News and Views

10.4 Million Children in DRC, Northeast Nigeria, Central Sahel, South Sudan and Yemen will Suffer From Acute Malnutrition in 2021

The UNICEF has expressed concern over the health and well-being of 10.4 million children projected to suffer from acute malnutrition in 2021 in the Democratic Republic of the Congo (DRC), northeast Nigeria, the Central Sahel, South Sudan and Yemen.

All these countries or regions are experiencing appalling humanitarian crises while dealing with increasing food insecurity, a pandemic and, except for the Central Sahel, an imminent famine. In the DRC alone, 3.3 million children under five are estimated to suffer from acute malnutrition in 2021, including at least 1 million with severe acute malnutrition. In all these countries as well as in other parts, UNICEF calls on humanitarian actors on the ground and the international community to work towards expanding access to and support for nutrition, health, as well as water and sanitation services for children and their families… *(UNICEF, December 30, 2020)*

CBC Scoring Can Predict COVID-19 Severity

A scoring system based on 10 complete blood count (CBC) parameters with differential within 3 days of hospital presentation can help predict those with COVID-19 who have increased likelihood of progressing to critical illness, suggests new research.

The benefits include prognosis based on a common and economical clinical measure, and the automatic generation of the score with CBC results, reported investigators in the observational study carried out across 11 European hospitals. Investigators created an algorithm based on 1,587 CBC assays from 923 adults. The scoring system was validated in a second cohort of 217 CBC measurements from 202 individuals. The score could accurately predict the need for critical care within 14 days in 70.5% of the development cohort and 72% of the validation group. The findings are published online in the journal *eLife*… *(Medscape)*

Patients with Cancer a 'High Priority' Group for COVID-19 Vaccine: AACR

As the COVID-19 vaccines are being distributed, the American Association for Cancer Research (AACR) has called for people with cancer to be considered as a high priority group.

The AACR's COVID-19 and Cancer Task Force has stated that the available evidence suggests that patients with cancer, especially those with hematological malignancies, must be considered among the high-risk groups for priority COVID-19 vaccination. Literature review suggests that COVID-19 fatality rates among patients with cancer were twice that of individuals without cancer. The higher mortality rates showed an upward trend even after adjusting for confounders including age, sex, and comorbidities. This suggests that there is a greater risk for severe disease and COVID-19 related mortality. The AACR position paper appears online in Cancer Discovery… *(Medscape)*

Abnormal Clotting Common in More Severe COVID-19

Endothelial damage and subsequent clotting appear to be common in severe and critical COVID-19, which may have implications for treatment. Clots in the small vessels of all organs, not only the lungs but also the heart, the liver, and the kidney, have been described by Bin Cao, MD, of the National Clinical Research Center for Respiratory Diseases in Beijing. The investigators had reported March 11 in The *Lancet* that D-dimer levels >1 μg/L at admission were predictive of 18-fold increased odds of dying before discharge among 191 COVID-19 patients seen at two hospitals in Wuhan. D-dimer can exceed 70 or 80 μg/L.

Acute cardiac injury was reported in 12% of COVID-19 cases in a small case series in the *Lancet* which was cited by Cao. Another study reported a rate of 7.2% among 138 patients from another hospital in Wuhan.

Comorbid cardiovascular disease is a distinct risk factor for COVID-19, associated with a mortality rate of up to 10.5% among over 70,000 patients in one study. The virus can potentially bind to the endothelial cells and damage the blood vessels, especially the microcirculation of the small blood vessels, leading to platelet aggregation. It is not a myocardial infarction, not a stroke, but it is the clots all over the body. Hence, the high D-dimer. It is because of the wide spread of abnormal coagulation all over the body.

Besides endothelial shedding and thrombosis in vessels, autopsies have shown inflammatory changes

in the heart with fine interstitial mononuclear inflammatory infiltrates, but no viral inclusions in the heart. Other potential mechanisms for cardiac damage include hypoxia-induced myocardial injury, cardiac microvascular damage and systemic inflammatory response syndrome. In the majority of mild and moderate cases, the only cardiac impact was some tachycardia and slightly higher troponin.

