

COVID-19 and Health Services in Egypt

By

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Abstract

Since Egypt registered its first COVID-19 case, the Egyptian government has made several decisions to deal with it through enforcing partial lockdown and social distance. However, the pandemic put pressure on Egypt's fragmented health system, which was already struggling to provide equitable and high equity health care services. This paper sheds light on the magnitude of that pressure and how well the health system is managing it, drawing on official statistics in addition to quantitative and qualitative data collected through a number of periodic and special surveys conducted by the Egyptian Center for Public Opinion (baseera). The surveys showed that the actual number of COVID-19 cases is around 14 times the official number, with 12% of patients identified in surveys requiring hospitalization. Egyptians' rating of health services, which was showing an increasing trend before the pandemic, started to decline after it. However, most respondents rated positively the performance of the health system regarding COVID-19. The decline of the overall rating of the health system seems to be attributed to the diversion of resources to the pandemic from other health services. Although many respondents believe that Egypt is not ready to face a new wave, in-depth interviews revealed some potential positive impact of Egypt's experience with COVID-19. This includes highlighting the importance of prevention services, culture changes regarding sanitation and infection control, and recognizing the need for more investment in human resources.

Acknowledgement

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I- Introduction

Egypt has a highly fragmented health system that makes it difficult to ensuring the equity and quality of the service¹. Despite that the coverage of the health services has expanded over the last three decades, the poor quality of the services remains a big challenge for Egypt. High population growth possesses further pressures on the health services and negatively affects both the coverage and the quality of services.

Recognizing the impact of the availability and quality of the health services on the population quality of life and wellbeing, the 2014 Egyptian Constitution allocated a percentage of government spending to health equivalent to at least 3% of Gross National Product (GNP), which shall gradually increase to comply with international standards².

Egypt registered the first case of COVID-19 in February 2020. Since then, the Egyptian government made many decisions to deal with COVID-19, including announcing partial curfew, suspending schools and universities, suspending flights, decreasing the number of employees in different government authorities, allowing working women who have children aged less than 12 to take a leave, and allocating 100 billion Egyptian pounds to control COVID-19 and mitigating its impact on different sectors.

In the health sector, the ministry of health and population has assigned more than 340 hospitals to receive, quarantine, and treat COVID-19 patients³. These hospitals include 35 thousand beds, 3539 intensive care beds, and 643 X-Ray units. In addition, 49 laboratories were allocated to perform COVID-19 tests.

Moreover, the ministry of health and population allocated two hotlines for handling questions and receive reports on COVID-19 cases. It also launched a set of awareness campaigns to increase Egyptians' awareness about how to avoid COVID-19 transmission. Surveys conducted to assess knowledge and attitudes regarding COVID-19 show that these

¹ <http://www.emro.who.int/egy/programmes/health-systems-strengthening.html>

² Egypt constitution 2014, <https://www.sis.gov.eg/Newvvr/Dustor-en001.pdf>

³ Media center, Egyptian cabinet, https://m.facebook.com/story.php?story_fbid=1616192955225730&id=794615087383525

campaigns succeeded to raise the public knowledge of about the virus and how to avoid the infection⁴.

The president increased the medical professions allowance by 75% and bonuses for workers in isolation hospitals. Moreover, the armed forces have sterilized many government facilities and public places to limit the spread of the virus.

The emerge of COVID-19 is expected to put more pressure on the health services and health services providers.

This paper aims at shedding light on the magnitude of that pressure and how well the health system is managing it. Specifically, in the following sections we present and discuss available evidence on the accessibility to and quality of the health services in Egypt before COVID-19, the prevalence of COVID-19 in Egypt, the changes in the rating of the health services in Egypt during the COVID-19 pandemic, the challenges that face the health system in Egypt, and the readiness of Egypt to a second wave of the pandemic.

The study makes use of a diverse types and sources of data. In addition to the official statistics available from the Central Agency for Public Mobilization and Statistics (CAPMA) and the ministry of health, the main data sources used come from regular and special surveys and qualitative studies conducted by the Egyptian Center for Public Opinion (baseera). These include the following:

- The KAP Survey on COVID-19: the survey was conducted in May 2020 on a sample of a national representative sample of 2157 individuals distributed on all the Egyptian governorates. Respondents were accessed through their landlines and mobile phones during the period from 14 to 25 April 2020. The response rate is around 78.4%. The margin of error in the results is less than 3%.
- “The prevalence of COVID-19 in Egypt” survey: the survey was conducted on a sample of 3017 Egyptians, in the age group of 18 years or above, from all the governorates of the Republic. The interviews were conducted from June 8th to

⁴ KAP Survey on COVID-19, May 2020, the Egyptian center for public opinion research (baseera)

- June 18th, 2020. Respondents were accessed through their landlines and mobile phones. The response rate was about 55%, with a margin of error less than 3%.
- “Egyptian women’s perceptions regarding health and reproductive health related issues” survey: the survey was conducted on a national representative sample of 1,120 female respondents aged 15+. The interviews were conducted from November 3rd to November 7th, 2020. Respondents were accessed through their landlines and mobile phones. The margin of error is less than 3%.
 - Role of the Egyptian government in providing services: the survey was conducted using on a sample of 2017 Egyptians, in the age group of 18 years or above, from all the governorates of the Republic. The interviews were conducted from June 16th to June 18th, 2015. Respondents were accessed through their landlines and mobile phones. The response rate was about 54%, with a margin of error less than 3%.

