



African exemplary steps in fighting against COVID-19: A Moroccan example

Rachid Ait Addi^{1*}, Abdelhafid Benksim², Mohamed AMINE³, Mohamed Cherkaoui

¹Laboratory of Human Ecology, Department of Biology, School of Sciences Semailia, Cadi Ayyad University, Marrakech. Morocco

²High Institute of Nursing and Technical Health, Marrakech, Morocco

³Laboratory of Epidemiology, School of medicine and pharmacy, Marrakesh, Morocco

Email: ^{1*} dr.rachid.aitaddi@gmail.com orcid.org/0000-0001-8825-4133

¹ cherkaoui@uca.ac.ma orcid.org/0000-0002-4950-2533

² benksima@gmail.com orcid.org/0000-0002-2470-3718

³ mohamed.amine@gmail.com orcid.org/0000-0002-9008-277X

Correspondent author: dr.rachid.aitaddi@gmail.com

ABSTRACT

In December 31 2019, clustered cases of severe pneumonia reported in Wuhan, China. In March 12, 2020, WHO announces problem is a pandemic. Meanwhile, implementation of the national monitoring and response plan to COVID-19 started which. The aims of this study is to focus on the epidemiological situation of nCov-19 in Morocco, as well as the governmental measures and strategies undertaken to stop the propagation of this pandemic disease. In Morocco, 17,29% of COVID-19 cases had 65≥Years, 35.85% were aged between 41 and 64 Years, 20.37% were in 25 -40 Years age class. Also, 8.46% of COVID-19 cases were in 15 -24 Years age class ,3.87% were in 6 - 14 Years age class, and 1.15% had <5 Years. In addition, in Morocco it has been found that COVID-19 cases were more male than women (53% vs 47%). Also, two weeks after the use of Hydroxychloroquine associated to Azithromycin, it has been clear that number of COVID 19 deaths decrease, and number of healings increased. Finally, comparing Morocco to other countries, we find that the number of cumulative COVID-19 cases from the 100th case is very low which means that all measures done by the Moroccan government were efficient. Morocco has taken exemplary steps in its fight against the new coronavirus (Covid-19), and Pan African cooperation must continue to be strengthened to fire COVI-19 from Africa.

Keywords: COVID-19, Healthpolicy, Pandemic, Morocco-Africa

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INTRODUCTION

Morocco has taken exemplary steps in its fight against the new coronavirus (Covid-19), the Indian newspaper "The Times of India" (1). The Spanish newspaper "El País", the Australian media "Vibe Media", the French radio "France Info", the Italian researcher Lorena Stella Martini of the Italian Institute for International Political Studies, among others, were unanimous in emphasizing that "Morocco, thanks to a proactive strategy, is at the forefront of the world by adopting protected measures to contain the spread of the coronavirus," she said. Also, the French magazine "Forbes France" highlighted the "Marshall Plan" deployed by HM King Mohammed VI, highlighting "the far-reaching measures applied by Morocco to protect the population and cope with economic and social du Covid-19" (2). These were the comments of several international expert speakers on the management of the COVID-19 pandemic by Morocco.

In December 31 2019, clustered cases of severe pneumonia reported in Wuhan, China(3). Few days later, in January 7, 2020, a new Coronavirus type has been identified. Then, in January 30, 2020, the World Health Organization (WHO) decrees that the epidemic constitutes a Public Health Emergency of international scope (4). In March 12, 2020, WHO announces problem is a pandemic (5).

STRATEGIES AND RESULTS

The national monitoring and response plan to COVID-19 in Morocco had 3 objectives: (i) Prevent the introduction into national territory of SARS-CoV-2; (ii) Detect cases early and contain the spread of the virus; and (iii) Organize a national response adapted to the health system (Figure 1) [6,7]. In March 02, 2020, the 1st imported case of COVID- 19 detected in Morocco. Two days later, the 1st secondary case in Morocco. Thereafter, the number of confirmed cases has gradually increased which brought the Moroccan government to implement several measures such as social distancing (Figure 2) [6,8]. Actually, in March 15, 2020, land air and sea borders were closed. A day later, Studies stop for all school and university levels and a progressive and partial containment of the population was done. In March 20, 2020, the government announced (Decree) total containment [6,8]. Then, the number of new cases increased but very slowly, and from 04/07/2020 new cases apparition was stable (Figure 1).

Then, in March 2, 2020 Moroccan government authorized the use of chloroquine in treatment and prevention of COVID-19. Indeed, the protocol is based on 600mg of hydroxychloroquine daily with association of azithromycin. Two weeks later, it has been clear that number of COVID 19 deaths decrease, and number of healings increased (Figure 3).

In addition, in Morocco it has been found that COVID-19 cases were more male than women (53% vs 47%).

