ZAMBIA COLLEGE OF PHYSICIANS NEWSLETTER

AUGUST, 2021

VISION

- Training physicians to deliver the highest quality care to patients
- Building, protecting and strengthening the values of the profession

MISSION

- Lead the delivery of quality medical care, by setting standards for practice and promoting clinical excellence
- Provide leadership, support and advocacy for the membership
- Support physicians with CPD programmes and internationally recognised assessments
- Continually raise clinical standards by developing guidelines and conducting audits

Physicians of the highest calibre ensuring the best standard of medical care

Contact Us @ Email: zambiacollegeofphysicians@gmail.com

Message from the President

Esteemed members,

It is with great pleasure that we present the third newsletter which is dedicated to the nation's founding father Dr Kenneth Kaunda who passed away Thursday the 17th June 2021. As ZACOPH members we are all beneficiaries of his policies on education and health which saw the establishment of the University of Zambia in 1965. The first medical school in Zambia opened it's doors to the first intake of students in 1966. The first group of medical students graduated in 1973 amongst whom was the founding President of ZACOPH Prof E.K Njelesani.

With that being said, it is therefore only proper that ZACOPH celebrates Dr Kaunda's legacy by dedicating this newsletter to his memory. As ZACOPH, may we keep his legacy in medical education and health alive by rededicating ourselves to honouring our generational responsibility towards the attainment of universal health coverage by in part actively participating in ZACOPH activities to ensure that it's vision of training physicians of the highest calibre ensuring the best standard of medical care is realized.

Dr Kenneth Kaunda
we
celebrate and honour
your Legacy

Dr. Edna Chikoye – Kasolo
President ZACOPH

1. ZACOPH ACTIVITIES UPDATE

a. Launch of the ZACOPH CPD Sessions

In line with the ZACOPH objectives, CPD was successfully launched on the 29th April 2021. Since the launch CPD sessions have been held every last Thursday of each month on health facility rotational basis for presentation and moderation. The sessions so far have been informative with good engagement with participants. Of note is the significant number of STP and ECSACOP physician trainees including those from the sister ECSA countries attending the session. Furthermore, the CPD sessions has provided ZACOPH with an opportunity to forge important partnerships in the delivery of CPD and it is our hope that these mutually beneficial partnerships can continue to strengthen going forward.

b. Linkages with MOH and ECHO

Again, in line with our objective of capacity building and forming linkages, ZACOPH has partnered with MOH and ECHO in building capacity for the management of advanced HIV. ZACOPH will participate by reviewing the teaching material and in the provision of the experts. The programme was successfully launched on the 13th May 2021. It is also our desire to expand such linkages.

ZACOPH MEMBERSHIP NEWS

As we celebrate Dr Kaunda's life we wish to recognise and pay tribute to three senior ZACOPH members who tirelessly provided medical care to Dr Kaunda and his family over an extended period of time.

Professor Evarist Njelesani

MB ChB (UNZA), MRCP (UK), FRCP Edin, FRCP London, FCP (ECSA)

Professor Evarist Njelesani is Professor of Internal Medicine and Deputy Vice Chancellor at the Lusaka Apex Medical University, the first Private Medical University in Zambia dedicated to training Human Resources for Health to complement Government efforts in that area. He is one of the founder Members of the same University.
In conjunction with the Royal College of Physicians London, he helped formation of the East, Central and Southern Africa College of Physicians (ECSACOP) which was launched in July 2016. He served as the Founding President of ECSACOP.

Professor Njelesani is an advisor to the Royal Colleges of Physicians Edinburgh and London as well as ECSACOP
In 2009, He spearheaded the formation of the Zambia College of Physicians (ZACOPH) of which he became the Founding President.
He was a member of the National Council for Scientific Research from 1981 to 1991 where he was chairperson of the medical committee of the same Council.
He served on a number of WHO Scientific working groups between 1980 and 1988 such as the WHO/AFRO advisory committee on medical research (WHO/AFRO ACMR) and the Global Technical Advisory committee on Diarrhoeal Diseases (WHO/TAG).
He was also the Founding Chairperson of the Zambia National Research Authority in 2015.
Professor Njelesani graduated as a Medical Doctor from the University of Zambia (UNZA) School of Medicine in 1973. He was among the first 13 Doctors to graduate from UNZA having joined the same institution when it opened its doors in 1966. UNZA was the first University to open in Zambia after independence in 1964.
In 1975 he went for further studies in Edinburgh, Scotland, UK, where he obtained the MRCP (UK) in 1977 from the Royal College of Physicians, Edinburgh. He was later elected Fellow of the same College in 1989.
In 1979, He was appointed Consultant Physician at Ndola Central Hospital and in 1980 Honorary Lecturer in Internal Medicine, at the School of Medicine at UNZA up to now.