II- Accessibility, and quality of health services in Egypt before COVID-19

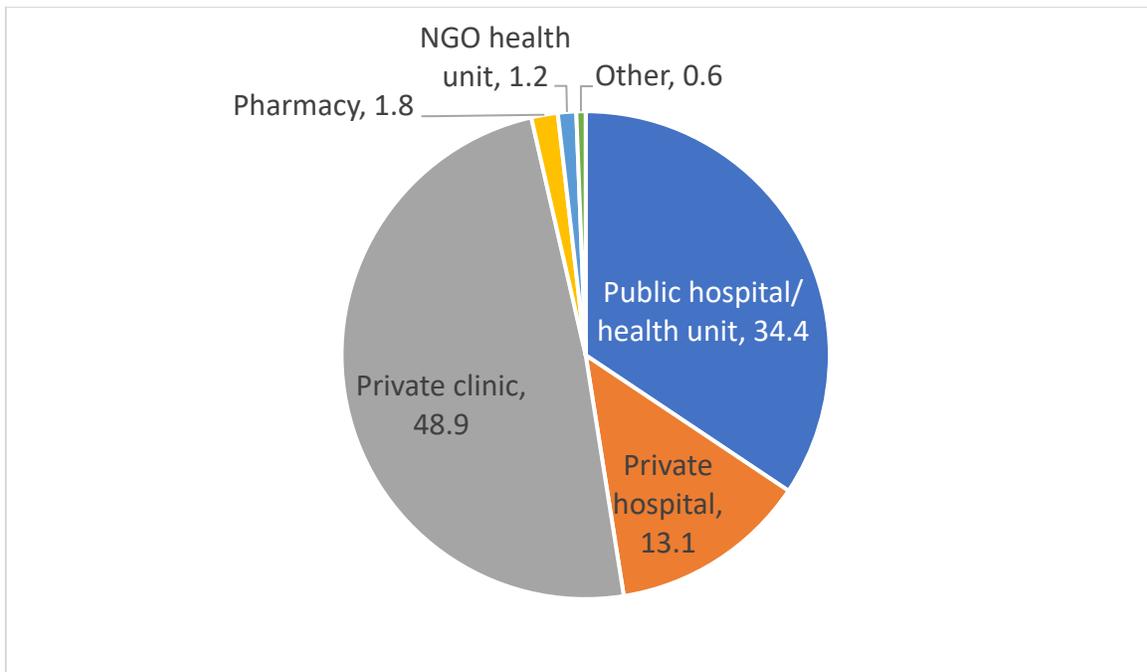
Different types of health facilities are available in Egypt, including private hospitals, private clinics, public hospitals, public clinics and clinics that are affiliated to civil associations, NGOs, Churches and mosques.

Baseera survey on the role of the Egyptian government in providing services 2015, show that private clinics were the main source of health service for around half the Egyptians followed by public hospitals and public health units with 34% and private hospitals with 13%. Only 2% get the health service from pharmacies and 1% from a health unit that is affiliated to an NGO. The percentage of those who get the health service from a private hospital increases to reach 23% in urban governorates compared to 10% in Lower Egypt and 11% in upper Egypt. In contrast, the percentage of those who get health service from a public hospital increases from 30% in urban governorates to 35% in Lower Egypt and Upper Egypt.

When asked about whether they find the doctors and the needed medications in the health facility they usually seek when they are sick, 53% of the respondents said that they find

both doctors and medications, 35% said that the doctors are available but they do not find the medications and 9% said that neither the doctors nor the treatment are available. This reflects that the unavailability of medication is a major challenge faces the health system in Egypt, while the availability of healthcare providers is not a major issue.

Figure 1 Distribution of Egyptians by main source of health services, 2015



Source: Role of the Egyptian government in providing services, Masar project

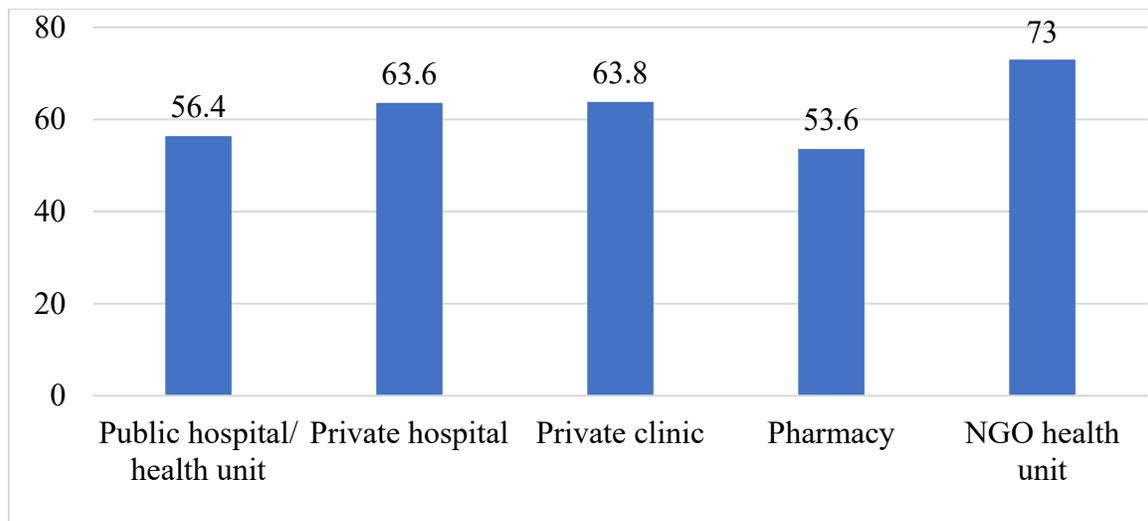
The survey conducted in 2015⁵ shows that the rating of Egyptians for the health services vary according to the source of the service (Figure 2). The rating increases from 56 points out of 100 for public hospitals and public health units to 64 for private hospitals and private clinics. Those who use pharmacies as the source of the main health service rated the service at 53 points and those who use NGOs health units rated the service at 73 points. The rating of females was higher than males for all the types of health facilities. Females rating for

