precautionaryhealth facilities. Follow up and track pregnant females due to give birth soon and direct them to a medical institution for safe childbirth. If required, arrange community midwives at home for safe deliveries.
- Provide constant distribution chains for emergency and contemporary birth control options; information and counselling provisions; supplies and equipment;maternal and newborn medication; and infection deterrence and control supplies.
- Ensure preparation for an anticipated 0.2 million miscarriages or unsafe abortions and 62,000 deliveries through C-section during the next quarter[13].
- Establish a 'spoke–hub' framework betweengovernment health-care facilities and tertiary hospitals at the district and tehsil levels.
- Formulate and arrange different care strategies to extend MNCH facilities,for instance telemedicine, maternity centers, and home health care if hospitals are getting overwhelmed.
- Establish public–private infrastructure patterns to swiftly add to capabilities to facilitate patients and for financing diagnostics and hospitals.
- Assist the health department to offer online diagnosis, contraception consultation, reproductive healthcare, and education, using social media and smart phones.
- Provide convenient,modernfamily planning methods and data at healthcarecenters using digital instrumentation.

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