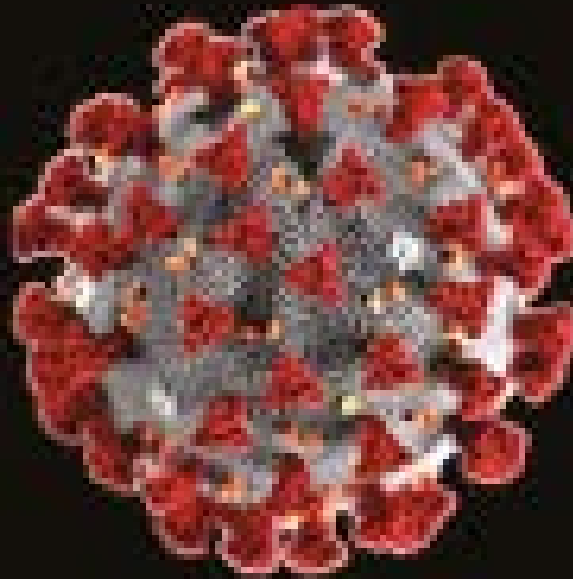


Updates on COVID-19



Updates on the role of early treatment with Ivermectin among patients with Covid-19

We still do not have conclusive evidence on the efficacy of ivermectin in preventing hospitalization among outpatients with symptomatic coronavirus disease 2019 (Covid-19). In a recent investigation, researchers, through a double-blind, randomized, placebo-controlled trial, studied rates of hospitalization due to Covid-19 within 28 days after randomization or an emergency department visit due to clinical worsening of Covid-19 among 3515 symptomatic SARS-CoV-2-positive adults in Brazil who had symptoms lasting not more than 1 week and at least one risk factor for disease progression. Participants received a dose of ivermectin 400 µg per kilogram once daily for 3 days or placebo, in addition to other treatments. They found no significant difference in the primary outcome or in rates of adverse events. They concluded that treatment with ivermectin did not reduce the risk of hospital admission among outpatients with an early diagnosis of Covid-19.

Reis G, Silva EASM, Silva DCM, et al. "Effect of Early Treatment with Ivermectin among Patients with Covid-19". *N Engl J Med*. 2022 May 5;386(18):1721-1731. doi: 10.1056/NEJMoa2115869.

Trajectory of long COVID symptoms after COVID-19 vaccination

Long Covid is responsible for prolonged morbidity among a significant proportion of patients after they recover from active covid-19 disease. It is not clear if covid-19 vaccination alters the trajectory of long Covid symptoms. Researchers, through a prospective cohort study observed 28,356 adults in the UK who had received at least one dose of covid-19 vaccine after testing positive for SARS-CoV-2 infection, for presence of long Covid symptoms at least 12 weeks after infection. Participants were followed for a median of 141 days from first vaccination (all participants) and 67 days from second vaccination (83.8%). An initial 12.8% decrease in the odds of long Covid was observed with the first dose but was not sustained in all participants. With the second dose an initial 8.8% decrease and a subsequent decrease by 0.8% per week was observed. They concluded that the data suggested sustained improvement after a second dose of covid-19 vaccination, at least over the median follow-up of 67 days and recommended longer follow-up periods during further studies.

Ayoubkhani D, Bermingham C, et al. "Trajectory of long Covid symptoms after covid-19 vaccination: community based cohort study". *BMJ*. 2022 May 18;377:e069676. doi: 10.1136/bmj-2021-069676. PMID: 35584816; PMCID: PMC9115603.