⁵ Role of the Egyptian government in providing services, Masar project, 2015, the Egyptian center for public opinion research (baseera)

public hospitals and public health units reached 62 points compared to 52 among males, the rating of private hospitals was 68 among females compared to 62 among females.

A more recent survey conducted in 2018⁶ about women health shows that the rating of the females decreased for all the health service providers. Their rating reached 57 points for public hospitals and 65 points for private hospitals.

Figure 2 rating for health services by main source of service 2015



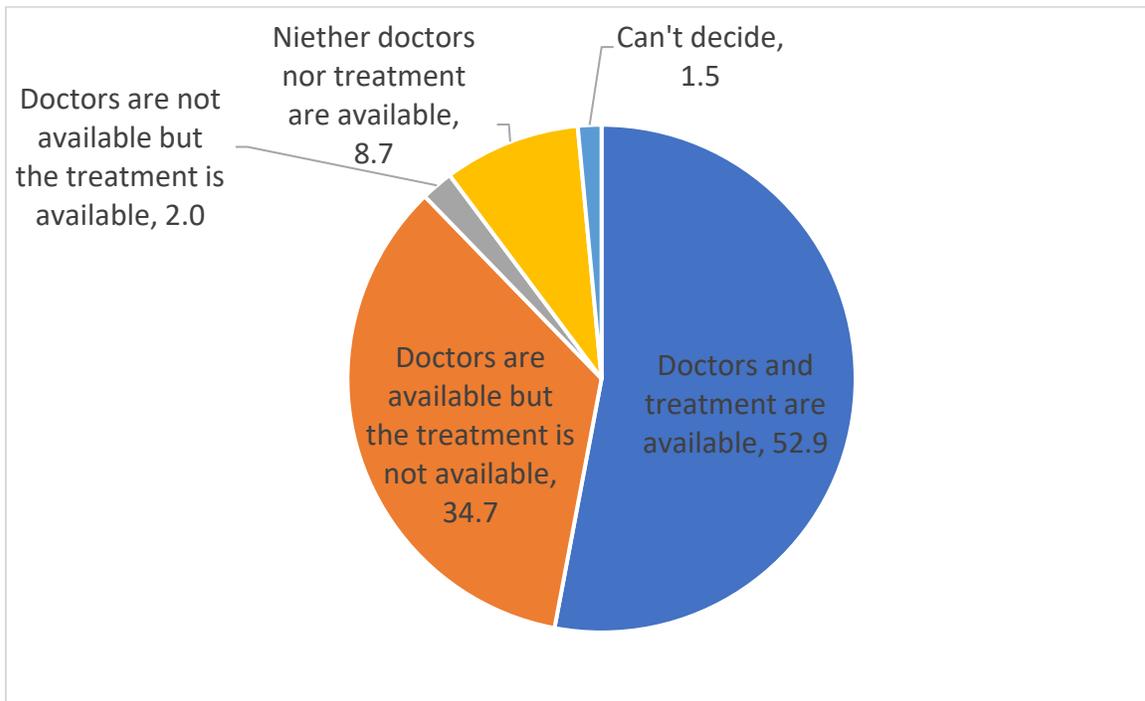
Source: Role of the Egyptian government in providing services, Masar project

When asked about the reasons ⁷behind not being satisfied with the health services, 36% of those who are not satisfied mentioned maltreatment from the staff of the health facilities, 14% mentioned the absence of organization and overcrowding, 13% complained from unavailability of medications, 10% mentioned lack of experience of the health service providers, and 6% attributed their dissatisfaction to high prices of tests and medication.

⁶ Data were collected from a national representative sample of 1120 females in the age group 18+.

⁷ Multiple response was permitted in this question

Figure 3 Distribution of respondents according to their opinion about the availability of doctors and medications 2015



