

COVID-19 Mortality: A Country Wise Comparative Analysis of the Global Data of Mortality: UAE is Doing Best from COVID-19 Patients from Incidence, Prevalence and Morbidity and Mortality Perspective to Flatten the COVID Curve

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Abstract

COVID-19 (coronavirus disease 2019) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), as of 17 June, 2020 the total global numbers of corona virus are 8,347,893 with death toll of 448, 858 and increasing day by day with as such no sign of slowing till now.

The data related with the incidence of new cases, new deaths, number of recoveries, active cases, serious cases and other many derived parameters are continuously being updated on the google and other search engines to keep updated information about the COID -19 and to take necessary steps to control the disease worldwide. At this moment of global disaster, we all are together. In order to summarize the incidence and the abovementioned information and to emphasize the stringent and country wide steps taken by UAE government to success fully control COVID 19 and consequent morbidity and mortality, I am here presenting the tope worst hit countries data and the unique, proactively and important steps taken by UAE government and they got success up to significant steps. Hence other countries can also take exemplary steps in a similar fashion to control the disease.

Keywords: Corona Virus; COVID19; UAE; Control of Infection

Background

Objective of this observational analysis of global data on COVID-19 and corona infection is to bring in highlight that UAE, despite a newly developed country (as compared to other developed European and rest of the world countries), is doing remarkable great work to combat the infection and contain the deaths rates attributable to COVID-19 as compared to top 30 worst hit countries globally.

Data as of now Last updated: June 17, 2020, 20:35 GMT.

Main text: First of all I would like to start with the top 30 affected countries data as mentioned in the worlds most dynamic an updated site for COVID statistics <https://www.worldometers.info/coronavirus/>, I would first like to convey my sincere gratitude for their efforts to keep all abreast updated about the worldwide COID statistics

Following data as of: <https://www.worldometers.info/coronavirus/> as of Last updated: June 17, 2020, 20:35 GMT [1].

Now after showing the COVID statistics I would like to emphasize upon the UAE COVID statistics as below (and you can see in the above table as well).

