

■ Review Article

COVID-19 in Algeria: Chronology and Evaluation of Preventive Actions

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ABSTRACT

Covid-19 is an infectious disease caused by a new virus called SARS-CoV-2. First reported in Wuhan, in China, the disease is now considered as a pandemic of global interest. Algeria is the fourth most affected countries in Africa with 2718 positive cases in April 20 and the 55th in the world. Since its apparition the Algerian government has implemented a range of measures to reduce the spread of the virus. The chronology of actions taken is reported in this manuscript.

Keywords: COVID-19, Algeria, coronavirus, pandemic, prevention

INTRODUCTION

Coronavirus disease (COVID-19) was first detected in Wuhan, China in December 2019 as pneumonia of unknown origin. The disease quickly spread within Hubei province and has now reached all provinces in China and exported across the globe [1].

Later, the Center for Disease Control and Prevention (CDC) and Chinese health authorities announced that this disease is related to a novel Coronavirus denoted as Wuhan (CoV) or nCoV [2]. Shortly thereafter the genomic of several isolates was sequenced and became publicly available. The new virus was later named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) due to its similarity with the SARS-COV [3].

On January 30, COVID 19 was listed as epidemic of “public health emergency of international concern” by WHO and on March 11, it was finally recognized as a global pandemic urging all countries to step up their efforts to prevent the

spread of the virus. Shockingly and since its apparition, the number of cases has reached 2,182,823 with more than 145,551 deaths (On April 17, 2020 at 5:00 am) with an estimated case-fatality rate of (6.67%) [4]. However, and due to the lack of data regarding the real number of infected persons worldwide, it is still early to determine the exact value of mortality rate.

COVID-19 in Algeria

Algeria like other countries is also affected by the COVID 19. It is the third most affected country in Africa (after South Africa Egypt and Morocco) with 2718 cases (**Figure 1**) and was considered in phase 3 of the epidemic on March 23 according to the Algerian health minister. With 384 deaths, the lethality rate is also one of the highest in the world (14.1%) [5]. However, this rate does not reflect the reality knowing that the number of realized tests does not exceed 7000 and the number of cases seems to be higher [6]. Another point is also to take in consideration, the number of