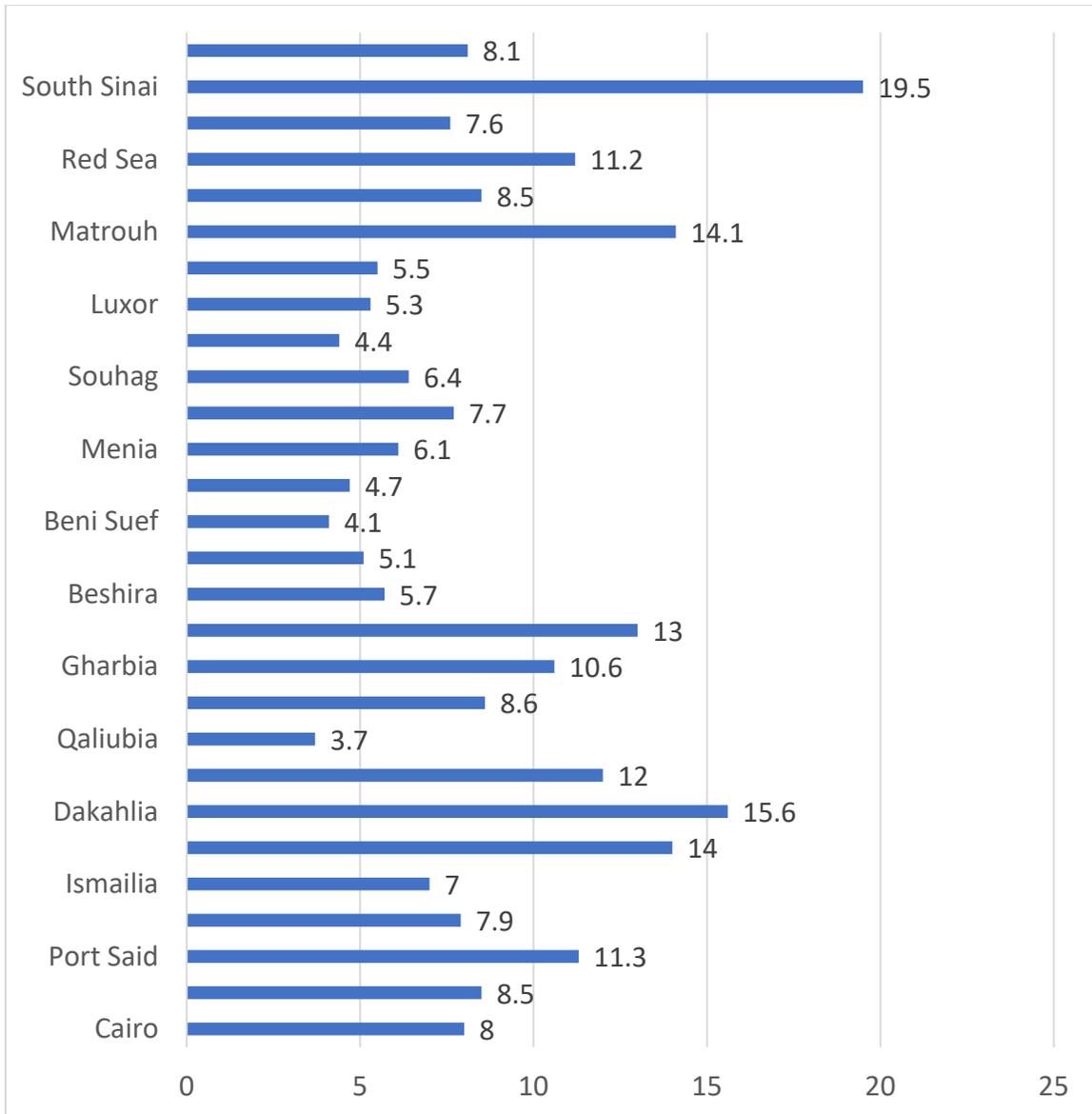
Source: Role of the Egyptian government in providing services, Masar project

The total number of physicians in who work in the public sector in Egypt reached around 76 thousand in 2018, compared to 103 thousand in 2017, a decrease of 26% in one year which reflects a great challenge to the health sector in Egypt⁸. Number of physicians per 10,000 population is one of the important indicators of service quality included in the SDGs. The value of this indicator reached 8 per 10,000 population in 2015 while Egypt aims at reaching 32 physicians per 10,000 population in 2030⁹. Studying the value of that indicator on the governorate level (Figure 4) shows a huge gap among the governorates which reflect the inequity of health services in Egypt.

Figure 4 Physicians per 10,000 population by governorate

⁸ http://capmas.gov.eg/Pages/IndicatorsPage.aspx?page_id=6141&ind_id=2519

⁹ Localizing the SDGs on governorate level, the Egyptian center for public opinion research (baseera) and the ministry of planning and economic development, 2020.



Source: Localizing the SDGs on governorate level, the Egyptian center for public opinion research (baseera) and the ministry of planning and economic development