He was appointed Director of the WHO/TDR supported Tropical Diseases Research Centre in Ndola, Zambia in 1981. The Centre's mandate with support from WHO/UNDP/UNICEF Tropical Diseases Research Programme (TDR) was to train Scientists in Research in Tropical diseases from Countries endemic in tropical diseases; Build Research capacity and strengthen Research Institutions. With support from WHO/HQ he developed a 15-year Research and Research Training agenda for the Centre. Programs included participation in WHO Multi-Centre Clinical trials for new medicines for the control of Schistosomiasis (Praziquantel and Oxamniquine), Malaria (Mefloquine, Halofantrine and Artemether) to mention but a few; Epidemiological studies of Tropical diseases and Clinical Research.
Five Zambians Scientists were trained in the first batch from 1982 in Immunology, Public Health including Epidemiology, Biostatistics, Clinical Pharmacology and Biochemistry in conjunction with the London School of Hygiene and Tropical Medicine, Harvard University School of Public health, Johns Hopkins university School of Public Health, University of Ibadan and Birmingham University UK.
In 1984, he was appointed Permanent Secretary for the Ministry of Health and Director of Medical Services for the Republic of Zambia. In the Ministry he instituted Health reforms, Health Systems Strengthening leading to enhanced decentralization based on strengthening district Health systems as part of Primary Health Care strategy. Part of the Health System strengthening focused on training Human Resources for Health at all levels including medical training for doctors.

Professor Njelesani worked for WHO from 1992 to 2007 as WHO Country Resident Representative in
Sierra Leone, Nigeria and Zimbabwe. The Mandate of WHO involved supporting member states' strengthening of Health Systems including building capacity of Medical Schools; Help Countries develop strategies for disease Control, Prevention and Integrated disease surveillance and building capacity for Health Research.
Prof Njelesani's experience spans over 48 years spent in Health Services, Medical Research, Academia, Public Health administration and Health Diplomacy.
He worked as Head Physician to Zambia's Founding President Dr KD Kaunda from 1984 to 1991.
Prof Njelesani is a family man with five children and thirteen grandchildren. His hobbies include golf, swimming and he immensely enjoys playing with his grandchildren.

Awards:
1. The World Health Organization Regional Office for Africa (WHO/AFRO) for outstanding Service to the Organization: Brazzaville, Congo, February 2010
2. The Zambia Medical Association for outstanding contribution to the Medical Profession and the People of Zambia: Lusaka, Zambia, March 2007
3. Zambia Medical Association: In recognition of Pioneering contribution to the Medical Profession in Zambia, July 2011
4. Certificate of Distinguished Service and great passion for teaching medicine. Zambia Federation of Health Institutions, April 2011
5. Zambia Medical Association Lifetime Achievement award 2017
6. Zambia College of Physicians in recognition of immense contribution to the College - 2019

Professor Njelesani with Dr. Kaunda at TDRC in Ndola.

Dr Dorothy Kasonde
MBChB (UNZA), MMed (UNZA), PGDip Nephrology (Lond) and Occupational Health (UCT), FCP (ECSA), FRCP (London)
Dr Kasonde is a consultant Physician with 44 years post graduate clinical experience in internal medicine. She graduated from University of Zambia(UNZA) in January 1977 and joined the University Teaching Hospital as an intern in April 1977. After internship she settled in Internal medicine as senior house officer rising to the position of Registrar. During this time she worked under Prof. Mulaisho and together they started the Diabetic specialist clinic at UTH. In 1982 she enrolled in the first batch of Masters of Medicine(Mmed) students with UNZA, graduating with a Masters degree in internal medicine in 1986, and became the first Zambian female Physician.

1987 she was awarded a British Council scholarship to go and study Nephrology and hypertension at Hammersmith hospital (University of London) and graduated with a Post graduate diploma in Nephrology and Hypertension. Upon return to Zambia she helped set up the renal UTH as a training unit for post graduate student rotation . This ignited interest in nephrology among post graduate students and five students went ahead to study nephrology.

Dr Kasonde resigned from UTH in 1988 to set up her own practice Mutti Medical Services Ltd in 1989 where she has continued to practice as a General physician with interest in Nephrology, Hypertension and work place HIV Care Treatment and Management in work places. In 2007 she graduated with a post graduate diploma in Occupational Health and Safety at Cape town University and practices as Occupational Health practitioner. Her passion now is the promotion of Occupational Health and Safety in work places and promotion of prevention, care and treatment of noncommunicable diseases.

After her resignation from public practice, she continued to offer consultancy to the renal unit until one Mmed student qualified as nephrologist, Dr Kasonde was instrumental in connecting school of medicine with the International Society of Nephrology(ISN) through her association with Prof. Naik who then was ISN representative for Africa region. Through ISN scholarships Mmed students have gone on to study for Masters and PHD in Nephrology in South Africa under the stewardship of Prof Naik. It was during this time that Dr Kasonde through association with ISN South African region membership, was able to bring Fresenius Company as a major supplier of dialysis machines and consumables to UTH. In 2007 she helped start Kidney foundation for the purpose of education, information sharing, advocacy care and support for patients with kidney diseases including those on dialysis and affected families.