Investigators highlighted the case of a COVID-19-infected man with apparent ST-elevation myocardial infarction (STEMI) by ECG, troponin T >10,000 ng/L, and CK-MB 113 ng/L, but coronary angiography showing no stenosis. After treatment with steroids, immunoglobulin, norepinephrine, diuretic, a vasodilator, and antibiotics, the man's ejection fraction recovered from 27% to 66% and his enlarged heart normalized. *(Medpage Today)*

Deficiency of Trace Elements in Patients with Alcoholic Hepatitis

Malnutrition is normally seen in patients with alcohol-related liver disease. Trace elements such as cobalt, copper, iron, selenium and zinc are crucial for several cellular processes including antioxidant pathways. The prevalence and significance of trace element deficiency in alcoholic hepatitis is not clearly understood.

A study was therefore designed to ascertain the prevalence of trace element deficiency and its association with clinical outcomes among alcoholic hepatitis patients.

Serum was obtained from patients with alcoholic hepatitis, alcohol-related cirrhosis and healthy volunteers. Investigators quantified the trace element concentration using inductively coupled plasma mass spectrometry. The link between trace element levels and development of infection within 90 days and mortality within 28 and 90 days was determined.

Sera were obtained from 302 patients with alcoholic hepatitis, 46 with alcohol-related cirrhosis and 15 healthy controls and were subjected to an evaluation for trace element levels. The prevalence of zinc deficiency was 85% and that of selenium deficiency was 67% in alcoholic hepatitis patients. It was found to be higher in patients with alcoholic hepatitis as compared to patients with alcohol-related cirrhosis (72% and 37%, respectively). Zinc, chromium, copper and selenium were shown to be significantly different between the groups. Iron deficiency predicted infection within 90 days while zinc deficiency appeared to predict mortality within 28 and 90 days.

Trace element deficiency was found to have a high prevalence in patients with alcoholic hepatitis and was associated with infection and mortality. Supplementation with certain trace elements could possibly enhance clinical outcomes in these patients.

Source: Aliment Pharmacol Ther. 2020;52(3):537-44.

US Dietary Advisory Committee Recommends no Added Sugar Until 2 Years of Age

A US government advisory group has issued its first-ever set of dietary guidelines for infants and toddlers. The plan from the 2020 Dietary Guidelines Advisory Committee recommends that children under 2 years of age should not be given any added sugar.

It further states that infants should be fed only breast milk for the first 6 months, where possible. The report stresses on breast milk as the best option for babies and states that it can help reduce the risk of obesity later on. However, if it is not available, infants should be given iron-fortified formula. Supplemental vitamin D should also be started soon after birth. The guidelines recommend that all Americans must limit added sugar to less than 10% of daily food intake… *(BBC, December 31, 2020)*

Gabapentinoids plus Opioids Increase Overdose Risk after Surgery

Gabapentinoids, gabapentin or pregabalin, added to opioids the day of surgery appeared to heighten the risk of opioid overdose and other adverse events, though absolute risks appeared to be low, reported an observational study.

In the study of nearly 5.5 million surgical admissions, including around 900,000 patients who received gabapentinoids with opioids, 441 overdose events were recorded. Absolute risk of overdose was 1.4 per 10,000 patients with gabapentinoid exposure and 0.7 per 10,000 patients with opioids only, reported researchers in *JAMA Network Open*. After propensity score trimming, adjusted HR for opioid overdose was 1.95 (95% CI 1.49-2.55) and the number needed to treat for an additional overdose to occur was 16,914 patients (95% CI 11,556-31,537)… *(Medpage Today)*

WHO Issues its First Emergency use Validation for a Vaccine Against COVID-19

The World Health Organization (WHO) has listed the Pfizer-BioNTech COVID-19 mRNA vaccine for emergency use, thus making it the first one to be given emergency validation by the agency.