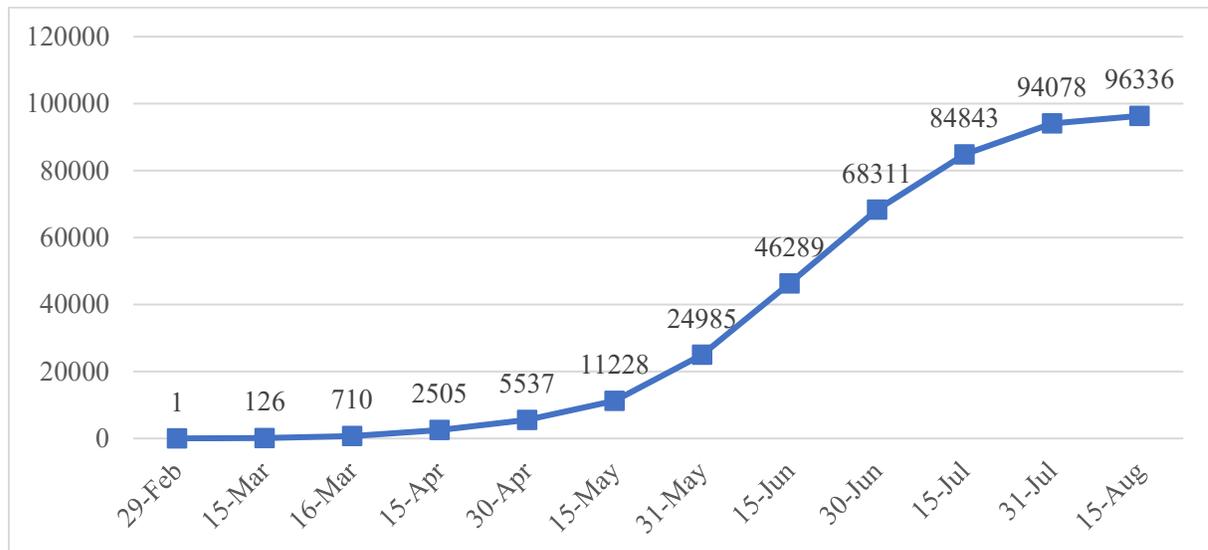
III- Prevalence of COVID-19 in Egypt

Egypt ministry of health and population is publishing a daily report on the development of COVID-19 in Egypt. The daily report shows the new cases of COVID-19 that has been discovered during that specific day, the cumulative number of infections since the virus onset, the number of deaths during the day, the cumulative number of deaths, and the number of recovery cases. However, the ministry announced that numbers of reported

cases are only inclusive of the cases referred to the hospitals and do not include the cases that were not diagnosed in a hospitals¹⁰.

According to the ministry’s reports on the cumulative number of cases of COVID-19, the period from mid-May to mid-June witnessed the peak of the infection incidence as the number of cases doubled between May 16th and May 31st and doubled again between June 1st and June 15th (Figure 5). The number of new cases started to decrease continuously starting from the beginning of July 2020¹¹.

Figure 5 Cumulative number of COVID-19 cases in Egypt from mid-February to mid-August



Source: Egypt ministry of health and population

In June 2020, Baseera center conducted a survey on a representative sample of 3017 Egyptians aged 18 years or above, from all the governorates of the Republic. The interviews were conducted from June 8th to June 18th, 2020.

The results of the survey showed that the percentage of those who stated that they had contracted the disease was 10.1 per thousand people aged 18 years or above, which is equivalent to About 616 thousand (61 thousand – 1.23 million)¹² Egyptians aged 18 years

¹⁰ <https://elantmaelmasry.com/?p=22687>

¹¹ <https://www.facebook.com/egypt.mohp>

¹² The margin of error is 1.7%

or above. This estimate shows that the actual number of COVID-19 cases is around 14 times the number announced by the ministry of health and population¹³. The data show no significant difference in the prevalence rate of COVID-19 between males and females.

Around 12% of the patients were hospitalized, corresponding to a national estimate of 74,000 patients. While 66% relied on domestic isolation, 39% continuously followed up with a doctor, and 61% stated that they were taking treatment.

The low percentage of those who have been hospitalized may be due to the fact that a large percentage of cases showed mild symptoms, as the survey results indicate that in 43% of cases, the patient had only one symptom of the disease, 18% had two symptoms, while the rest of the cases had 3 or more symptoms. The prevalence of the different symptoms varied, for 67% of declared patients experienced fever, 37% had severe cough, 39% suffered from vomiting or diarrhea, 31% had sore throat, 13% lost the sense of smell or taste, and 13% experienced abdominal pain.

Respondents were asked to mention all the ways in which they were diagnosed, and the results indicate that 15% of the patients were diagnosed through a smear test, 29% were diagnosed through a blood test, 38% conducted chest x-ray, and 23% knew after the examination at a doctor. In addition, 16% stated that they self-diagnosed when experienced some publicly-advertised symptoms.

Around 21% of the patients reported that at least one other member of their household had been infected, while 56% said that the rest of their family members had not been infected, and 23% did not know whether any of their household members were infected or not.

IV- Egyptians' rating for health system in Egypt before and during the COVID-19 pandemic

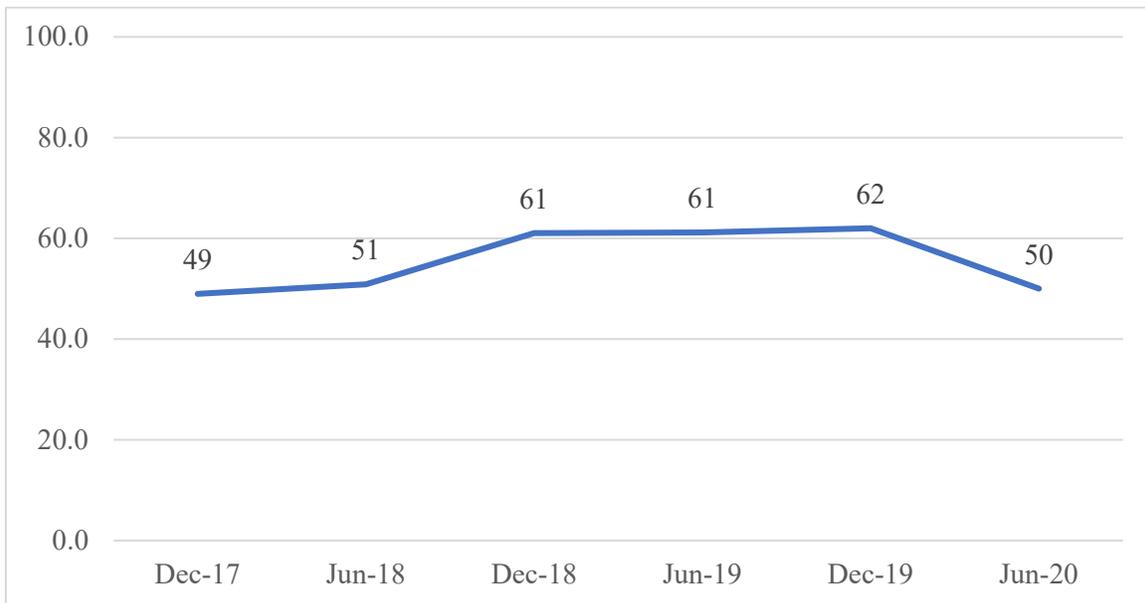
The periodic surveys of baseera center include questions about Egyptians rating for 29 services and issues in Egypt. Respondents are asked to rate each service on a scale from 0