Dr Kasonde was the Co-chair of the first Care and Treatment HIV working group under AIDS council 1998 and helped author the first National HIV Treatment Guidelines which paved way for introduction of ARVs in public sector in 2000. Dr Kasonde has been involved in the introduction of HIV work place policy including antiretroviral (ARVs) treatment and management in various private sector work places including the United Nations local office from as far back as 1998 , and continues to look after some of the longest HIV survivors.
Dr Kasonde has had the rare privilege to serve as a Physician to the late former first lady Betty Kaunda from 1982-1984, Physician to the fifth and sixth Zambian presidents from 2011-2016.
She is a past vice President of the Medical Women's Association of Zambia (MWAZ), and the Kidney foundation. She has also been a member of the Health Professions Council of Zambia HPCZ disciplinary committee. Currently she is the trustee for the Zambia Association of Private Hospitals (ZAPH).
Dr Kasonde is a mother of three and has three grand children. She is a rotarian and enjoys gardening, knitting, baking and walking.

Awards:-
1. Labour day award for the most hard working doctor in the department of Medicine- 1986
2. Zambia Medical Association award for the contributions to the medical practice- 2006
3. Zambia Medical Women's Award for long service – 2018
4. Zambia College of Physicians in recognition of immense contribution to the College- 2019

Maj. Gen (Dr). Chishimba Lumbwe
MBChB (UNZA), MMED (UNZA), MMEDSci (Sheff), FCP (ECSA), FRCP (London)

Dr Lumbwe is a Consultant Physician, Diabetes Specialist, and Endocrinologist of many years standing. Upon graduation of MB Ch B UNZA class of 1980 after internship in 1981,

Dr Chishimba Mukonde Lumbwe went on to join the Defence Force Medical Services as a captain and medical officer. In 1983, he joined the MMed degree in Medicine with UNZA. After graduating Dr Lumbwe continued working for the Defence Force Medical Services, as a senior registrar until 1989, when he a got a scholarship to study Diabetes and Endocrinology in Sheffield where he obtained the MMed Sci degree in diabetes, and endocrinology. Upon his return he continued working as a physician at Maina Soko Military Hospital, eventually rising to the level of Consultant Physician and Hospital Commandant. He also hen worked as a part time lecturer in the school of medicine.

In 1989, together with Prof. Antonia Baghshawe, Dr Waza Kaunda and Mr Star Yamba, Dr Lumbwe formed the Diabetes Association of Zambia and took over the chairmanship of the DAZ in 1991, until 2008. The Association grew from one branch in Lusaka to several branches all over Zambia, serving the interests of citizens with diabetes and their relatives through numerous courses for nurses and clinicians and; education seminars for patients all over Zambia. The Association also conducted many diabetes youth camps where children with diabetes and their guardians had intensive coaching on self-care.
Dr Lumbwe is a former Chairman of the National AIDS Prevention and Control Committee for the Review of Management Guidelines for HIV/AIDS which prepared the first HIV/AIDS management guidelines for the Ministry of Health (MOH) in the early 1990s.

Dr Lumbwe was also a member, and Chairperson of the Board of Directors for the National Food and Nutrition Commission (NFNC). During his tenure of office Dr Lumbwe was the lead researcher in the first nationwide baseline survey in Iodine Deficiency Disorders (IDD) in 1992 which resulted in a nationwide implemention of the Iodine Deficiency Disorders elimination programme from 1992 to 2002. This intervention resulted in the elimination of Iodine Deficiency Disorders as a public health problem in Zambia . Whilst on the board of the NFNC, Dr Lumbwe also supervised the vitamin A and Iron deficiency elimination programmes. Dr Lumbwe considers the formation of the Diabetes Association of Zambia and the elimination of Iodine Deficiency Disorders as highlights in his long career.

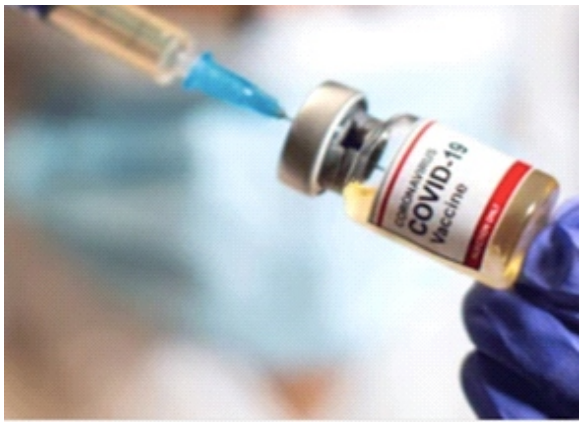
Additionally, Dr Lumbwe chaired, the MOH Non-Communicable Disease (NCD) Steering Committee which prepared a policy document on NCD and also oversaw the establishment of a unit for Non-Communicable Diseases at the MOH.

In 2008, Dr Lumbwe retired from the Defence Force Medical Services with the rank of Major General and currently works in private practice, at Mutti-Kabelenga Health Services as a consultant physician, endocrinologist/diabetologist. Dr Lumbwe has been privileged to serve as presidential physician to Dr Kaunda and two additional State Presidents. He is a recipient of the 2020 Zambia College of Physicians lifetime achievement.