Furthermore, in Morocco, 17,29% of COVID-19 cases had 65≥Years, 35.85% were aged between 41 and 64Years, 20.37% were in 25 -40 Years age class. Also, 8.46% of COVID-19 cases were in 15 -24Years age class, 3.87% were in 6 -14Years age class, and 1.15% had <5Years (Figure 4). This means that the most affected age class by COVID-19 in Morocco is 41-64Years which is similar to the study of Zhonghua Liu Xing Bing Xue Za Zhi *et al*, who found that 86.6% of COVID-19 cases were aged between 30 and 79 years (Figure 4) [9].

Finally, comparing Morocco to other countries, we find that the number of cumulative COVID-19 cases from the 100th case is very low which means that all measures done by the Moroccan government were very efficient (Figure 5).

DISCUSSION

The kingdom of Morocco has benefited from a decline compared to other countries and has applied management combining foresight, firmness and rigor, with good collaboration from all of its population. Morocco has invested in real mass awareness, accompanied by dissuasive sanctions and widely disseminated on television and radio channels, in the press, on official web portals, on social networks and through actions in the field, including the use of drones [10]. Morocco's plan to fight the coronavirus epidemic is "multidimensional" and includes "diverse and far-reaching" measures to curb the spread of the virus and counter the economic and social impact of the epidemic, all of which constitute a Moroccan "Marshall Plan", the public authorities "have strongly mobilized" in order to provide support to the populations most affected by the slowdown in economic activity, in particular through the Special Fund launched by His Majesty King Mohammed VI, and which has collected more than 32 billion dirhams in donations so far. Also, the Kingdom devoted more than 2.7% of its GDP (to the fight against the coronavirus), making it among the first four countries in the world to have mobilized more financial resources to fight against this pandemic. Likewise, the creation of an Economic Watch Committee in order to "assess and anticipate the direct and indirect economic repercussions of Covid-19", adding that the committee adopted a series of proactive financial measures targeting all of the population most affected by the epidemic. Furthermore, in order to prevent the spread of infection in prisons, HM King Mohammed VI granted His royal pardon to the benefit of 5,654 prisoners and ordered to take all the measures necessary to strengthen the protection of prisoners within the establishments penitentiaries, particularly against the spread of the coronavirus pandemic.

In addition, the close monitoring of people who have been in contact with the sick was essential; increased screening capacity; the adoption, on March 23, of a new therapeutic protocol based on chloroquine (the Moroccan government acquired the entire stock of Nivaquine and Plaquenil manufactured by Sanofi in Casablanca); the introduction of the compulsory wearing of respiratory masks (whose national production capacity is close to 5 million per day); the increase in the production of hydroalcoholic gels for commercial purposes or for internal use (OCP (Sherifian Office of Phosphate) is developing an hydroalcoholic gel for its internal use, for its employees and its subcontractors); as well as the manufacture of 100% Moroccan artificial respirators [10]. Likewise, Morocco has also launched a "100% national production of respirators to treat patients suffering from coronavirus" which has enabled the Kingdom to currently count 3,000 resuscitation beds, being the best equipped with these equipments on the whole continent African. In addition, the Royal Armed Forces (FAR) have joined this task by creating military field hospitals, underlined, knowing that Morocco has a long experience in the

deployment of field hospitals, in several countries, in the within the framework of bilateral humanitarian operations or with the United Nations.

Finally, many interviews were held between HM Kings Mohamed VI and several African heads of state in which the Sovereign proposed the launch of an initiative by African Heads of State aimed at establishing an operational framework in order to support African countries in their different phases of pandemic management.

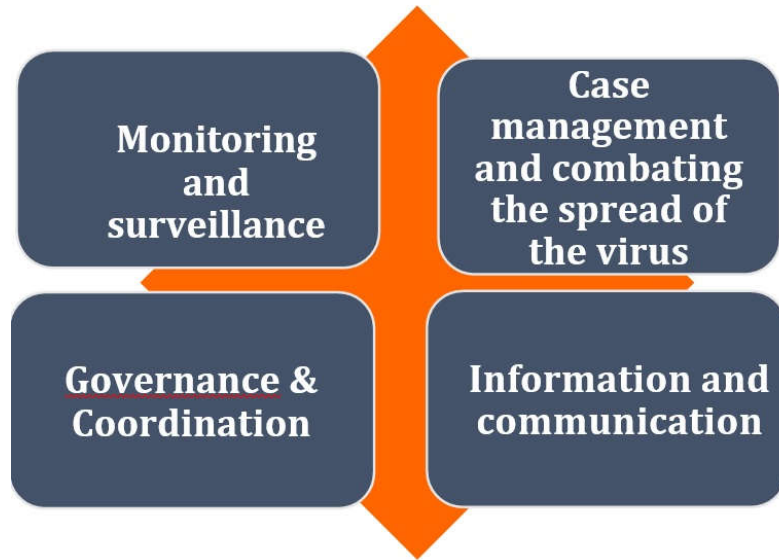


Figure 1: National Plan of COVID-19 [7]