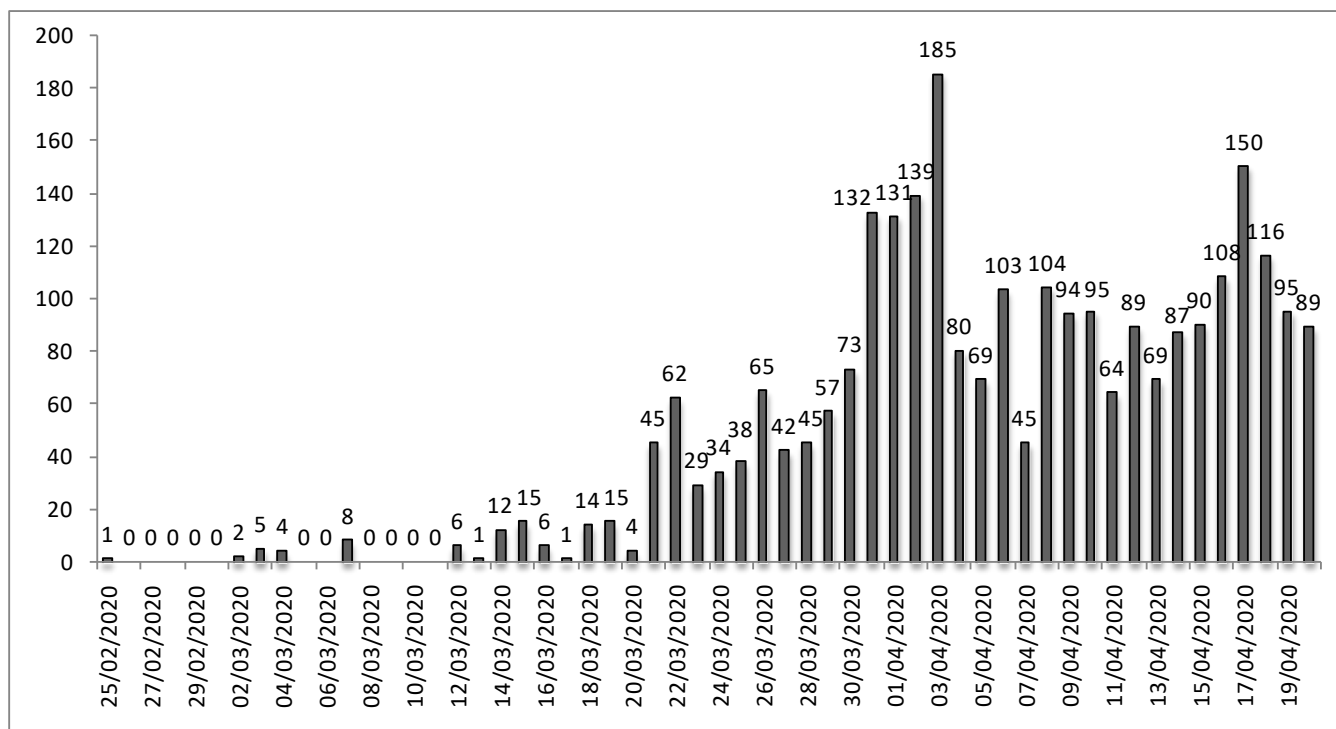


Figure 1. COVID-19 daily new cases in Algeria (COVID-19) [4,5]

positive cases represent 23% of the analyzed tests suggesting that until now, Algeria is not widely infected with this virus [6].

On the other hand, the number of cases diagnosed with radiology (Scanner) is 2618 increasing the number of cases to 4720 [5].

Using data on the volume of air travel departing from airports in the infected provinces in China and directed to Africa, Algeria was considered as one of the countries with the highest importation risk of COVID 19 from China with Egypt and South Africa [7]. Furthermore, it was part of the 13 top priority countries identified by the World Health Organization on the basis of their direct links and volume of travel to China [8]. However, and despite the delayed travel or flight restriction to China (on February 3, 2020), the first cases came not from this country but from Europe (France, Italy and Spain especially). The first case of COVID-19 was reported on February 25, 2020, an Italian national tested positive in the department of Ouargla in the south of the country. A few days later, on March 1, 2020, two cases were reported in the department of Blida in the North of Algeria, following their contacts with two Algerian nationals who came from France who were detected positive after their return to France. Since then, a COVID-19 outbreak has started in this region (Blida). Other departments also stated that they were affected by different imported origins especially in the department Algiers, Oran, Setif, Bejaia, Tipaza, Ain Defla and Tizi Ouzou Skikda and souk Ahras. On

April 15, 47 out of 48 departments has recorded at least one positive case. On the other hand, the genomic sequencing of the Algerian strain has shown 95-97% homology with the French strain and the virus was classified in a genetic group which contains French, Italian and Spanish strains reinforcing the hypothesis of its imported origin [6,9].

PREVENTIVE ACTIONS

Before the apparition of the disease in the country, Algeria like other countries has underestimated the gravity of this pandemic as not much was done to prevent it. The only action taken was the flight cancellation to China by the national airline company on February 3, 2020.

Since March 9, when the number of affected individuals was estimated to 20 cases, the Algerian government has started to adopt progressively a range of preventive measures consisting on international travel restriction, public gathering limitation, isolation and quarantine, preventing campaigns and lockdown.

INTERNATIONAL TRAVEL RESTRICTION AND ISOLATION OF REPATRIATED CITIZENS

After suspending of its flights to china on February 3, the Algerian airline company has decided to temporarily suspend all its flight to Milan (Italy) on March 9, 2020. On March 13, the same company announced the suspension of its flights to France and Spain starting from March 14 and March 16, respectively. This measure was preceded by the

suspension of all the flights from and to Morocco on March 12 by the concerned authorities of the two countries. The same measure was taken for all flights from and to France on March, 15 beginning in March 17. After the suspension of multiple flights from and to Arabian countries (Tunisia, Egypt, Qatar, UAE, and Jordan) and the closure of ground border on March 17, The Algerian President ordered in the same day the suspension of all flights from and to Algeria and an isolation period of 14 days for all repatriated citizens at containment centers with medical care. A number of private and public hotel establishments were prepared to host all repatriated citizens.