This Emergency Use Listing (EUL) will enable countries to speed up their own regulatory approval processes for import and administration of the vaccine. It will also allow UNICEF and the Pan American Health Organization to procure the vaccine for distribution to countries in need. Dr Mariângela Simão, WHO Assistant Director General for Access to Medicines and Health Products, called it a positive move towards ensuring global access to COVID-19 vaccines and emphasized on the need for greater effort to attain enough vaccine supply to meet the demands of priority populations across the globe… *(WHO, December 31, 2020)*

Microvascular Injury of Brain, Olfactory Bulbs Noted in COVID-19

Multifocal microvascular injury in the brain and olfactory bulbs appears to be a possible adverse outcome from COVID-19, suggests new research published online December 30 as a "correspondence" in the *New England Journal of Medicine*. Postmortem MRI brain scans of 13 patients who died from COVID-19 exhibited abnormalities in 10 participants. Nine of these had punctate hyperintensities, representing areas of microvascular injury and fibrinogen leakage, suggested the investigators. Immunostaining demonstrated thinning of the basal lamina in 5 of these patients. Additional evaluation revealed punctate hypointensities linked to congested blood vessels in 10 patients. These areas were interpreted as microhemorrhages. There was no evidence of viral infection, including SARS-CoV-2… *(Medscape)*

New Coronavirus Variant Raises R Number by up to 0.7

The new variant of coronavirus is more transmissible than the virus's previous version, reported a study by the Imperial College, London. It further stated that the new variant increases the Reproduction or R number by 0.4 to 0.7. The UK's latest R number is estimated at between 1.1 and 1.3, and should be below 1.0 for the number of cases to start falling. Prof Axel Gandy of London's Imperial College has stated that the differences between the virus types were quite extreme. The study suggests that the transmission of the new variant tripled during England's November lockdown while the previous version was reduced by one-third… *(BBC, January 1, 2021)*

CRC Risk in Young Adults Not as High as Previously Estimated

The risk for colorectal cancer (CRC) in young adults appears to be lower than what has been previously estimated, as previous studies did not differentiate between colorectal adenocarcinoma and carcinoid tumors, which are incidental findings, suggest experts.

New estimates for the risk of CRC in young adults, which differentiate colorectal adenocarcinoma from other types, appear in a study published in the *Annals of Internal Medicine*. The new analysis revealed that 4% to 20% of the lesions previously described as CRC were not adenocarcinoma but carcinoid tumors.

Investigators determined the incidence rates of early colorectal cancer, using SEER data from 2000 to 2016, and stratified the data by histologic subtype (primarily adenocarcinoma and carcinoid tumors), age group (20-29, 30-39, 40-49, and 50-54 years), and subsite. The absolute incidence rate in the age groups of 20-29 and 30-39 years was very low compared to 40-49 and 50-54 years age groups. The greatest changes in adenocarcinoma 3-year average annual incident rates (2000 to 2002 vs 2014 to 2016) were for rectal-only cases in those aged 20-29 years (+39%), as well as rectal-only cases in the 30-39 years (+39%), and colon-only cases in the age group of 30-39 years (+20%)… *(Medscape)*

Laparoscopic Lavage is Safe in Perforated Diverticulitis

Long-term severe complications appeared to be similar with laparoscopic lavage and primary resection in perforated purulent diverticulitis patients, reported researchers in a study published in *JAMA Surgery*. However, recurrence was more frequent following lavage.