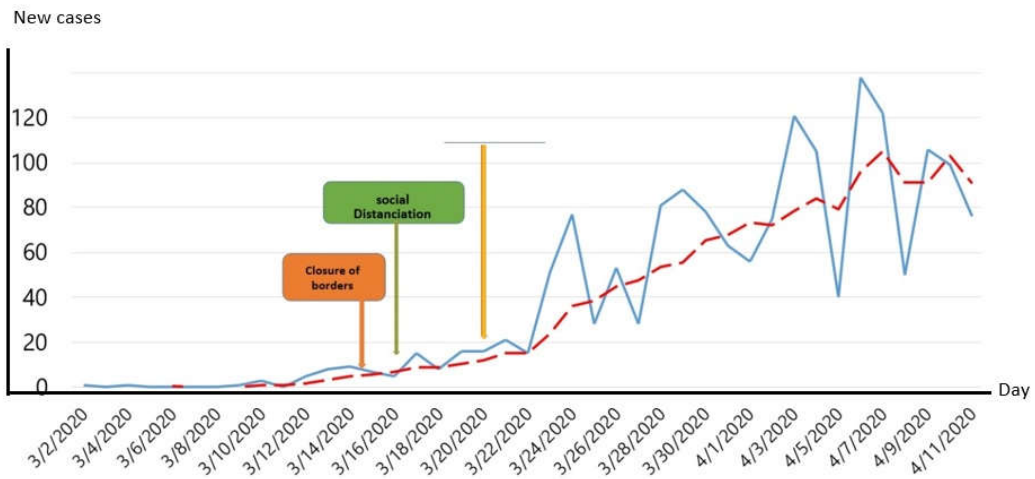


Figure 2: New Covid-19 confirmed cases in Morocco [7].

— Temporal evolution of the number of cases
 - - - Curve of moving averages over 5-day periods

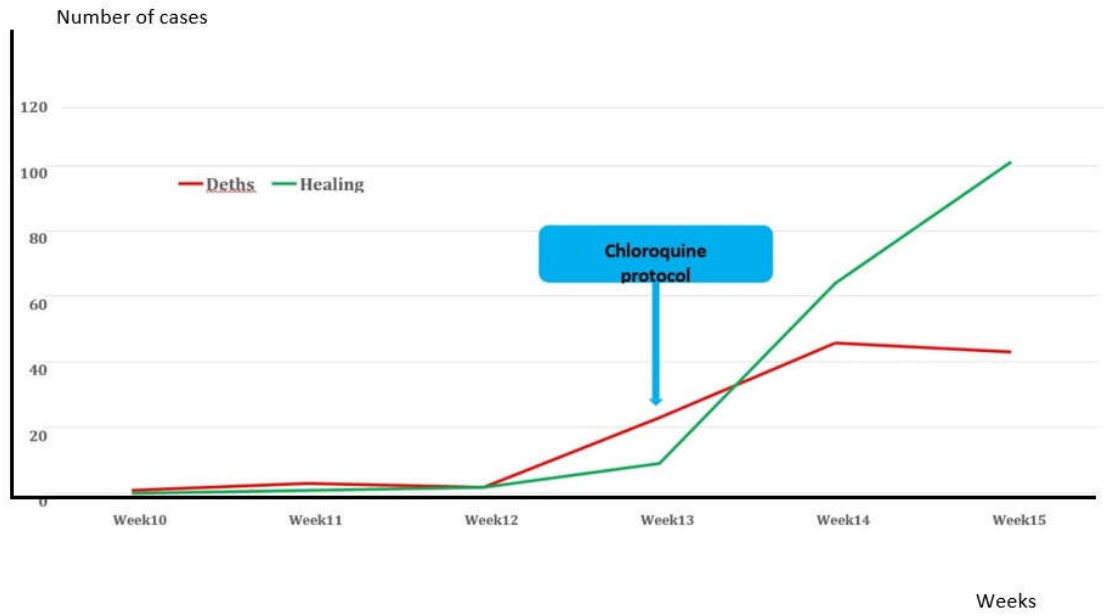


Figure 3 Weekly evolution of healings and deaths by COVID-19 in Morocco, on 04/12/2020 [7]