Risks of deep vein thrombosis, pulmonary embolism, and bleeding after covid-19: nationwide self-controlled cases series and matched cohort study

Previous research on the risk of COVID-19-associated venous thromboembolism (VTE) has shown conflicting results. Researchers sought to quantify the risk of deep venous thrombosis, pulmonary embolism, and bleeding after Covid-19. A total of 1,057,174 participants from the National registries in Sweden, who tested positive for Covid-19 were compared to 4,076,342 control participants through self-controlled case series and matched cohort study. The researchers found that Covid-19 was a risk factor for VTE, and the risk was increased at 70 days, 110 days, and 60 days after Covid-19 for deep venous thrombosis, pulmonary embolism, and bleeding respectively. The risk was higher in severe Covid-19, co-morbidities, and in the first pandemic wave. The researchers found these results compelling and could impact strategies against VTE following Covid-19.

Katsoularis I, Fonseca-Rodríguez O, et al. Risks of deep vein thrombosis, pulmonary embolism, and bleeding after covid-19: nationwide self-controlled cases series and matched cohort study. *BMJ*. 2022 Apr 6;377:e069590. doi: 10.1136/bmj-2021-069590. PMID: 35387772; PMCID: PMC8984137.

COVID-19 vaccine hesitancy in six geopolitical zones in Nigeria

Vaccine hesitancy (VH) poses a major challenge for the control of COVID-19. Scientists from Nigeria utilized a cross sectional survey to study the prevalence and factors associated with COVID-19 VH in Nigeria. Health care workers made the biggest proportion (58.4%) of the 1615 respondents, university students and adults in the general population made up the rest. Vaccine hesitancy was defined as expression of unwillingness to receive COVID-19 vaccine in the event of its availability. They found that in this population with 97.4% having at least secondary level of education, and majority 60.5% belonging to the upper social class, the prevalence of VH was 68.5% and 67.2% preferred foreign manufactured COVID-19 vaccines. Health care workers, nurses and pharmacists specifically, were more likely to have VH compared to the general population. Other predictors of COVID-19 VH included geopolitical zones, ethnic group, being a Christian and a lack of confidence in foreign-made vaccines. There is a need for targeted interventions to improve COVID-19 vaccine uptake.

Babatunde Oluwatosin Ogunbosi et al. COVID-19 vaccine hesitancy in six geopolitical zones in Nigeria: a cross sectional survey. *Pan African Medical Journal.* 2022;42:179. [doi: 10.11604/pamj.2022.42.179.34135]

Does maternal COVID-19 vaccination offer protection to their infant?

Infants under 6-months are at risk of complications from Covid-19 and are ineligible for vaccination. It is hypothesized that trans-placental transfer of antibodies could confer protection against Covid-19. Researchers through this case-control study assessed the effectiveness of maternal vaccination during pregnancy against hospitalisation for Covid-19 in infants under 6 months. The study enrolled infants hospitalised with Covid-19 (cases), and those hospitalised without Covid-19 (controls) and compared the odds of full maternal vaccination. The study found that fewer case infants (16%) compared to the control infants (29%) had been borne to mothers who were fully vaccinated against Covid-19 during pregnancy, with overall vaccine effectiveness against infant hospitalization for COVID-19 of 52%. They concluded that maternal vaccination with 2 doses of mRNA vaccine was associated with a reduced risk of Covid-19 hospitalisation in infants.

Maternal vaccination and risk of hospitalization for COVID-19 among infants. *New England Journal of Medicine* (06/22/22) Halasa, Natasha B.; Olson, Samantha M.; Staat, Mary A.; et al.

General Medicine Treatment for urinary tract infections in primary healthcare facilities in Cape Town, South Africa

Appropriate antibiotic prescription for common infections is very important especially with the growing global burden of Antibiotic resistance. Scientists in South Africa described treatment practices for urinary tract infections (UTIs) in adults receiving primary care in the public sector in Cape Town, South Africa. They reviewed laboratory and treatment records of patients who had been diagnosed with a UTI. They found that the majority (74.1%) of the 401 UTI episodes that were studied were complicated. Nitrofurantoin was the most frequently (57.1%) prescribed antibiotic, followed by ciprofloxacin (39.7%). Compliance with urine microscopy recommendations was low (6.7%), and antibiotics were suitably prescribed in 75.0% of uncomplicated and 70.0% of complicated UTI episodes. They highlighted a need for interventions to improve compliance with treatment guidelines for selecting the appropriate antibiotic, duration of therapy and urine microscopy findings.