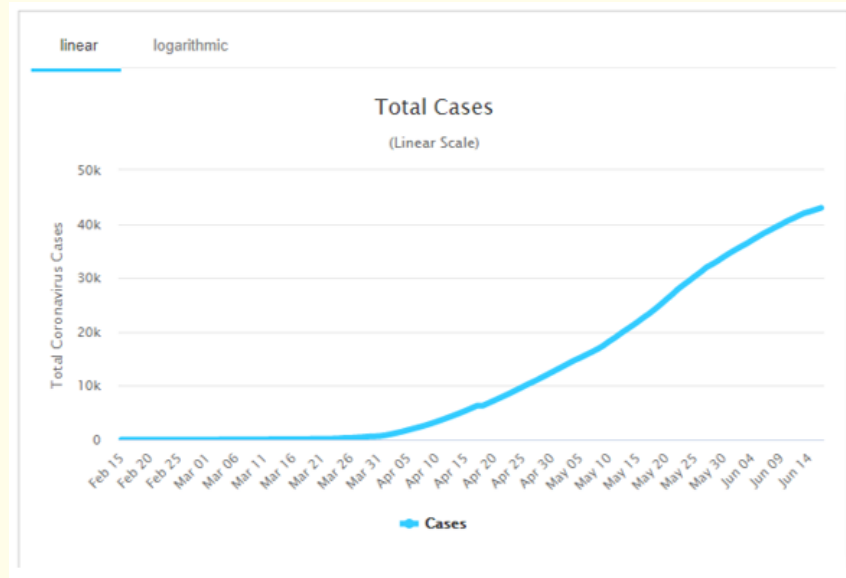
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Alt	Europe	North America	Asia	South America	Africa	Oceania								
#	Country, Other	Total Cases	New Cases	Total Deaths	New Deaths	Total Recovered	Active Cases	Serious, Critical	Tot Cases/ 1M pop	Deaths/ 1M pop	Total Tests	Tests/ 1M pop	Population	
	World	8,347,893	+96,669	448,858	+3,670	4,368,802	3,530,233	54,474	1,071	57.6				
1	USA	2,226,241	+17,841	119,779	+647	908,529	1,197,933	16,655	6,727	362	26,078,601	78,804	330,928,170	
2	Brazil	934,769	+5,935	45,585	+129	477,364	411,820	8,318	4,399	215	1,709,468	8,045	212,500,470	
3	Russia	553,301	+7,843	7,478	+194	304,342	241,481	2,300	3,791	61	16,679,724	107,445	145,932,234	
4	India	367,264	+13,103	12,262	+341	194,438	160,564	8,944	266	9	6,084,266	4,411	1,379,455,941	
5	UK	299,251	+1,115	42,153	+184	N/A	N/A	379	4,409	621	7,121,976	104,932	67,872,439	
6	Spain	291,763	+355	27,136		N/A	N/A	617	6,240	580	4,826,516	103,232	46,754,133	
7	Italy	237,828	+328	34,448	+43	179,455	23,925	163	3,933	570	4,773,408	78,945	60,464,907	
8	Peru	237,156		7,056		125,205	104,895	1,121	7,197	214	1,396,605	42,383	32,952,301	
9	Iran	195,051	+2,612	9,185	+120	154,812	31,054	2,789	2,323	109	1,319,920	15,723	83,947,823	
10	Germany	189,027	+645	8,918	+8	173,600	6,509	406	2,256	106	4,694,147	56,033	83,774,027	
11	Chile	184,449		3,615	+232	156,232	24,602	1,794	9,652	189	886,169	46,373	19,109,674	
12	Turkey	182,727	+1,429	4,861	+19	154,640	23,226	745	2,168	58	2,773,904	32,904	84,301,943	
13	France	158,174	+458	29,575	+28	73,667	54,932	772	2,423	453	1,384,633	21,214	65,268,238	
14	Mexico	154,863	+4,599	18,310	+730	116,178	20,375	378	1,202	142	428,563	3,325	128,877,519	
15	Pakistan	154,760	+5,839	2,975	+136	58,437	93,348	111	701	13	950,782	4,308	220,697,198	
16	Saudi Arabia	141,234	+4,919	1,091	+39	91,662	48,481	1,859	4,060	31	1,167,766	33,566	34,790,318	
17	Canada	99,786	+319	8,254	+41	62,000	29,532	1,971	2,645	219	2,216,730	58,754	37,728,960	
18	Bangladesh	98,489	+4,008	1,305	+43	38,189	58,995	1	598	8	551,244	3,349	164,622,947	
19	China	83,265	+44	4,634		78,379	252	5	58	3			1,439,323,776	
20	Qatar	83,174	+1,097	82	+2	62,172	20,920	240	29,622	29	304,801	108,555	2,807,805	
21	South Africa	80,412	+4,078	1,674	+49	44,331	34,407	208	1,357	28	1,200,736	20,256	59,277,377	
22	Belgium	60,244	+89	9,675	+12	16,684	33,885	67	5,199	835	1,056,075	91,137	11,587,727	
23	Belarus	56,032	+663	324	+6	32,735	22,973	92	5,930	34	778,935	82,432	9,449,432	
24	Colombia	54,931		1,801		20,366	32,764	335	1,080	35	519,990	10,224	50,860,734	
25	Sweden	54,562	+1,239	5,041	+102	N/A	N/A	272	5,404	499	325,000	32,188	10,096,837	
26	Egypt	49,219	+1,363	1,860	+84	12,730	34,639	41	481	18	135,000	1,320	102,247,168	
27	Netherlands	49,204	+117	6,074	+4	N/A	N/A	73	2,872	355	484,389	28,271	17,133,488	
28	Ecuador	48,490	+547	4,007	+37	23,881	20,602	230	2,750	227	135,845	7,705	17,631,471	
29	UAE	43,364	+382	295	+2	29,537	13,532	1	4,387	30	2,626,000	265,643	9,885,431	
30	Indonesia	41,431	+1,031	2,276	+45	16,243	22,912		152	8	559,872	2,048	273,405,579	
31	Singapore	41,216	+247	26		31,938	9,252	2	7,047	4	576,189	98,519	5,848,529	
32	Portugal	37,672	+336	1,523	+1	23,580	12,569	71	3,694	149	1,006,563	98,705	10,197,718	
33	Kuwait	37,533	+575	306	+3	28,896	8,331	190	8,794	72	343,027	80,375	4,267,854	
34	Argentina	34,159		886	+8	10,512	22,761	274	756	20	250,615	5,547	45,179,151	
35	Ukraine	33,234	+758	943	+31	14,943	17,348	327	760	22	517,995	11,842	43,742,277	
36	Switzerland	31,183	+29	1,966	+2	28,900	327	18	3,604	226	475,224	54,926	8,652,146	
37	Poland	30,701	+506	1,286	+14	14,921	14,494	76	811	34	1,247,099	32,950	37,848,055	
38	Philippines	27,238	+457	1,108	+5	6,820	19,310	417	249	10	536,845	4,902	109,519,465	
39	Afghanistan	26,874	+564	504	+13	6,158	20,212	19	691	13	60,298	1,551	38,886,984	
40	Oman	26,079	+810	116	+2	11,797	14,166	102	5,113	23	148,467	29,110	5,100,291	
41	Ireland	25,341	+7	1,710	+1	22,698	933	28	5,134	346	386,572	78,325	4,935,518	
42	Iraq	24,254	+1,554	773	+61	10,770	12,711	159	604	19	380,005	9,458	40,179,950	
43	Dominican Republic	24,105	+419	633	+18	14,216	9,256	137	2,223	58	114,535	10,563	10,843,502	