Dr Lumbwe is an avid golf player and is the President of the Senior Golfers Society of Zambia. He enjoys playing the guitar and has major interest is writing with published 3 books under his belt: Too Young To Die (about his experience as a doctor at the advent of HIV/AIDS; Ukuli Nsoke Takufwa Muntu (an education book for patients and health care workers explaining 63 common medical diseases in the Bemba language), and Sundu!, a political satire, which won the 2019 Ngoma Awards as the most outstanding book in the creative writing category. He is a family man with 3 children and 2 grandchildren who also has a severe weakness for flowering plants!

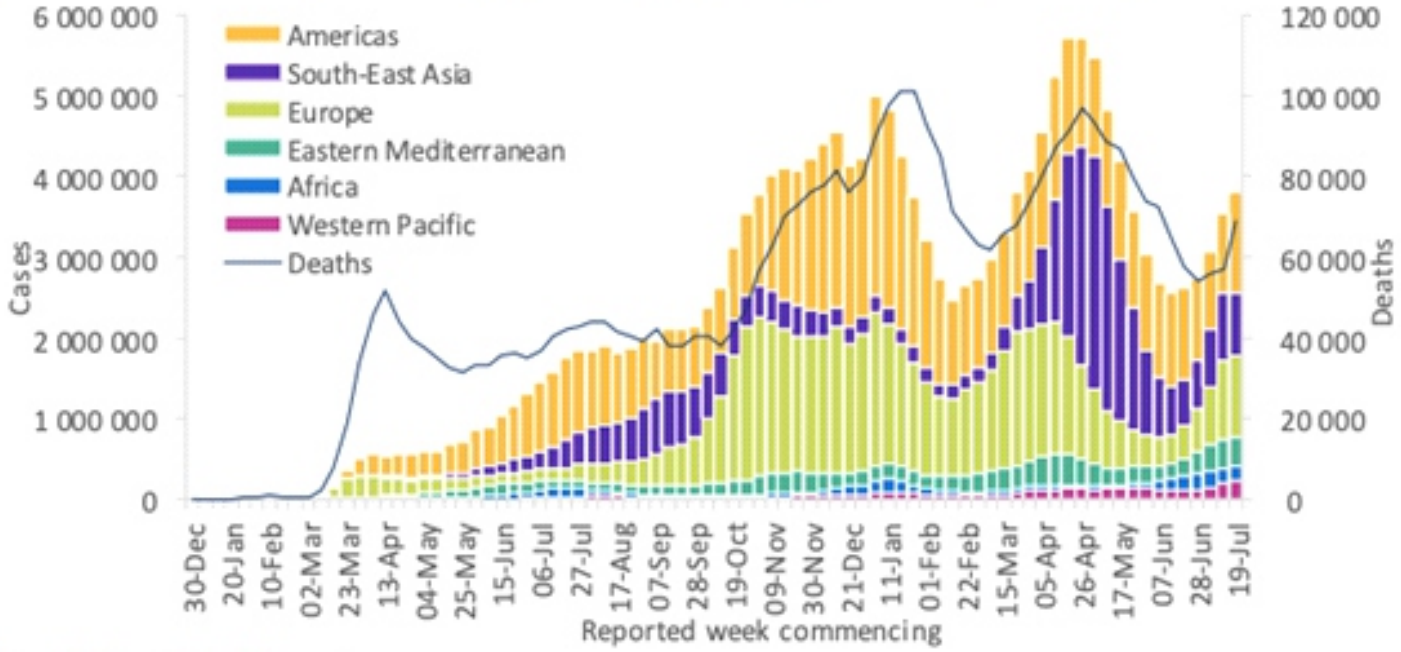
Medical Updates:
COVID-19 PANDEMIC

Second Year of Covid -19 Infection: Is the end anywhere in sight?



The world is well into the second year of the Covid 19 pandemic with many countries currently going through a third wave with a few in a fourth wave. As of 31st July 2021, the World health Organisation (WHO) reported a cumulative number of cases and deaths of 192 million and 4 million globally respectively with the African region contributing 47 million cases and 4,931 deaths. Of concern is the increasing trend in cases worldwide with an observed increase of 3.8 million from the 19-27th July. This 8% increase from the previous week has been attributed to substantial increases of cases in the Americas and Western Pacific Regions. Equally a sharp increase in deaths of up to 21% was observed over the same reporting period.

Figure 1. COVID-19 cases reported weekly by WHO Region, and global deaths, as of 25 July 2021**



**See *Annex 2: Data, table and figure notes*

Zambia Situation

Since the last edition Zambia has undergone two Covid-19 waves. The second wave from January to March 2021 was characterised by more severe illness and affected more of the younger demographic group compared to the first wave. The upsurge was attributed to contributed mostly to the Christmas festivities characterized by disregard for the stipulated public health measures and an influx of visitors. The third wave is currently ongoing from May 2021 with 196 490 confirmed cases and 3,412 deaths as of 1st August. The third wave has been characterized by unprecedented case load with up to 3,594 cases and 72 deaths recorded in 24hrs. Furthermore, 70% of severely ill patients admitted required oxygen. The third wave did not spare the children who also experienced severe illness with some deaths recorded. Our frontline workers equally were not spared. The severity of the outbreak outstripped the available bed capacity and medical supplies and PPE.