N Keuler, Y Johnson, R Coetzee, Treating urinary tract infections in public sector primary healthcare facilities in Cape Town, South Africa: A pharmaceutical perspective. *South African Medical Journal* 2022;112(7):487.

Restriction of Intravenous Fluid in ICU Patients with Septic Shock

Much as intravenous fluids are recommended in septic shock, higher volumes have been associated with harm in patients admitted to the intensive care unit (ICU). This study sought to assess the safety of a restricted-intravenous fluid therapy approach. Researchers equally randomized 1554 patients with septic shock in the ICU to receive restricted or standard intravenous fluid therapy. The endpoint was all-cause mortality 3 months after randomisation. The study found a similar occurrence of death in both groups at 3 months; that is 42.3% in the restrictive-fluid group, and 42.1% in the standard-fluid group. The researchers concluded that intravenous fluid restriction when compared to standard fluid therapy does not result in fewer deaths at 3 months.

Tine S. Meyhoff, Peter B. Hjortrup, et al. "Restriction of Intravenous Fluid in ICU Patients with Septic Shock" *N Engl J Med* 2022; 386:2459-2470 DOI: 10.1056/NEJMoa2202707

Metabolic syndrome among HIV patients on Antiretroviral Therapy and ART-Naïve Patients

Despite the progress made in HIV care with the increasing availability of antiretroviral therapy (ART), drug related metabolic complications remain a challenge. Researchers in Nigeria, through a cross

sectional study evaluated the prevalence of metabolic syndrome and cardiovascular disease (CVD) among three categories of participants; HIV patients on ART, ART-naïve patients and HIV negative subjects. They found that HIV patients on ART had the highest prevalence of metabolic syndrome, with significant increases in waist to hip ratio, fasting plasma glucose, serum tryglicerides and Low Density Lipoprotein Cholesterol. Low serum levels of High Density Lipoprotein Cholesterol was the most prevalent dyslipidaemia in all three populations. HIV patients on ART also has a significantly higher prevalence of CVD compared to ART-naïve patients. They underscored the need to advise HIV/AIDS patients on ART on lifestyle modifications and the role for regular assessment for cardiovascular risk factors.

Ojong E, Iya B, et al. Metabolic syndrome and its components among HIV/AIDS patients on Antiretroviral Therapy and ART-Naïve Patients at the University of Calabar Teaching Hospital, Calabar, Nigeria. *Afri Health Sci.* 2022;22(1):410-7. <https://dx.doi.org/10.4314/ahs.v22i1.50>

Once-Weekly Dulaglutide for the Treatment of Youths with Type 2 Diabetes

Globally, type 2 diabetes mellitus (T2DM) is rapidly increasing among youth and there is a high therapeutic failure rate using metformin. Once-weekly dulaglutide, a glucagon-like peptide-1 receptor agonist could have efficacy on glycemic control in this population. In this study, researchers evaluated the efficacy of dulaglutide in 154 youth who were being treated with metformin, with or without basal insulin or with lifestyle modification alone. Participants were equally randomised into 3 groups to receive: a higher or lower-dose dulaglutide, or placebo, and followed up to 26 weeks. The outcome measure was a change in glycated haemoglobin (HbA1C) at 26 weeks. This study showed a decrease in HbA1C in the dulaglutide group, unlike placebo, with no difference in body mass index (BMI). They concluded that dulaglutide treatment was better than placebo in improving glycemic control, with no effect on BMI.

Arslianian SA, Hannon T, et al. "Once-Weekly Dulaglutide for the Treatment of Youths with Type 2 Diabetes". *N Engl J Med.* 2022 Jun 4. doi: 10.1056/NEJMoa2204601.