Figure

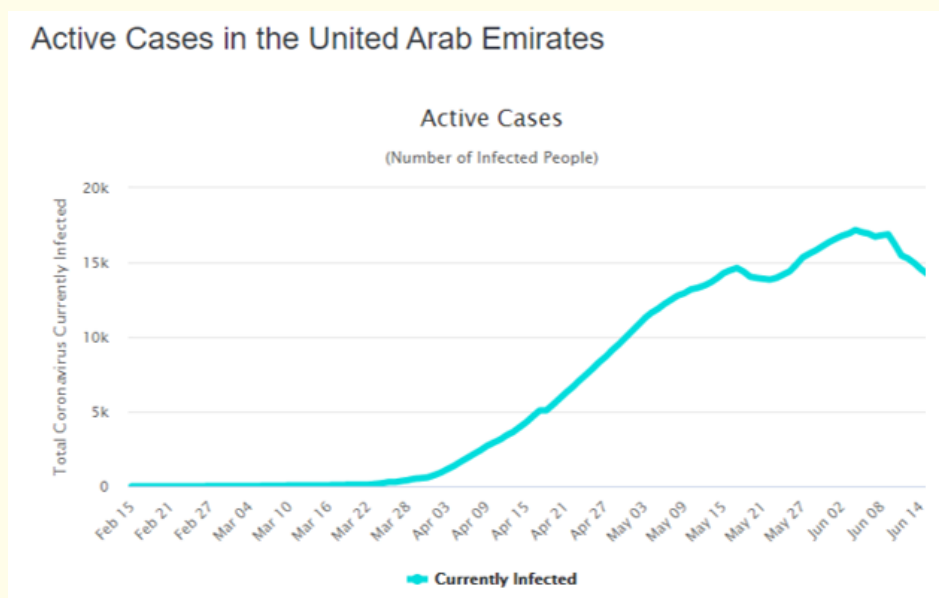
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Graph 1 this graph shows that number of case rises steadily from 26 March till 9 June 2020 and now with the extensive efforts of the government the plateau in the number of case has come and the curve has started getting flattening and numbers of cases are coming down despite opening the lock down.



