EPHI, NATIONAL DATA MANAGEMENT CENTER FOR HEALTH (NDMC):- QUICK UPDATE ON COVID-19, 056th

This update summarizes:

- ***ETHIOPIA'S COVID-19 SITUATION UPDATE.***
- ***GLOBAL AND REGIONAL BURDEN OF COVID-19.***
- **INFLUENCE OF OBESITY TO COVID-19.**
- **SAFETY OF COVID-19 VACCINATION AMONG PREGNANT WOMEN.**
- **DISEASE BURDEN ATTRIBUTABLE TO THE FIRST WAVE OF COVID-19 IN CHINA AND THE EFFECT OF TIMING ON THE COST-EFFECTIVENESS OF MOVEMENT RESTRICTION POLICIES.**

ETHIOPIA'S COVID-19 SITUATION UPDATES.

- Since the last brief (29 April 2021), 4,851 new confirmed corona virus disease 2019 (COVID-19) cases and 156 new deaths have been reported nationally. To date, a total of 260, 139 COVID-19 cases and 3,795 related deaths (case fatality rate (CFR): 1.46) have been reported from 9 regions and 2 city administrations in the country. Compared to the cases and deaths reported a week ago, the national cumulative case and deaths showed increment by 1% and 3% respectively.
- There are 53,711active cases currently, of which 777 (1.44%) of them are critical. So far 203,408 cases have recovered from COVID-19, out of which 6,984 recoveries were over the last one week period which increased by 2% compared to the last week (Fig 1).

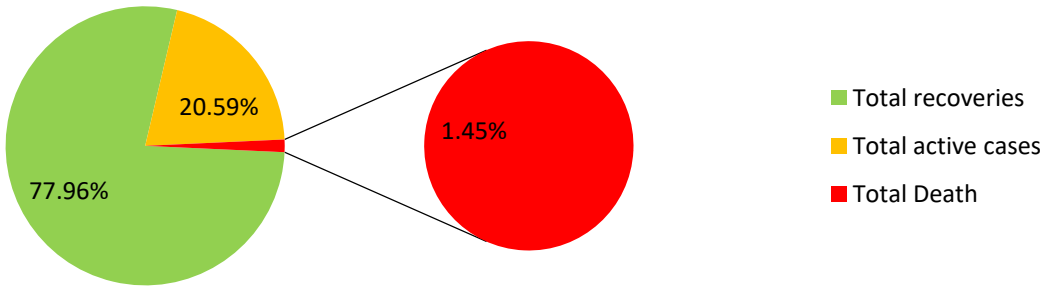

Fig 1: Proportions of active cases, recoveries and death as of May 6, 2021.

- The total number of tests done to date is 259,9462. Among 31,116 laboratory samples tested over the last one week duration, 4,851 of them tested positive for COVID-19, yielding a positivity rate of 15.6%.
- The highest single day positivity rate within the last week was recorded in Oromia (61.3%), while the least was in Benishangul-Gumuz (4.9%). In Addis Ababa the highest single day positivity rate was 17%.

Case Management and Infection Prevention Control (Ipc).

- There are total of 52, 934 active cases in the country currently as of May 6, 2021.
  - This week, April 29- May 6, 2021, there are 6984 newly recovered cases bringing the total number of COVID-19 recovered cases to 203, 408.
  - There are 777 patients in severe condition as of May 6, 2021 and all the other patients are on medical care in stable condition.

Home Based Isolation and Care (HBIC).

Since Home Based Isolation and Care (HBIC) is started in Ethiopia:

- A total 169, 545 COVID-19 confirmed cases are followed in the HBIC as of May 6, 2021.
- 151,704 of them have recovered in the HBIC as of May 6, 2021.
- 19,062 cases are currently on HBIC.
- 32 COVID-19 related deaths have occurred in the HBIC.
- 2064 cases have been transferred from treatment centers to HBIC.
- 811 cases have been transferred from HBIC to treatment centers.

EPHI and FMOH COVID 19 response highlights of the week /trainings and supply.

- There is on-going distribution of PPE, Viral Transport Media (VTM), swabs, pharmaceuticals and other medical supplies to isolation and treatment centers.
- On April 29/ 2021 Alert letter disseminated to all regions regarding safe practices of the upcoming Easter and Ramadan holidays in the context of COVID-19.

References

1. *Public Health Emergency Operations Centers (PHEOC), Ethiopia.*
2. *https://twitter.com/lia_tadesse.*
3. *http://www.covid19.et/covid-19/.*
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GLOBAL AND REGIONAL BURDEN OF COVID-19.