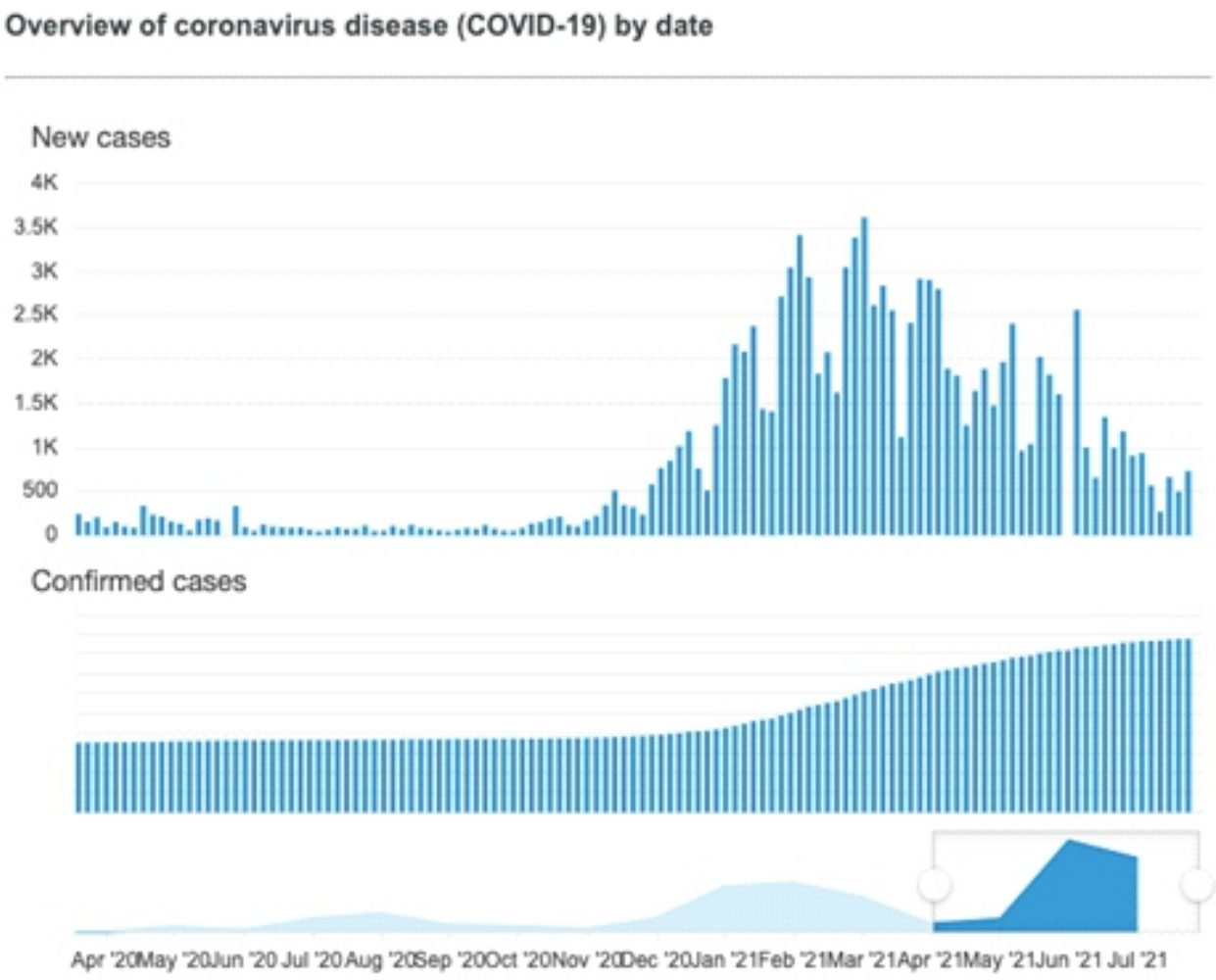
The question that begs to be answered is, could the third wave have been avoided or its impact controlled or better managed? Our guess is that the answer lies in the identified factors attributed to the third wave outbreak which include general laxity of public health measures, circulation of new variants of concern, the onset of the cold season and the observed general vaccine hesitancy.

The vaccination campaign using AstraZeneca vaccine was launched in April 2021with priority given to frontline workers, the elderly and those with comorbidities. However, the campaign was characterized by significant vaccine hesitancy especially amongst healthcare providers. The second phase of vaccination using Astra Zeneca, Johnson & Johnson and Sinopharm commenced in June

and as of 1st august 155,134 individuals had been fully vaccinated while 285, 950 had received the first dose. The vaccine uptake has greatly improved and this could be could be attributed to improved messaging as well as the impact of the third wave on many citizens. From the provided figures only 0.8 % and 1.6 % of the population are fully and partially vaccinated which is a long way to achieving herd immunity and therefore public health campaigns should be enforced as vaccination efforts increase.