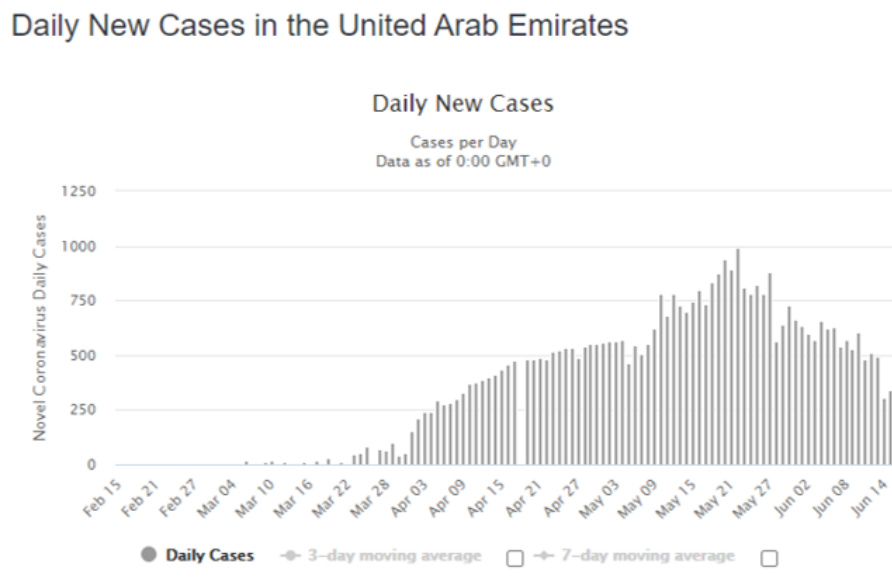
Graph 1

Graph 2 number of active cases also showed declined from 2 - 3 weeks onwards and still on the declining trends.



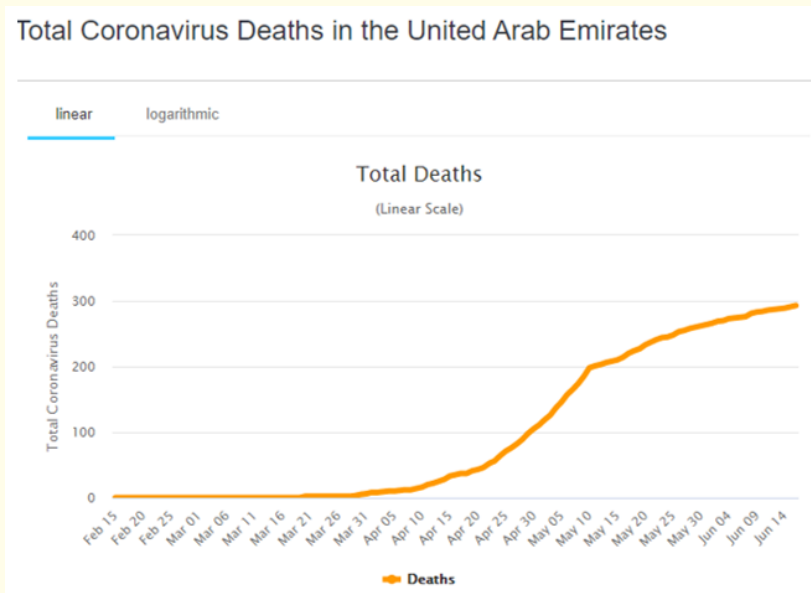
Graph 2

Graph 3 number of daily new cases which is the most important factor deciding the further spread of virus in community (and with consequent health, social and economical consequences) are coming down steadily and more importantly the sick pats number has reduce significantly which poses more burden on health care in terms of morbidity and mortality. On 16 June only 358 cases has been reported