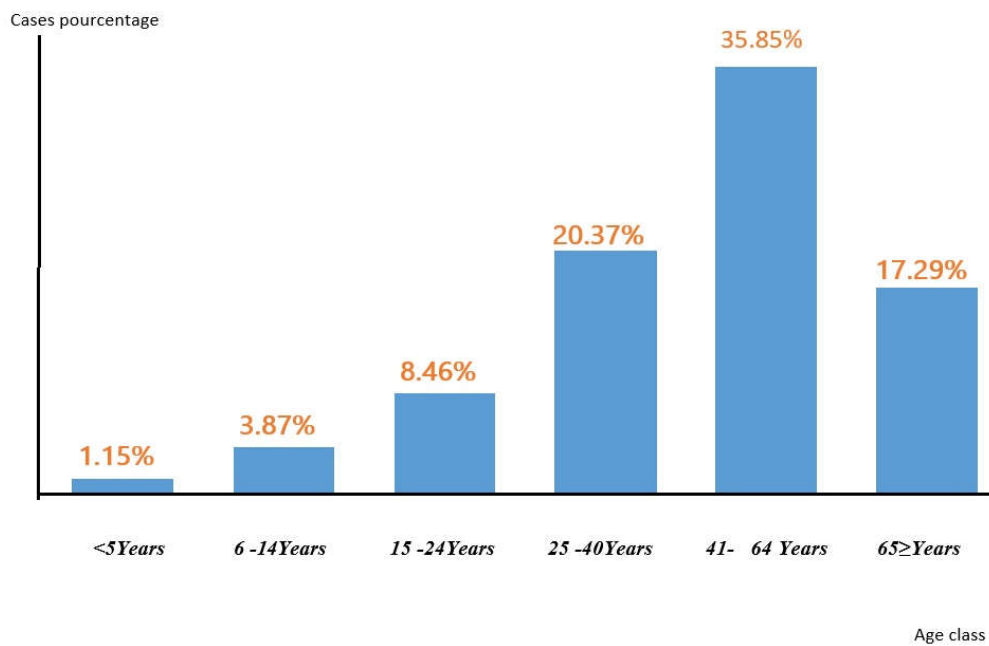


Figure 4: Distribution of COVID-19 confirmed cases by age, in 11/04/20 [7]

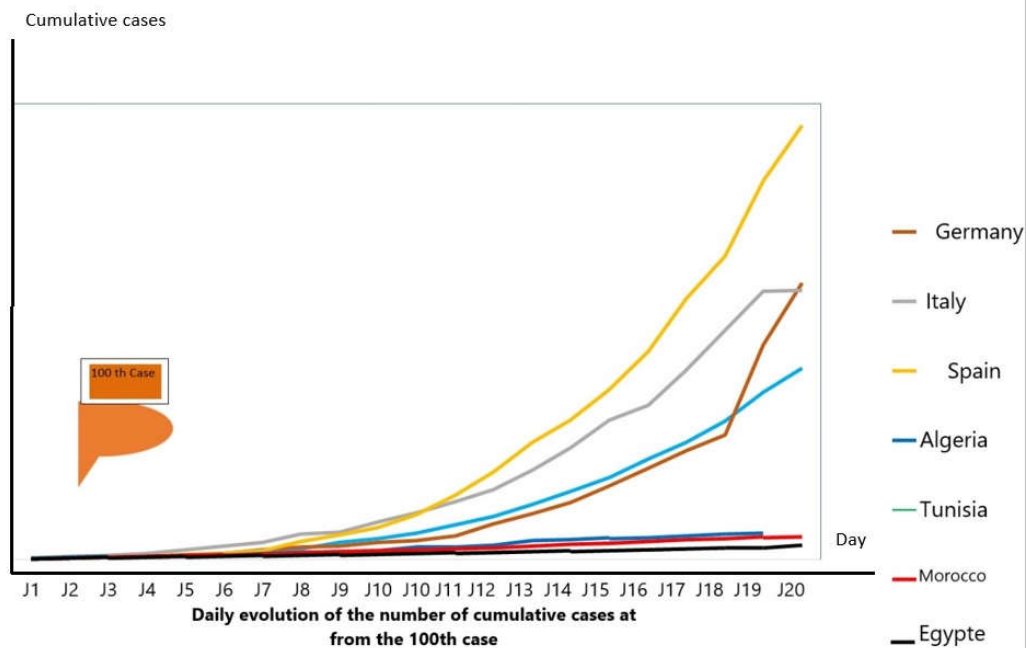


Figure 5: Comparison of evolution of cases from the 100th case between several countries [7]

CONCLUSION

Social distancing and hydroxychloroquine treatment were important measures that Moroccan government adopted which have good results in stabilizing new COVID-19 cases and reducing mortality. Also, thanks to the recommendations and the support of the king Mohammed VI, a drastic measures conducted by the government, Morocco is on the good way in management of the COVID-19 pandemic which make us very optimistic in the revolution of COVID-19 in Morocco and lead us to start to think about the post containment. Finally, Pan African cooperation must continue to be strengthened to fire COVI-19 from Africa.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

AUTHOR'S CONTRIBUTION

Literature search, manuscript preparation and editing was done by R.A.A, manuscript review was carried out by A.B. The supervision was done by M.C and the whole manuscript was read and approved by all the author

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