- Globally the total number of cases is extended to 155,839,187 as of May 6, 2021. A total of 134,054,889 cases recovered and 3,255,487 people died since the beginning of the outbreak. Globally, in a week time, from April 29 to May 6, 2021, COVID-19 cases increased by 3.7% and deaths by 2.9%. In the past week, Europe was the leading in terms of cases followed by Asia and North America. Europe continued to be became a lead in terms of the number of deaths followed by North and South America (Table 1).

Table 1. Global cases (top) and deaths (bottom) reported as of April, 2021.

	COVID cases	**Weekly % change**	**deaths**	**Weekly % change**
Global	150,242,628	3.7	3,164,170	2.9
Europe	44,300,021	1.8	1,008,082	1.7
North America	38,177,095	1.2	859,325	0.9
Asia	38,500,759	9.0	510,498	7.2
South America	24,629,090	3.3	663,606	4.1
Africa	4,572,189	1.4	121,452	1.7
Oceania	62,753	0.9	1,192	1.3

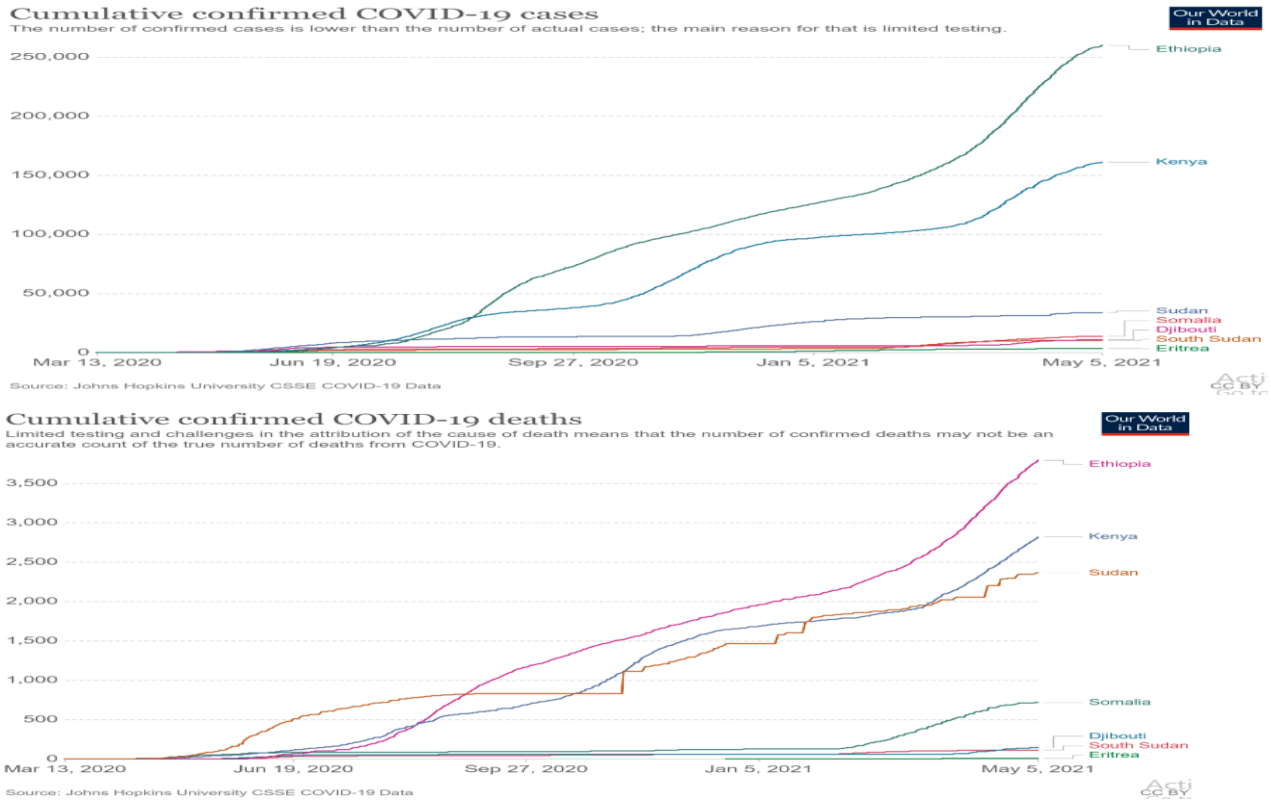
- USA has recorded the highest number of cases 1% (32,983,695 to 33,321,244 cases) and 0.8% (588,337 to 593,148 deaths) that accounts 21.4% of the total global cases and carried 18.2% of global deaths as of May 6, 2021, showed declining trend.
- India is the 2nd highest in terms of cases in a week time by 14.7% (18,376,524 to 21,077,410) and deaths by 12.4% (204832.0 to 230,168).
- Brazil became the 2^{3d} rand worldwide with increased number of cases in a week time by 2.8% (14,523,807 to 14,936,464) and deaths by 4.1% (398343.0 to 414,645).
- France ranked 4th globally with 5,706,378 cases and 105,631 deaths.
- Turkey ranked 5th globally replaced Russia with 4,955,594 cases and 41,883 deaths.