Intravenous Vitamin C in Adults with Sepsis in the Intensive Care Unit: data suggests harm

The role of Vitamin C in sepsis has long been studied and results have been contentious. Researchers through this randomised placebo-controlled trial evaluated the use of Vitamin C in adults with sepsis receiving vasopressor therapy in the Intensive care unit. A total of 872 patients were equally

randomized to receive either Vitamin C infusion or placebo every 6 hours for up to 96 hours. The outcome was a composite of death or organ dysfunction on day 28. In this study, both death and persistent organ dysfunction occurred more in the Vitamin C group than in the placebo group. The researchers concluded that receiving vitamin C in the above patient population was associated with a higher risk of death or persistent organ dysfunction.

Lamontagne F, et al "Intravenous vitamin C in adults with sepsis in the intensive care unit" *New Engl J Med* 2022; DOI: 10.1056/NEJMoa2200644.

Effect of active vitamin D treatment on development of type 2 diabetes: DPVD randomised controlled trial in a Japanese population.

Lifestyle modification delays the development of type 2 diabetes mellitus (T2DM) in people with pre-diabetes but maintenance of these behavioural changes is difficult, necessitating more sustainable strategies. Researchers in Japan, through a randomized controlled trial assessed whether vitamin D treatment could reduce the development of T2DM among adults with impaired glucose tolerance. Of 1256 participants enrolled, 630 were randomised to the eldcalcitol (an active vitamin D analogue) group and 626 to the placebo group and followed up for 3 years. The results showed that 79 (12.5%) participants in the eldcalcitol group and 89 (14.2%) in the placebo group developed T2DM. The study showed that vitamin D treatment did not significantly reduce the T2DM incidence in pre-diabetes but showed benefit in those with insufficient insulin secretion.

Tetsuya Kawahara, Gen Suzuki, et al. "Effect of active vitamin D treatment on development of type 2 diabetes: DPVD randomised controlled trial in Japanese population". *BMJ* 2022; 377 doi: <https://doi.org/10.1136/bmj-2021-066222> (Published 25 May 2022) *BMJ* 2022;377:e066222

A multifaceted intervention to reduce haemodialysis catheter-related bloodstream infections

Care bundles, a set of evidence-based interventions are widely used in medicine to reduce clinical variations and improve outcomes. Their utility in the reduction of catheter-related bloodstream infections (CRBIs) is uncertain. Researchers in Australia used a stepped-wedge cluster-randomised trial involving 37 renal units, to assess the effect of a care bundle (elements of catheter care) on the rate of CRBSIs. After a period of observation, the intervention was implemented at randomly assigned time points. The outcome measure was the rate of CRBSIs in observation compared with intervention phases. The study showed a similar rate of CRBSIs between

baseline and intervention phases, that is 0.21 versus 0.29 per 1000 days respectively. Researchers concluded that care bundles to reduce CRBSIs might not be effective in clinical practice settings.

Sradha Kotwal, Alan Cass, et al. "Multifaceted intervention to reduce haemodialysis catheter related bloodstream infections: REDUCTION stepped wedge, cluster randomised trial". *BMJ* 2022;377:e069634 <http://dx.doi.org/10.1136/bmj-2021-069634>

Albuterol-Budesonide Fixed-Dose Combination Rescue Inhaler for Asthma

Short-acting β_2 -agonists like albuterol are frequently used as rescue therapy in uncontrolled asthma. It is postulated that using a fixed-dose combination of albuterol and budesonide might be superior to the use of albuterol alone as the combination addresses worsening inflammation. In this study, researchers compared the use of the fixed-dose combination and albuterol alone as rescue treatment in patients with uncontrolled asthma. A total of 3,132 participants, the majority (97%) adults were enrolled and randomised into 3 groups; higher, and lower-dose combination (albuterol and budesonide) groups as well as an albuterol alone group. The study showed a 26% lower risk of severe asthma exacerbation in the higher-dose combination group compared to the albuterol alone group, without an increase in adverse events.