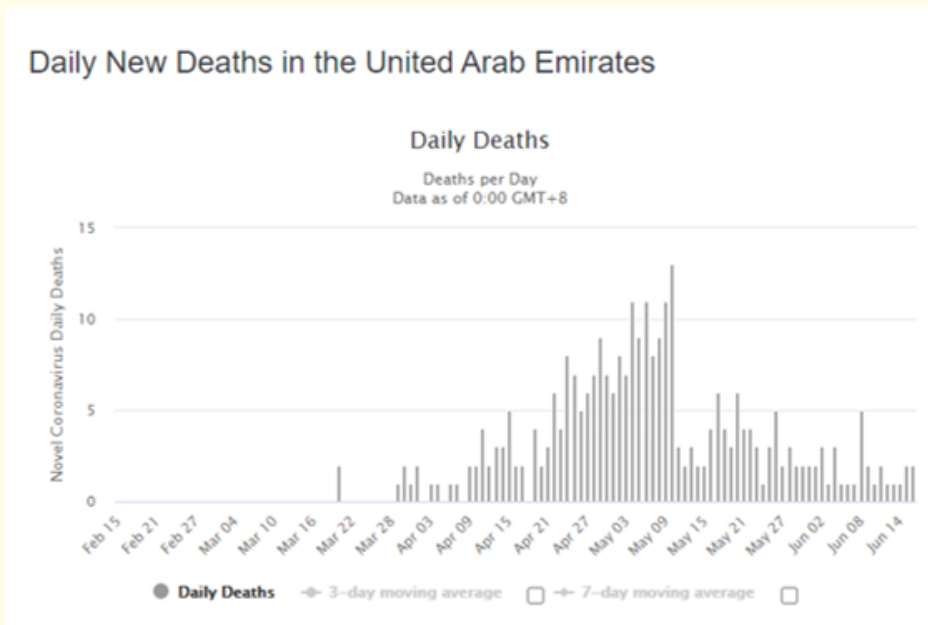
Graph 3

Graph 4 deaths attributable to early phase of corona pandemic in UAE were high due to late [presentation of case, but then with protocolised, standardized care along with the improved knowledge of the pathophysiology of COVID and timely effective evidenced based care the mortality significant reduced and came to a flattened line despite larger number of patients having active diseases.



Graph 4

Graph 5 this graph shows that that the mortality has almost come down to negligible in the last week of May and very few of new cases died.



Graph 5

We can easily compare the date provided by the most visited and reliable site about the corona and COVID updates and this clearly reflects that UAE is doing best among all countries in terms of screening, diagnosis, treatment and lowest mortality rates and best efforts for the safety of their residents. attributed to COVID-19 or due to associated NON COVID-19 illness as well) which clearly reflects the provision of best treatment and evidence based management of COVID cases in UAE. As a part of screening and early detection UAE carried out 213,615/1 million of population (and total number of tests done were 2.11 Million screening tests for a total population of 9,878,576 (approximately more than 20 percent of population was screened in a timely manner and segregated/quarantines/isolated if found positive).

UAE government carried out approximately Total 213,615/1 million of population, which is the highest number of total test done or highest numbers of test done per million of population as compared to global data showing the extensive magnitude of screening program in order to early detect and isolate and treat the case before the start of the complications of the disease.

If we compare it with the other major developed nations: Table derived from the data available online to make simplified table) <https://www.worldometers.info/coronavirus/> as of Last updated: May 31, 2020, 21:11 GMT.

Country	Total cases	New Cases	Total Deaths	New deaths	Total No. of cases/million	Total No. of deaths/million	Tests done/million population
USA	2,226,527	+18127	119786	+654	6728	362	78,832
Brazil	934769	+5935	45585	+129	4399	215	8,045
Russia	553,301	+7843	7478	+194	3791	51	107,445
India	367,264	13,103	12262	+341	266	9	4,411
UK	299,251	+1115	42153	+184	4409	621	104,932
Spain	291,763	+355	27,136		6240	580	103,232
Peru	240908	3752	7257	+201	7311	220	43,029
Italy	237828	+328	34448	+43	3933	570	78,945
Iran	195,051	+2,612	9,185	+120	2256	106	15,723
Germany	189,027	+645	8,918	+8	47,195	103	60,039
Chile	184,449		3,615	+232	9652	189	46,373
Turkey	182,727	+1,429	4,861	+19	2168	58	32,904
France	158,174	+458	29,575	+28	2432	453	21,214
UAE	43364	+382	295	+2	4387	30	265,643