- The line share of Africa to the global COVID-19 pandemic was 3% and 3.8% of the global cases and deaths as of May 6). The cases in the continent have increased by 1.4% in a week time (4,572,189 to 4,636,622 cases). Similarly, the total number of deaths in Africa has increased from 121,452 to 123,554 showing 1.7%. Total recoveries stand at 4,166,734.

- South Africa is the leading in the continent with 1,588,221cases and 54,557 deaths. Morocco (512,656 cases, 9,043 deaths), Tunisia (315,600 cases, 11,122 deaths), Ethiopia (260,139 cases, 3,795 deaths) and Egypt (232,905 cases, 13,655 deaths) are the most four leading countries next to South Africa in reporting COVID-19 cases in Africa. (See table below).

Africa	April 29		May 6	
	Cases	Deaths	Cases	Deaths
South Africa	1,578,450	54,285	1,588,221	54,557
Morocco	510,465	9,015	512,656	9,043
Tunisia	305,313	10,563	315,600	11,122
Ethiopia	255,288	3,639	260,139	3,795
Egypt	225,528	13,219	232,905	13,655

- In East African, COVID-19 cases and deaths have shown fast progress. As of March, Ethiopia and Kenya continued to be the major drivers of the COVID 19 burden in east African countries.



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1. *John Hopkins, Corona Virus Resources https://coronavirus.jhu.edu/map.html*
2. *Worldometer, Corona Virus https://www.worldometers.info/coronavirus/*

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4. *Our World: https://ourworldindata.org/covid-cases*

INFLUENCE OF OBESITY TO COVID-19.

- Today, the COVID-19 has become a pandemic and an infectious disease that harms humans. Some factors aggravating a condition of COVID-19 patients have been overserved, for example: age, gender and comorbidity. One of factors aggravating the COVID-19 is overweight and obesity. Some theories about overweight or obesity that aggravate the COVID-19 appear.

- A retrospective cohort study conducted in Sindh, Pakistan, showed that out of a total of 127 mortalities, 25.2% of deaths had normal weight ranges, whereas 33.9% of deaths were overweight and 40.9% were at obesity of different levels, which shows the strong correlation between obesity and chances of mortality.
- In obese patients, mediators of inflammation that decrease compounds of anti-inflammation such adiponectin and increase oxidative stress occur. The increase of oxidative stress contributes for decreased ability of cell immune to fight for the infection. Obesity also can increase thrombosis causing disseminated intravascular coagulation (DIC) and thrombosis vena. Thrombosis also occurs in blood vessels in the lungs that can decrease the volume and capacity of the lung functions; consequently, this can complicate the clinical condition of COVID-19 patients. Increases of fat tissue in obesity can produce leptin which interferes heart functions and causes atherosclerosis. These conditions can aggravate the COVID-19 and increase mortality of COVID-19 patients.
- A main factor of death in COVID-19 patients is that fibrosis occurs in the lungs. In obese patients, there is an increase in lipofibroblasts in lung tissue containing fatty granules that cause fat deposits in the lungs. If the lungs are infected, lipofibroblast will be tuned into myofibroblast causing pulmonary fibrosis.
- Obese patients also often experience complications such as glucose metabolism disorders that cause hyperglycaemia. Hyperglycaemia can cause fluid and electrolyte disorders, blood coagulation problems, and aggravating infectious process. So, we should have efforts to maintain an ideal weight and lose weight for the overweight and obesity. However, the efforts will be difficult because the pandemic situation contributes for stress that can cause appetite in certain people to increase. In addition, the current situation requires us to do work

from home that causes fewer physical activities and becomes a risk factor of overweight. Therefore, we must maintain a diet and exercise at home.

Reference

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SAFETY OF COVID-19 VACCINATION AMONG PREGNANT WOMEN.