Dr A Chansa receiving the first dose of the Astra Zeneca Vaccine

#VaccinesSaveLives



https://www.who.int/countries/zmb/

SARS-CoV-2 Variants of Concern (VOC)

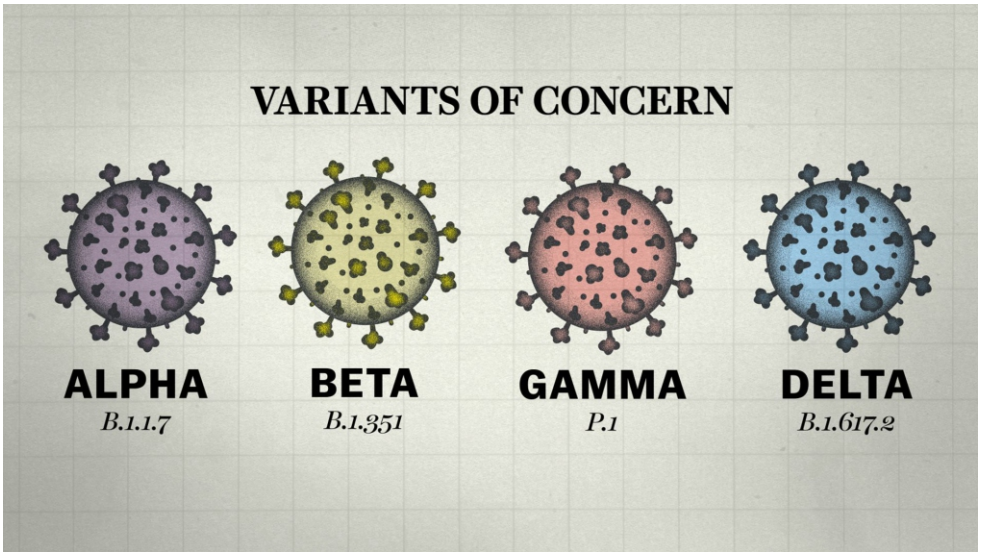
The WHO (2021) working definition of VOC is a SARS-CoV-2 that has been demonstrated to be associated with one or more of the following changes at a degree of global public health significance.

1. Increase in transmissibility or detrimental change in Covid-19 epidemiology; or
2. Increase in virulence or change in clinical disease presentation; or
3. Decrease in effectiveness of public health and social measures or available diagnostics, vaccines and therapeutics.

The current designated variants of concern are;

1. Alpha variant: 182 countries -First documented in the UK in Sept-2020
2. Beta variant: 131 countries- First documented in South Africa in May-2020
3. Gamma variant: 81 countries. - First documented in brazil in No-2020
4. Delta variant: 132 countries – First documented in India in Oct- 2020

(www.who.int)



The delta variant first reported in India in late 2020 is thought to be responsible for the extremely high number of cases and deaths seen during that country's second wave. This variant appears to be more transmissible than the alpha variant, causes more severe illness and associated with different symptoms with headache followed by a sore throat, runny nose and fever. Cough is uncommon as is loss of smell. This presentation may lead to not self -isolating as it is mistaken for a bad cold. Furthermore, the variant is associated with double the risk of hospitalization compared to the alpha. The good news is that the current available vaccines offer protection of 70%+ . (https://www.gavi.org/).

As of 20th July, 2021, six types of vaccines have received WHO emergency use listing. These are:

- AstraZeneca-Vaxzevria.
- Janssen Ad26.COV 2.5
- Moderna-mRNA-1273
- Pfizer BioNTech-Comirnaty
- COVID-19 vaccine BIBP
- Sinovac-CoronaVac

Vaccines: Are they the answer to Covid-19 eradication?

This approval was arrived at in part from, vaccine efficacy results from randomized controlled trials (RCTs). Vaccine effectiveness (VE), the percentage reduction in the risk or odds of disease or infection among vaccinated persons is estimated from observational (non-randomized) studies in real-world settings. Currently, 62% of the VE studies have been from Israel, the United Kingdom and the United States of America.

In general, the VE estimates in those fully vaccinated for the serious outcomes of severe disease, hospitalization and death were >80% with AstraZeneca, Moderna, Pfizer and Sinovac. Protection against infection and asymptomatic disease is > 60%. It is important to note that VE estimates may differ from the results of RCTs for
1. Valid reasons which include, different target populations, different vaccine schedule) or for
2. Invalid reasons such as bias and confounding which however can be minimized by careful planning, execution and analysis of VE studies.

Further VE studies are needed to address various issues including;
- Whether additional doses would be needed to address declines in VE over time, or
- Whether new vaccines or additional doses will be needed for SARS-CoV-2 variants of concern (VOCs).

What is Vaccine Hesitancy and what are the Attributing Factors?