Table 1: Data taken from the (<https://www.worldometers.info/coronavirus/> as on 31 May 2020) compare major points in a simplified way for readers and in 11 countries including UAE. Table has been presented based on highest number of cases and epidemiological burden (although the ranking may change every day especially in the top 20 affected countries).

In above table, We have extracted the data in a simplified way from a continuously updated website about corona pandemic, COVID-19, to compare UAE with other developed countries from COVID-19 statistics perspective and to find out the possible reasons employed in UAE for early control of prevention of infection and less morbidity and mortality.

This table clearly showed that due to maximum numbers of screening and to take all strict control measures and to ensure compliance to reduce the spread of corona virus in community, UAE could bought down the incidence, prevalence, morbidity mortality and number of case occurring per day under control very effectively and rapidly and now the pandemic curve is flattening rather I would say its showing declining trend.

If we compare the major outcomes of COVID in main developed countries, we can clearly see the difference as mentioned in the table below.

UAE had average of 4,387covid cases/1 million population, while the numbers of test done were highest in the world being total numbers of test 2,626,000 and 265,643 per million population showing the extensive efforts taken by the UAE government for the screening and early detection of case and proactive measures taken to curb the spread in country.

While the total Number of deaths per 1 million population was only 30 (including directly related to COVID or its complication or associated comorbidities) [2,3].

Discussion

First case of COVID-19 was detected in UAE on January 29, 2020 confirmed by the Ministry of Health and Prevention (MoHAP) since then UAE government has signalled the high alert for COVID-19 and formulated an effective and practical and strategy at maximum pace to mobilize all resources and employed all stringent measures thorough out the country to curb the corona virus and COVID-19.

UAE took immediate multimodal approach with synchronized involvement of ministry/government institutions/health sector/private companies/social organizations and public support, in coordination and as per directives of all the concerned higher authorities in the country, MoHAP, Dubai Health authority (DHA), Abu Dhabi (Health authority of abu dhabi HAAD) and other emirates took all the necessary precautions in accordance with the scientific recommendations, conditions and standards approved by the World Health Organisation and the recommendations of international and local experts.

The mortality rates due to COVID-19 is very low in UAE (compared to global data) due to the extensive timely efforts taken by UAE government which I can summarize as below in following headings.

Governmental strategies:

1. Allocation of huge amounts millions of dollars of funds immediately in order to mobilise and carry out all medical services to the best benefits of the residents (irrespective of expats and citizen status) to save every live because every life is equally precious in UAE.
2. Timely lock down of all the nonessential services, like schools, shopping mall, shops, markets and cinema, public parks/public places etc.
3. Formulation and implementation of functional effective strategies at all levels and in all ministry/departments in order to treat COVID-19 patients and prevent chain of transmission.

4. Country wide sanitation and sterilization program was conducted in regular basis.
5. Social distancing, stay home, lock down protocols, early closure of schools, online school education and many more standard infection control practices and to make sure about strict compliance.
6. All government and private organization's employees were encouraged to do work from home especially for Non-essential and non-emergency services.
7. Provision of all basic facilities viz food, sanitation, health check up, COVID screening and other facility as needed for the special areas of need and if there was any outbreak of COVID-19 cases then to completely isolate and contain/cease that area so as to prevent transmission of corona till the time all residents were screened and declared free from corona.
8. The main motive of the government was to educate, educated and educate and to bring awareness and to bring change in the lifestyle of the residents to reduce corona virus and COVID-19.