- The effect of Covid-19 among pregnant women higher risk for severe illness such as; admission to an intensive care unit, extracorporeal membrane oxygenation, or mechanical ventilation and death, as compared with non-pregnant women.
- Additionally, pregnant women with Covid-19 might be at increased risk for adverse pregnancy outcomes, such as preterm birth, as compared with pregnant women without Covid-19.
- The WHO recommended that the pregnant women may receive the vaccine if the benefit of vaccinating a pregnant woman outweighs the potential vaccine risks. The pregnant women at high risk of exposure to SARS-CoV-2 (e.g. health workers) or who have comorbidities which add to their risk of severe disease, may be vaccinated in consultation with their health care provider. How ever there was no enough data available on the safety or adverse effects of the COVID-19 vaccine among pregnant mother.
- The recently study conducted from December 14, 2020, to February 28, 2021, among 35,691 pregnant women enrolled in the CDC v-safe voluntary reporting system for COVID-19 immunizations, which is a part of the Vaccine Adverse Event Reporting System revealed that:-
  - ✓ Injection-site pain was reported more frequently among pregnant persons than among non-pregnant women, whereas headache, myalgia, chills, and fever were reported less frequently than non-pregnant women.

- ✓ Of 827 women who had a completed pregnancy at the time of this report, seven- hundred twenty-four live births (including 12 sets of multiple pregnancy; 86.1%), 104 spontaneous abortions (12.6%), and one stillbirth (0.1%).
- ✓ Ninety-two % (96 from 104) of spontaneous abortions that occurred before 13-weeks' gestation.
- ✓ Adverse events among the 724 live-born infants were preterm birth (9.4%), small size for gestational age (3.2%), and major congenital anomalies (2.2%); no neonatal deaths were reported.
- ✓ Although study had no parallel control group, the proportions of adverse pregnancy and neonatal outcomes (e.g., fetal loss, preterm birth, small size for gestational age, congenital anomalies, and neonatal death) among participants with completed pregnancies from the v-safe pregnancy registry appear to be similar to the published incidences in pregnant populations studied before the Covid-19 pandemic.
- ✓ Generally, this finding revealed that the COVID-19 vaccine has no significant adverse effect on pregnant women, the benefit from vaccination outweighs than not providing the vaccine, but still, it needs longitudinal follow-up study with large sample size and also it needs study on the currently provided vaccine called *AstraZeneca* COVID-19 *vaccine in Ethiopia since* the finding of this study was conducted on Pfizer–BioNTech Vaccine Moderna Vaccine users.

Reference

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3. *Shimabukuro TT, Kim SY, Myers TR, et al. Preliminary findings of mRNA Covid-19 vaccine safety in pregnant persons*
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DISEASE BURDEN ATTRIBUTABLE TO THE FIRST WAVE OF COVID-19 IN CHINA AND THE EFFECT OF TIMING ON THE COST-EFFECTIVENESS OF MOVEMENT RESTRICTION POLICIES.

- Movement restriction policies (MRPs) are effective in preventing/delaying COVID-19 transmission but are associated with high societal cost.
- This study aims to estimate the health burden of the first wave of COVID-19 in China and the cost-effectiveness of early versus late implementation of MRPs to inform preparation for future waves.
- The SEIR (susceptible, exposed, infectious, and recovered) modeling framework was adapted to simulate the health and cost outcomes of initiating MRPs at different times: rapid implementation (January 23, the real-world scenario), delayed by 1 week, delayed by 2 weeks, and delayed by 4 weeks.
- The end point was set as the day when newly confirmed cases reached zero.
- Input data were obtained from official statistics and published literature. The primary outcomes were disability-adjusted life-years, cost, and net monetary benefit. Costs were reported in both Chinese Renminbi (RMB).at 2019 values.
- The first wave of COVID-19 in China resulted in 38,348 disability adjusted life-years lost (95% CI 19 417-64 130) and 2,639 billion RMB losses (95% CI 1347-4688).
- The rapid implementation strategy dominated all other delayed strategies. This conclusion was robust to all scenarios tested.
- At a willingness-to-pay threshold of 70 892 RMB (the national annual GDP per capita) per disability-adjusted life-year saved, the probability for the rapid implementation to be the optimal strategy was 96%.
- Early implementation of MRPs in response to COVID-19 reduced both the health burden and societal cost and thus should be used for future waves of COVID-19.

Reference

1. Zhao, J., et al. (2021). "Disease Burden Attributable to the First Wave of COVID-19 in China and the Effect of Timing on the Cost-Effectiveness of Movement Restriction Policies." Value in Health 24(5): 615-624.