Papi A, Chipps BE, et al. "Albuterol-Budesonide Fixed-Dose Combination Rescue Inhaler for Asthma". *N Engl J Med*. 2022 Jun 2;386(22):2071-2083. doi: 10.1056/NEJMoa2203163. Epub 2022 May 15. PMID: 35569035.

Trial Compares Time-Restricted Eating vs Calorie Restriction over 12 Months for Weight Loss

Lifestyle modification, although challenging to maintain is the gold standard of weight management. The safety and efficacy of time-restricted eating in weight loss are uncertain. A study in China assessed this approach compared with daily calorie restriction alone on weight loss and metabolic risk factors in obese patients. Of 139 patients, 69 were in the time-restricted eating group (eating only between 8:00 a.m. and 4:00 p.m.) and 70 in the daily calorie restriction group. The study showed a mean weight loss from baseline of -8.0 kg in the time-restriction eating group and -6.3 kg in the daily-calorie-restriction group, with no differences in metabolic risk factors. Although there was a 1.8 kilogram difference between the groups, it was not a statistically significant difference. The findings suggested that among obese patients, restriction in the window of time one is eating probably wouldn't make a difference to weight loss.

Deying Liu, M.D., Yan Huang, M.S., et al. "Calorie Restriction with or without Time-Restricted Eating in Weight Loss". *N Engl J Med* 2022; 386:1495-1504 DOI: 10.1056/NEJMoa2114833

Infertility, recurrent pregnancy loss, and risk of stroke

Globally, women are more disproportionately affected by stroke compared to men. Female-specific risk factors, however, have not been well studied to identify women at higher risk of stroke. Evidence on the association of infertility, miscarriage, and still birth with stroke is inconclusive. Researchers in this study pooled data from cohort studies across seven countries, including participants with baseline data on infertility, miscarriage, stillbirth, stroke (fatal or non-fatal) as well as information on covariates. Upon analysis, the researchers found that infertility and recurrent miscarriage, and stillbirth increased women's later risk of stroke. In conclusion, a history of recurrent miscarriage and death or baby loss before or during birth was suggested as a female-specific risk factor for stroke.

Liang C, Chung HF, et al. "Infertility, recurrent pregnancy loss, and risk of stroke: pooled analysis of individual patient data of 618 851 women". *BMJ*. 2022 Jun 22;377:e070603. doi: 10.1136/bmj-2022-070603. PMID: 35732311.

Maternal-Child health

Long-term impact of prophylactic antibiotic use before incision versus after cord clamping on children born by caesarean section

Administration of prophylactic antibiotics before caesarean section incision has been adopted as a policy to avert maternal post-partum infections. It's hypothesized that exposure of babies to these antibiotics alters their gut microbiota which play a crucial role in the development of their immune system, hence might predispose them to immune-related diseases in childhood. Through this longitudinal observational study, researchers compared the incidence rate ratios of asthma and eczema in children born by caesarean section when antibiotics were administered before or after cord clamping. This study found no association between pre-incision prophylactic antibiotic use and risk of asthma, eczema, or asthma and eczema resulting in hospital admission in early childhood in children born by caesarean section.

Dana Šumilo, Krishnarajah Nirantharakumar, et al. Long-term impact of prophylactic antibiotic use before incision versus after cord clamping on children born by caesarean section: longitudinal study of UK electronic health records *BMJ* 2022;377:e069704 doi: <https://doi.org/10.1136/bmj-2021-069704> (Published 17 May 2022)

Gestational diabetes mellitus and adverse pregnancy outcomes: systematic review and meta-analysis

Globally, gestational diabetes mellitus (GDM) incidence is increasing but its impact on pregnancy outcomes isn't well understood. Researchers conducted a systematic review and meta-analysis of literature reporting complications of pregnancy in women with GDM. Over 156 studies were included and showed increased odds of Caesarean section, preterm delivery, low one-minute Apgar score, macrosomia, and large-for-gestational-age infants among women with GDM, in studies with no insulin use. In those with insulin use, the odds for large-gestational-age infants, respiratory distress syndrome, and neonatal jaundice were still higher than in their non-diabetic counterparts. This study adds to the current understanding of gestational diabetes outcomes while highlighting the need to adjust for a more complete set of prognostic factors in future research.