Administrative strategies

For the treatment of COVID-19 pts

1. Availability of ample number of Trained, dedicated doctors and nurses, paramedical forces and prompt and efficient response by them.
2. Acquisition of other private hospitals/government hospitals and their medical manpower to take care of COVID-19 patients, many tertiary level of care hospitals were taken over by Government to provide best standard of care to corona positive and COVID-19 pts across all emirates viz Abu Dhabi, Dubai, Sharjah and Ajman and other emirates.
3. Immediate arrangements of the most important medicines and equipment viz ventilator, PPE, infra-red thermometers and temperature scanner ta all hospital entrances and to make sure their regular uninterrupted supply so that there should not be any delay in the care of the pt.
4. Continuous amendments and upgradation/and implementation of the treatment protocols and policies of the COVID-19 patients based on the global evidence and the emerging new scientific literature about the pathophysiology of COVID and learning from global experience with the expert opinion of local experts and modification of those police in local environments in best care of patients with the target a of lowest morbidity and mortality and lowest transmission of cases in the community.
5. Providing free treatment to all COVID-19 or suspicious COVID-19 pts.

Steps taken for the health and safety of health care professionals (HCP)

- Regular screening of those health care professionals who are directly or indirectly involved in the care of COVID-19 patients so that we can detect asymptomatic HCP carrier earliest possible in order to avoid hospital spread of infection through asymptomatic careers in all major emirates of UAE viz. Abu Dhabi, Dubai, Sharjah and Ajman and other emirates.
- Provision of Quarantine for all the doctors and nursing staff and paramedical staff in hotels with provision of all facilities, to take care of their families so that their family members do not contract infection from them and isolation facility.

- Full, adequate supply of PPE and all equipment needed by the HCP to take care of COVID-19 patients.
- Opening of unique, one of its kind, state of art, well-equipped 3000 bed Field hospital within a short period of 7 - 10 days having all the facilities so that patients will feel at home having facilities for entertainment and indoor sports so as to keep COVID positive stable patients happy. Apart from this they deployed robots in field hospital so as to avoid contact of HCP with the COVID positive patients. Another 1200 bedded hospital in international humanitarian city for the isolation of COVID-19 positive patients to prevent spread of the virus in the community including availability of doctors, nurses, and paramedical staff and other hospitals were also taken over by government to exclusively serve for COVID patients in Abu Dhabi and other emirates.
- To hire new doctors from India proactively in order to increase the workforces and local hiring of nursing staff and medical doctors anticipating the magnitude of the problem and keeping all steps ahead of the situation so as to keep situation under control in case of if any worsening or increase number of cases occurs.
- Implementation of telemedicine services and online consultation, temporary suspension of outpatient departments, all elective surgeries and procedure and only emergency surgeries were allowed so as to avoid risk of hospital acquired COVID infection to non COVID patients.

For the early detection and prevention of COVID-19 transmission in the community and to take necessary steps: Widespread screening/Quarantine and isolation facilities

1. Highest number of people screened as compared to any country WORLD WIDE, either in absolute number or numbers of test done/1 million population as mentioned in the table and immediate management of those who are corona positive by providing isolation facilities in well designated areas.
2. Establishment of Fever clinic, flu clinic, ILI clinics in tertiary hospital in order to screen the patient.
3. Highest number of people screened as compared to any country and immediate management of those who are corona positive. Till 29th May, UAE carried out 1 million covid screening test as a part of mass testing strategy with 213, 36 person tested per/1 million of population with the daily average equalling the four month average in other countries, showing its determination to early detect and isolate and treat COVID patients much ahead than developed countries.
4. Opening up of many national screening centres in Abu Dhabi, Dubai, Sharjah and Ajman and other emirates at every easily accessible place/drive through screening centres so that all residents, especially those who have history of contact of corona patients or have symptoms could be screened earliest possible and can be quarantined or isolated based on the test results.
5. Suspension of flights in and out of the country, sanitation drives in flights/ships and public health awareness campaigns through social media and paper media.
6. Control of air traffic and ship traffic and regular screening of all those travellers who arrived at the start of pandemic and quarantine of those who were suspected COVID.
7. Withhold of international flights and shipping so as to prevent new cases coming from other countries.
8. 24/7 support system through hot line numbers so that citizens can contact the MOHAP and Dubai health authority to get medical advice.