¹³ Calculated based on the number announced by the ministry on June 13th.

to 5. An index is then calculated to reflect the mean rating in a scale ranging from 0 to 100. In 2017, the average Egyptians' rating of health services was relatively low (49 out of 100 points) if compared to other services such as electricity (81 points), subsidy (77 points), and security (74 points).

The rating of the health services started to increase after that to reach 61 points in December 2018 and continued at that rate until December 2019, just before the onset of COVID-19 (Figure 6). This increase could be attributed to the Presidents' initiatives to improve Egyptians' health such as 100 million healthy lives and HCV eradication campaign.

Figure 6 Trend of Health services rating from December 2017 to June 2020

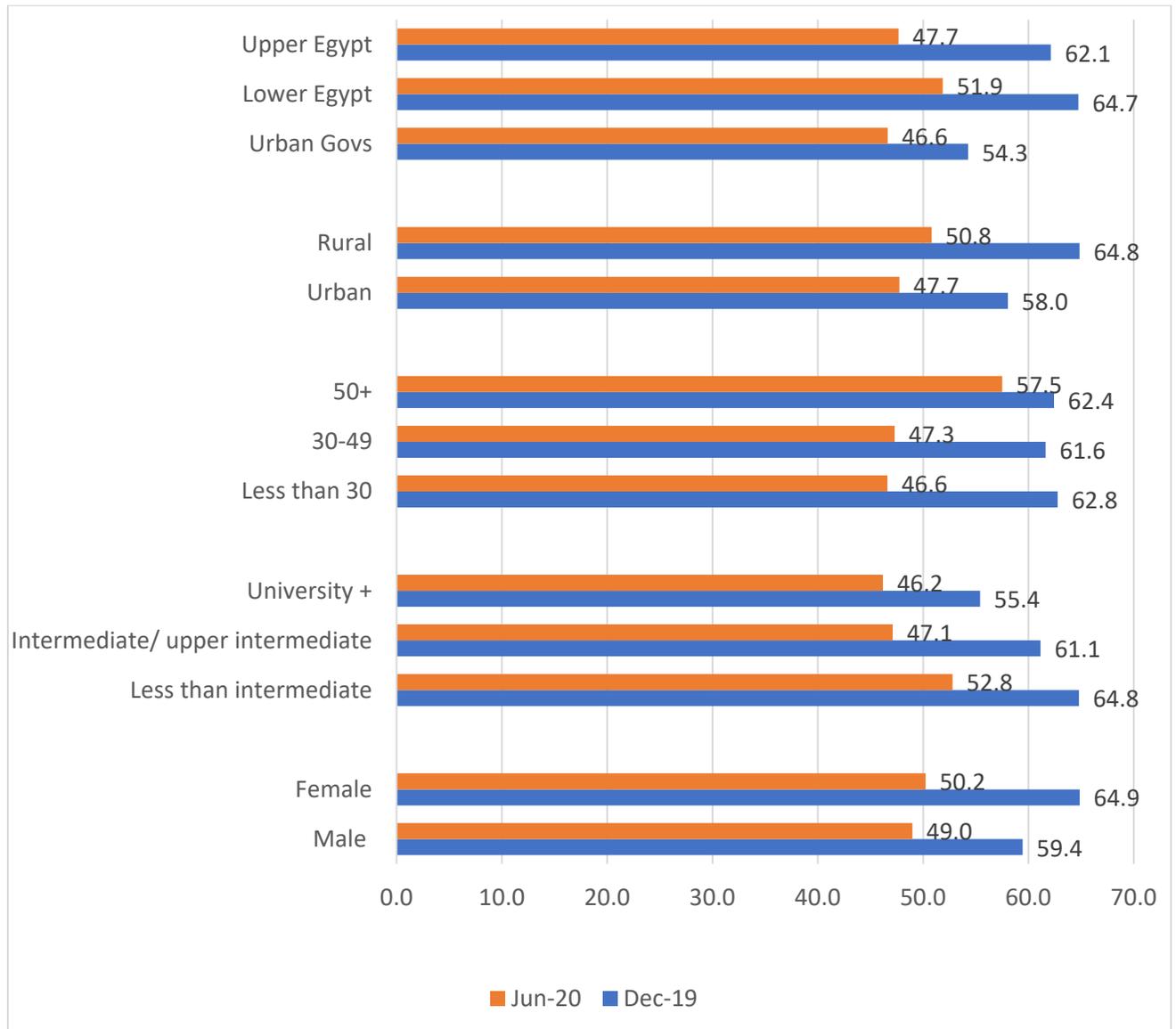


Source: General performance periodic survey, the Egyptian center for public opinion research (baseera), 2017 - 2020

The data of the survey conducted in June 2020 show a decline in the rating of the health services to 50 points in June 2020, 4 months after the onset of COVID-19 in Egypt. Comparing the rating of the health services in June 2020 to the rating in December 2019 shows that the decrease in the rating differed according to the characteristics of the respondents (Figure 7). The rating decreased with 15 points among females (from 65 points in December 2019 to 50 points in June 2020) compared to a decline of 11 points among males. The highest decrease was witnessed among youths less than 30 (16 points)

compared to 5 points among those aged 50 or above. The rating decreased with 15 points in upper Egypt compared to 13 points in Lower Egypt and 8 points in urban governorates.