Ye W, Luo C, et al. "Gestational diabetes mellitus and adverse pregnancy outcomes: systematic review and meta-analysis". *BMJ*. 2022 May 25;377:e067946. doi: 10.1136/bmj-2021-067946. PMID: 35613728; PMCID: PMC9131781.

Treatment for Mild Chronic Hypertension During Pregnancy

Hypertension is associated with adverse pregnancy outcomes. Whereas there is consensus on the benefit of treatment for severe hypertension in pregnancy, the benefit of treatment for mild chronic hypertension (blood pressure <160/110mmHg) is uncertain. Researchers in the United States through a large randomized control trial, evaluated if targeting a blood pressure of less than 140/90 mmHg in pregnancy was efficacious and safe. A total of 2408 women were enrolled and randomized to receive antihypertensive treatment (case) or not to receive treatment until severe hypertension developed (control). The primary endpoint was a composite of pre-eclampsia, preterm birth, placental abruption, and fetal or neonatal death. The researchers found significantly better pregnancy outcomes in the case group with no increase in the risk of small-for-gestational-age birth weight.

Tita AT, Szychowski JM, et al. "Treatment for Mild Chronic Hypertension during Pregnancy". *N Engl J Med*. 2022 May 12;386(19):1781-1792. doi: 10.1056/NEJMoa2201295. Epub 2022 Apr 2. PMID: 35363951.

Antenatal Corticosteroids and Neonatal Outcomes in Twins

Multiple pregnancy is a major risk factor for

preterm delivery hence antenatal corticosteroids might be beneficial in multiple pregnancy. In this systematic review researchers assessed whether antenatal corticosteroids were associated with improved neonatal outcomes in twins. The reviewers included non-randomised studies comparing antenatal corticosteroid treatment with no treatment in twins, with outcomes of interest being complications of prematurity including neonatal mortality and respiratory distress syndrome (RDS) among others. The meta-analysis showed that antenatal corticosteroids were associated with lower odds of neonatal mortality, and RDS in twins: adjusted odds ratios of 0.59 and 0.70 respectively, but was inconclusive for other outcomes. The researchers concluded that evidence from non-randomised studies suggests a benefit of antenatal corticosteroids in twins as regards neonatal mortality and RDS.

Socha, P., et al. (9900). "Antenatal Corticosteroids and Neonatal Outcomes in Twins: A Systematic Review and Meta-analysis." *Obstetrics & Gynecology*: 10.1097/AOG.0000000000004835.

Contraceptive acceptability among young women (15-24) living with HIV/AIDS

Previous research among youth 15-24 years living with HIV (LHIV) in central Uganda found that 45% were sexually active while 57% of these did not use any contraception despite wanting to delay pregnancy. Unintended pregnancies account for 21.3% of neonatal HIV infections. In this cross sectional study, researchers described the acceptability of contraceptives and the associated factors among young women living with HIV attending HIV clinics in Kampala. They found contraceptive acceptability at 40.7%. Factors associated with contraceptive acceptability included older age group (20-24 years), age at sex debut ≥ 18 years, having a friend using contraceptives and being married. The researchers found a low acceptability for contraceptives and recommended interventions focusing on the younger age group who are unmarried.

Wani M, Nakigudde J, Nansikombi HT, Orishaba P, Kalibbala D, Kalyango JN, et al. "Contraceptive acceptability and associated factors among young women (15-24) living with HIV/AIDS: a hospital-based study in Kampala, Uganda." *Afri Health Sci*. 2022;22(1):21-7. <https://dx.doi.org/10.4314/ahs.v22i1.4>



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