9. Deployment of ambulance services to pick the patients from their home and to drop at isolation facility.

Moral support for the frontline warriors

We, as HCP convey our deepest gratitude and heartfelt thanks to UAE government to recognize our contribution and escalating morale of HCP persistently and untiring way as we know that COVID-19 war is drastically psychologically frustrating and mentally and physically exhaustive for the front line warriors (like HCP, Police employees, Sanitation and sterilization departments) government took this fact into consideration in a very empathetic and emotional way by time to time appreciating front line warriors and honouring them through all channels, TV, Radio, Newspapers, Mobile SMS etc which gave the frontline warriors a consistent motivation and perseverance to boost their morale to do their work in best possible way and also Providing them help and guidance at each and every steps and appreciated the efforts of HCP by providing 10 years golden residence visa as well. Many private companies has come forward to support the COVID front line warriors by offering them benefits as a token of respect on theirs services, hence it shows dedicated efforts and reflects that “we all are together in the fight against COVID”.

Humanitarian aid

Arrangement of food, cloths, shelter and other basic need for living like free video calls/opening of off free communication channels to get connected with their family back home in their countries and for the areas which were badly affected and suffered a complete lock down due to small outbreak of cases and in the labour residential area with the target to provide 10 million meals and may charitable organizations also worked with the government to accomplish this goal.

Special Arrangement of flights as soon as possible to repatriate stranded visitors, and residents in a full infection control way during the flight as well.

Recent survey has revealed that The UAE is among the top 10 countries in the world for coronavirus treatment, according to a global ranking.

The survey, by the Deep Knowledge Group, a consortium of technology companies and non-profit organisations, considered 200 data points for each country to compile the list, which placed Germany, China, South Korea, Austria and Hong Kong in the top five. Next was Singapore, Taiwan, Israel and Japan, with the UAE in 10th place.

The ‘Covid-19 Treatment Efficiency Ranking Framework’ assesses countries based on the sophistication and effectiveness of efforts to monitor the spread of the virus, treatment of patients, in addition to the capacity to develop, test, validate and deploy experimental vaccines and treatments [4]. The data came from sources including the World Health Organisation, Johns Hopkins University, in addition to overall economic and technological development. The United Arab Emirates has dealt with the coronavirus pandemic professionally, demonstrating the country’s readiness to deal with such a crisis. This has lead to a reduction in the number of persons infected by the virus in the UAE, a state in which more than 200 different nationalities live. The effectiveness in dealing with the crisis confirms that the UAE achieved high ratings in various fields not by coincidence, but through determined efforts and careful planning [5].

Conclusion

UAE has done its best to combat the COVID-19 and the corona virus prevention, and in fact UAE became succeeded in control of COVID 19 to a significant degree with its multimodal approach we can say that even better than many other developed countries. I recommend that this approach should be adapted by all countries where COVID is still not under control.

There are no words to say thanks to the vision of the country's leaders and their dedicated efforts to save the precious lives of their resident irrespective of their status as expats or citizens, all were treated equally. We, all now anticipate that corona has become a common virus like seasonal flu, malaria in our day to day life although its more contagious and more deadly considering the morbidity and mortality.

We never know when corona is going to end from the world, but UAE government has done it best to make it a safest city amongst the pandemic crisis of COVID-19 and has shown to the world that UAE is emerging not only as tourist hub because of its tall/large buildings and modern architectural attractions but its really growing very fast from the provision of medical services as well and to offer best and safest quality of medical care even as compared to developed world to all their residents.

I would like to conclude that UAE government left no stone unturned to combat the COVID 19 prevention and treatment perspective with the combined balanced approach of medical, social, economic and humanitarian perspective to be a role model of other countries to combat COID 19 pandemic.

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