Figure 7 Health services rating in December 2019 and June 2020 by characteristics

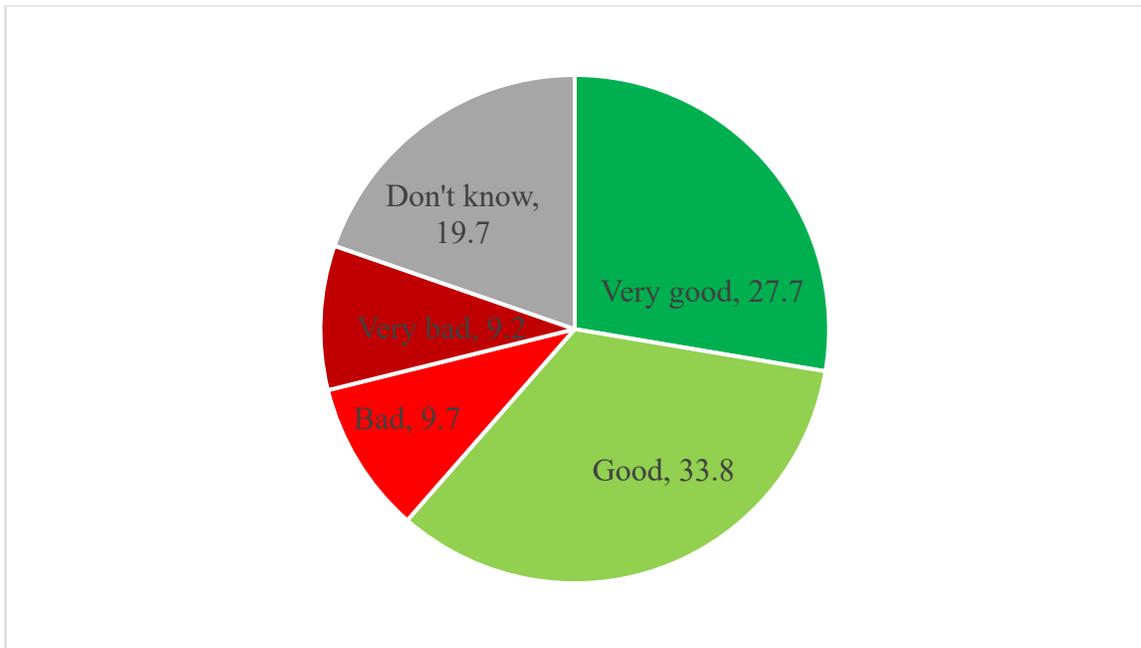


Despite the decrease in the rating of the health services after the onset of COVID-19, 62% of the Egyptians see that the performance of the health sector regarding COVID-19 in a good way while 19% see that the health sector performance regarding COVID-19 was poor and 20% couldn't decide. The percentage of those who rated the performance as good decreased from 62% among those who were not infected by COVID-19 to 42% among

those who were infected, which reflect the difference between perception (those who were not infected) and actual experience (those who were infected).

The apparent contradiction between the decrease in the overall rating of the health services and the fact that most of those who could rate the performance of the health sector regarding COVID-19 see that it was good could be explained by the findings of in-depth interviews with a sample of doctors¹⁴. Some interviewees mentioned that at the beginning of the pandemic the health system in Egypt was not ready for facing the pandemic but gradually the system started focusing on the pandemic and concentrated its efforts on eradicating COVID-19 which may had negative impact on the other health services.

Figure 8 How do you rate the way the health sector in Egypt tackled COVID-19?



Source: The prevalence of COVID-19 in Egypt survey, the Egyptian center for public opinion research (baseera), 2020

¹⁴ The following section includes more information about the in-depth interviews

V- Challenges that the health system faces during the COVID-19 pandemic

Fourteen online interviews have been conducted during the period from August 1st to August 15th to explore the opinion of stakeholders regarding the readiness of and challenges faced by the health sector in Egypt regarding COVID-19. The interviewees included physicians with different specializations, a parliamentarian, nurses and the president of the nurses' syndicate.

▪ Readiness of the Health system for COVID-19

Most of the respondents think that the health system was not ready for the first wave of COVID-19 pandemic. Two of the respondents assured that the system was doing very well at the beginning of the pandemic but utilizing physicians who were not trained for curing communicable diseases, led to the death of a significant number of the medical personnel. Conflicting decisions and abuse against medical staff led to the deterioration of the health system performance after a while.

Those who think that the health system was ready for the pandemic mentioned that the measures that were taken by the state with its various authorities were carried out according to a gradual scientific methodology and were consistent with the basic structure of the Egyptian health system.

Regarding the readiness of the health system for a second wave of the pandemic, respondents were divided over the readiness of the health system in Egypt. The first group believes that the health system in Egypt will be ready for a second wave of the pandemic due to the experience the system gained from the first wave in addition to equipping a field hospital and because the medical services of the armed forces have prepared strategic plans to deal with the second wave. Some respondents set conditions necessary to meet the challenge of a second wave, the most important of which are changing the method of coordination among different sectors, improving the health budget, not marginalizing university hospitals, and reviewing the capabilities of hospitals in different governorates.