At a median follow-up of just below 5 years, results from the ongoing SCANDIV trial suggested no difference in severe complications (primary outcome) or in mortality, quality of life (QoL), and functional outcomes (secondary outcomes) between the treatment groups. Severe complications were noted in 36% (n = 26/73) in the laparoscopic lavage group compared to 35% (n = 24/69) in the resection group (P = 0.92). Recurrence of diverticulitis was more frequent following lavage, often resulting in sigmoid resection (30% in the lavage group proceeded to sigmoid resection), but with a lower stoma prevalence; stoma prevalence was 8% (n = 4) in the lavage group compared to 33% (n = 17, P = 0.002) in the resection group… *(Medpage Today)*

It is Premature to Change Authorized COVID-19 Vaccines Dosing, Schedules: FDA

The idea of modifying the authorized dosing or schedules of COVID-19 vaccines was premature and

was not supported by the available data, stated the U.S. Food and Drug Administration.

The agency said that it had been following discussions and news reports about decreasing the number of doses, increasing the length of time between the doses, reducing the dose in half, or mixing and matching vaccines in a bid to vaccinate more people. While the questions were reasonable to consider, the agency stated that changing the FDA-authorized dosing or schedules of these vaccines at this time is premature and has no robust evidence available. In the absence of appropriate data supporting the changes in vaccine administration, there is a significant risk of placing public health at risk… *(Reuters, January 5, 2021)*

Covaxin to be Tested on Children as Young as 2 Years

After becoming the first COVID-19 vaccine in the world to be tested on children as young as 12 years, Covaxin is now going to be tested on children as young as two years, stated Bharat Biotech chairman and managing director Dr Krishna Ella.

A clinical trial is now being planned on children aged 2 to 15 years. A proposal will soon be submitted to the subject expert committee. Ella emphasized that Covaxin is an inactivated virus vaccine based on a tried and tested vero cell platform that has been used for several vaccines. Covaxin was the first among the COVID-19 vaccines to initiate testing on children (in September). Covaxin Phase II trials were conducted on 380 volunteers in September 2020 that included participants aged 12 to 65 years. The Pfizer vaccine started testing on 12-year-olds in October while Moderna started enroling participants aged 12 years and above in December… *(ET Healthworld – TNN, January 5, 2021)*

Second Dose of Covishield to be Administered Between Four and 6 Weeks: DCGI

In its permission to the Serum Institute of India for manufacture for sale or distribution of Covishield, the Drug Controller General of India (DGCI) stated that the second dose has to be administered between 4 and 6 weeks of the first dose. The regulator further stated that data is available for administration of the second dose up to 12 weeks following the first dose from the overseas studies.

According to the permission document, the firm must ensure that the factsheet for the vaccine recipient or attendant is provided before vaccine administration. It further stated that the vaccine is meant for the active immunization of the individuals above 18 years of age for the prevention of COVID-19 when administered in two doses. The order specified that the shelf life is 6 months when stored at 2 to 8 degrees Celsius… *(HT – ANI, January 4, 2021)*

Diet Restricts GERD Beyond Acid Suppressants

Adhering to an anti-reflux lifestyle may prevent many symptoms of gastroesophageal reflux disease (GERD) in women, suggest data from Nurses' Health Study II. The decreased risk was observed even in regular users of acid suppressants, including proton-pump inhibitors (PPIs) and histamine-2 receptor antagonists (H2RAs).

Andrew T Chan, MD, MPH, of Massachusetts General Hospital in Boston, and colleagues noted that the possible explanations for this could be reduction in lower esophageal sphincter tone, increases in gastroesophageal pressure gradients, and mechanical factors, such as hiatal hernia. The results support the significance of lifestyle modification in managing GERD, reported researchers in *JAMA Internal Medicine*. Researchers used an anti-reflux lifestyle score (range 0-5) consisting of five variables including normal weight, defined as body mass index (BMI) of 18.5 to less than 25.0; never smoking; moderate-to-vigorous physical activity for at least 30 minutes in a day; not more than two cups of coffee, tea, or soda per day; eating a prudent diet. In comparison with women who did not adhere to anti-reflux lifestyle factors, the multivariable hazard ratio (HR) for GERD symptoms was 0.50 (95% CI 0.42-0.59) among those with five anti-reflux lifestyle factors… *(Medpage Today)*

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