As defined by WHO: *Vaccine Hesitancy Vaccine hesitancy refers to delay in acceptance or refusal of vaccines despite availability of vaccine services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence (www.who.int).*

Covid 19 vaccine hesitancy termed as a "mistrust of science or a war on science" by Goldenberg MJ, has been identified as a global problem with surveys in 2021 reporting that only 50-60% of respondents willing to receive the vaccine. These figures ofcourse vary across countries and ethnicities. Considering that an estimated 60-70% of the world population needs to be vaccinated to achieve herd immunity overcoming vaccine hesitancy is an urgent task for all stakeholders.

Using the WHO 3C model of the drivers of vaccine hesitancy identified attributing factors include;

1. Lack of **confidence** in the;
- Effectiveness and safety of vaccines
- System that delivers them, including the reliability and competence of the health services and health professionals
- Motivations of the policy-makers who decide on the needed vaccines.

2. Vaccine **complacency** due to ;
- Perceived risks of vaccine
- Low incidence of vaccine preventable diseases as a result vaccination is deemed not essential

3. Vaccine **convenience** which is measured by;
- The extent to which physical availability, affordability and geographical accessibility
- Ability to understand- language and health literacy
- Appeal of immunization services
- The quality of the service -real and/or perceived
- The degree to which vaccination services are delivered at a time and place and in a cultural context that is convenient and comfortable.

(https://www.who.int/immunization)

Misinformation and disinformation narratives as well as conspiracy theories in particular through social media and lack of effective public health messages or targeted campaigns are additional factors to vaccine hesitancy.

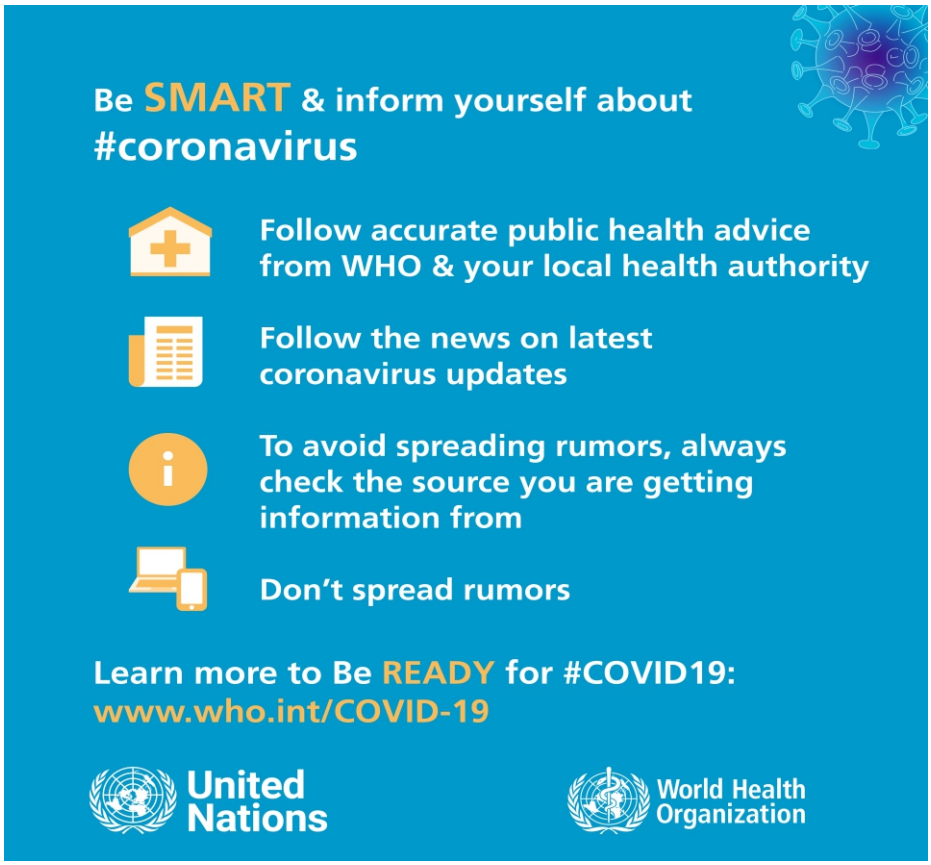
Why is it important?

Vaccine hesitancy in general poses direct and indirect threats to health and in particular Covid-19 vaccine hesitancy could potentially derail efforts to end the current pandemic

How can we overcome vaccine hesitancy?

- Identification of barriers to vaccine uptake at a population level and in groups with lower uptake
- Adequate training of those involved with educational activities
- Use of multiple intervention approaches.
- Engagement of communities through community leaders and influencers as partners in information dissemination
- Developing local approaches to information dissemination such as drama groups.

In conclusion, the take home message is that Covid=19 will be with us for some time to come and its control or eradication in part lies in having a robust evidence base. It is therefore imperative that as we manage the pandemic, we continually generate data/evidence that can be used nationally, regionally and globally, to inform Covid-19 vaccine policy decisions and all other response actions.