As for the other group, they see that Egypt is not ready to deal with another wave of the pandemic, especially after exhausting the available resources in dealing with the first wave. One of the respondents expressed a belief that the new strains of the virus will be more fierce and that Egyptians will not adhere to the precautionary measures to the same degree of the commitment demonstrated during the first wave.

- **Challenges**

Respondents agree that there are great challenges facing the health system in Egypt. These challenges are mainly related to limited financial and human resources. The respondents think that the limited financial resources allocated to health system have led to low salaries, which in turn led to the leakage of a large number of doctors. In addition, hospitals are suffering from poor infrastructure and lack of equipment and protective tools. Regarding the human resources, respondents believe that the decreased number of doctors and nurses and the lack and inadequacy of training, in addition to the limited opportunities for exchanging experiences with other countries are among the most important challenges in Egypt. In general, respondents think that the Egyptian government needs to tackle the health file in a new way that put qualifying the health teams and rewarding them, qualifying the hospitals and providing needed equipment on the top of its priorities.

Respondents see that there are additional challenges that imposed themselves on the scene after the emergence of Covid-19 including the following:

- The greed of merchants and their misuse of the situation regarding the provision and pricing of medical supplies such as masks, disinfectants, and even electronic thermometers.,
- Centralization and the absence of a clear role for local health directorates.
- Medical teams lack adequate protective equipment to protect them from COVID-19 infection.
- Lack of training of medical teams to deal with communicable diseases, which increased the infection among them. In some cases, medical teams were afraid to deal with infected cases because they are not trained to do so.
- Failure to do swabs for the entire medical teams in hospitals, which led to the rapid spread of the disease among them.

- The lack of commitment to the rules of the curfew announced by the government and to social distancing.
 - The general state of frustration that afflicted the doctors after the Prime Minister's statement about the inaction of some doctors, which was wrongly understood as a government's blame for doctors.
- [Positive impact of COVID-19 on the health system in Egypt](#)

A potential positive impact of COVID-19 on the health system in Egypt could be driven from two main sources; the first focuses on the management of the health system in Egypt while the second focuses on the positive impact on the medical teams.

The in-depth interviews revealed some of these potential positive impacts on the health system. The fact that these points have been mentioned by the medical teams themselves, despite all the suffering they went through, reflects that these points are important to them and suggests that the government's emphasis and activation of these points could raise the satisfaction of the medical teams in Egypt. The most important points raised by the respondents are:

- The pandemic emphasized the importance of providing medical preventive measures, and raised the attention to preventive medicine.
- Changing the healthy culture of citizens, and the state's participation in supporting this change.
- The pandemic increased the Egyptians' confidence in the Egyptian health system and the effectiveness of the state's measures in facing the crisis.
- Increasing the state's interest in scientific research in the health field.
- Parallel treatment by many doctors launching pages on social media to take care of patients and provide the necessary information and support to patients.
- Increasing interest in equipping hospitals and increasing the number of intensive care beds.
- Reviewing the conditions of seconded doctors and those on leave without pay.

- Taking decisions to increase the number of colleges of medicine and nursing and expand student enrollment.
- It is expected to develop scientific specializations for crisis management and to focus on scientific research to produce vaccines and medications.
- Focusing on the pharmaceutical industries, the production of medical supplies, and the localization of technology for their industries.

The respondents agreed that COVID-19 did not, so far, have any positive impact on the medical teams, on the contrary, it had a negative psychological impact on them and led to great stress, in addition to the death of some medical personnel in Egypt. The only positive thing that the respondents mentioned as COVID-19 positive impact on the medical teams is restoring the positive perception of Egyptians regarding doctors and treating them as the ‘white army’ that protects the country from disasters. The respondents expressed their hopes that COVID-19 would lead to a reconsideration of doctors’ and nurses' salaries.

VI- Conclusion

Egypt suffers from a deterioration in the health system due to lack of financial and human resources. The quality of the health service remains a fatal issue in Egypt. The rating of Egyptians to the quality of the health services was average before the COVID-19 pandemic. COVID-19 put more pressure on the health services. The actual number of COVID-19 infections is estimated at 14 times the numbers announced by the ministry of health and population. The patients who needed to be hospitalized and even those who chose the domestic isolation are still in need for the health services, which reflects the importance of increasing the medical workforce to cover these needs. The ministry of health and population should put its plans to deal with the second wave according to the estimated actual number not only the numbers recognized by the ministry. After the emergence of COVID-19, the health system focused on dealing with COVID-19 which affected the quality of the other health services. Consequently, the rating for the health services witnessed further decreases. Upper Egypt should get more attention as it witnessed the highest decrease in the rating of the health services.

On the other hand, the in-depth interviews show that the health teams are not satisfied with the health teams rewarding system, the lack of preventive tools and qualification of the health facilities and feel that these work circumstances are the reason behind the decrease in the number of health workforce. This suggests that Egypt has to develop a clear vision and effective plan to improve the quality of the service to be able to achieve the country's quantitative targets that are related to the SDGs. This includes allocating more financial resources to improve the health facilities, to provide training for the health workforce, to provide suitable rewarding to the medical teams. On the other hand, the ministry of health needs to have communication channels with the medical teams to be able to deal with their needs, fears, and expectations from the country.