PUBLIC GATHERING RESTRICTION

On March 10, the Algerian health minister announced the cancellation of all public sportive cultural and political gatherings, fairs and shows. Shortly after, on March 12, the Algerian president ordered the closing of schools, universities, training center and all educational institutions. One day latter, the minister of religious affairs and Wakf ordered the closing of all mosques and cult places and the suspension of all collective prayers.

Other measures were ordered later on March 19 by the president consisting on the suspension of all private and public common transport, rail traffic and the demobilization of 50% of workers in public administrations and working women with young children and the closure of restaurants and cafes.

CONTAINMENT AND LOCKDOWN

On March 23, with a number of 230 cases (125 in Blida) and 17 deaths the Algerian authorities ordered a lockdown of the region of Blida and a partial containment of the border region of Algiers from 7:00 PM to 7:00 AM and the prohibition of all public meetings. Thus, they have ordered the closure of party rooms and familial celebrations and festivities and all shops (except food stores) in all the national territory and application of social distancing in all public receiving establishments.

Four days later and due to the propagation of the disease, the prime minister announced the extension of the partial containment to 8 other department with the highest number of cases (Batna, Boumerdes, Constantine, El Oued, Medea, Oran, Setif, Tipaza and Tizi Ouzou). The same measure was extended 5 days later (April 2) to four other departments (Aïn Defla, Bejaïa, Bordj Bou Arreridj and Mostaganem). on April 4, the partial containment was extended to all the departments of Algeria (except for Blida which was in total lockdown) and hours of containments

were extended from 3:00 PM to 7:00 AM for the the most affected departments (Aïn Defla, Algiers, Bejaïa, Medea, Oran, Setif, Tipaza, Tlemcen and Tizi Ouzou).

PREVENTION CAMPAIGNS

Since the apparition of the disease, a number of preventive measures were initiated to struggle the spread of the virus. Public and private resources have been put in place to disinfect public areas. Truck sprayer, manual sprayer and police truck of law enforcement was used to disinfected popular districts roads and streets.

Some neighborhood and village associations have also been involved by disinfecting areas, controlling circulation, monitoring respect of lockdown and social distancing and helping needy families.

INSTALLATION OF A SUPERVISION COMMISSION

On March 21, a national commission of surveillance for COVID-19 was created. This multi-sectoral commission regrouped different sectors including: health, pharmaceutical industry, communication and a scientific committee to monitor the evolution of the outbreak. This commission composed by 10 experts on epidemiology and infectious disease is presided by the health minister and its role is to inform the population about the situation of the disease, the communication of related statistics and the precautionary measures taken against this disease.

CRITICAL EVALUATION AND ENCOUNTERED PROBLEMS

The Algerian authorities have chosen the progressive strategy for containment to reduce the spread of the virus. This strategy has its pros and its cons.

The progressive containment allows citizens to progressively adapt to this "new life" and this measure costs less to the government since it ensure to provide minimum service and the government is not in the obligation to provide goods to all families.

Contrary this strategy has shown certain defects: the time limitation of free time (07:00 to 15:00 or 07:00 to 19:00) and the limitations of time working in public administrations have conducted citizens to go out in the same time promoting, thereby crowding. On the other hand, and even if all food products are available, long and a non organized queues were observed semolina shops which is a food product of first need for the Algerian family. Other negative behaviors were also observed including practice of collective sports, non respect of social distancing, gathering in containment hours especially for young people away of

police control, and collective prayers on the roofs of buildings.

CONCLUSION

In conclusion, the number of COVID 19 cases is still high in Algeria but not dramatic. In this moment, the situation seems to be under control owing on the rapid intervention and the drastic measures applied. A member of the Algerian supervision commission said that we are past the worst phase of the outbreak and simultaneously the health minister declared the number of treated people has decreased for about 30%. However, experiences with this disease in other countries are to take seriously in consideration.

The question now is what will the Government impose after the initial date of the containment (April 29)? Go to a total lockdown or soften these measures? The world health organization has warned about the risk related to the rapid containment removal.

DECLARATION OF CONFLICT OF INTEREST

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