Covid 19 remains a significant threat to the continued delivery of health services in Zambia and therefore all of us are called upon to do whatever we can to educated the community by fighting COVID 19 myths and ensuring that we practice what we preach or advocate for namely: regular handwashing, masking, physical distancing, ensuring that we share correct information and getting vaccinated. **Stay Safe!**

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The Knowledge Corner

Dr Francis Mupeta

Physician & Infectious Disease Consultant
WHO COVID-19 Case Management Consultant
Honorary Lecture in Internal Medicine- Lusaka apex Medical School

Title perspectives on Vaccine Induced Immune Thrombotic Thrombocytopenia.

Background

Since its discovery in Wuhan, in late 2019, the severe acute respiratory syndrome coronavirus -2 (SARS-CoV-2), the virus causing coronavirus disease 2019 (COVID-19), has caused significant social, educational, and economic disruptions all over the globe. Various preventive strategies have since been instituted with conflicting evidence of success. However, the advent of vaccines has brought hope in the control of SARS-CoV-2 pandemic. Evidence from developed countries has demonstrated effective reduction in transmission with wider vaccine coverage[1]. There are various types of vaccines with different efficacies at preventing infections and symptomatic disease from 60-95% but almost all of them have 100% effectiveness in preventing severe disease and death. There are mRNA based, adenovirus vector based, protein based and inactivated virus based vaccines. Most of the developing countries like Zambia, will obtain the COVID-19 vaccines through a consortium of the Global Alliance for vaccines, the Vaccine Alliance, the Coalition for Epidemic Preparedness Innovations (CEPI) and the World Health Organization (WHO)[2]. Through this vehicle, most African countries have opted for the adenovirus based vaccines; ChAdO1x.S (Oxford-AstraZeneca) and AD26.COV2.S (Johnson & Johnson) vaccines. Unfortunately, the two vaccines have been linked to a rare but potentially fatal thrombotic thrombocytopenia syndrome (TTS). Recently cerebral venous sinus thrombosis among recipients of the Pfizer–BioNTech mRNA vaccine and unvetted few cases among recipients of the Moderna mRNA vaccine have been reported[3].

The mechanism of this thrombosis is like the previously described Heparin-induced thrombotic thrombocytopenia (HIT)[3,4]. In HIT, individuals exposed to the anticoagulant heparin develop antibodies to platelet factor 4-heparin (PF4) complex. The risk is higher in unfractionated heparins compared to low molecular weight heparins[5]. This phenomenon has been termed heparin-like vaccine induced immune thrombotic thrombocytopenia (VITT) The incidence of VITT varies significantly in different populations[6]. Despite the administration of many doses on the African continent, there has been no direct case linked to the vaccine alone. This brings the concern among most healthcare workers (HCWs) and the public in light of VITT, the ability of most health facilities in less advanced healthcare systems, and indeed HCWs to identify and manage this severe adverse event resulting from vaccination.

Diagnosis

The International Society of Thrombosis and Haemostasis (ISTH) and South African Society of Thrombosis and Haemostasis have developed guidelines for recognizing and managing VITT.

The diagnosis of VITT will depend on a high clinical index of suspicion in vaccinated individuals. The side effects associated with VITT are typically observed between 4-16 days[7]. However, information is still evolving. Therefore, any presentation with typical symptoms within the first 30 days post vaccination should raise suspicion of the possibility of VIT**.** The typical Symptoms[4,5,7–9] **are characterised**

1. *Persistent headache for 2 to 3 days not responding to common analgesics.*
2. *Worsening headache with change in mental status, seizures, blurred vision or focal symptoms.*
3. *Abdominal pain with or without vomiting.*
4. *Shortness of breath with or without chest pain.*
5. *Leg swelling with or without pain.*
6. *Unusual pain anywhere not abating with analgesia.*

There are a number of laboratory-based test and imaging modalities that have been proposed in VITT. For laboratory investigations, full blood count, C-reactive protein, d-dimer and anti-platelet factor-4 antibodies assay. Ultrasonography and CT scan maybe indicated depending on the presentation and level of facility.

The British society for heamatology have proposed the case definition for confirmed and suspected cases.

Case Definition[10]

A case is characterized by confirmed thrombotic event within 4 to 30 days following COVID-19 vaccination with typical laboratory findings of ***any two*** of the following:

1. Thrombocytopenia $<150x10^9/L$.
2. High D-dimer > 2 times upper limit of the normal (ULN) reference range (check with the local lab reference).
3. +/-Low fibrinogen.

With a positive immunoassay for PF4 antibodies (where laboratory support is available).

Suspected Case

In the absence of laboratory support:

Person with typical symptoms listed below occurring within 30 days following COVID-19 vaccination without evidence of current or recent severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infections or absence of medications/condition(s) to explain the symptoms.

The South African guidelines[7] suggest the use of the 4Ts score as a predictive score for the diagnosis of VITT. The 4T score has been validated in heparin induced thrombocytopenia (HIT)[5]. VITT, just like HIT, has the potential to be either over diagnosed or underdiagnosed. To create a balance between the two, the 4T score was developed. It has a high sensitivity and low specificity.

Variable	Score
Thrombocytopenia	
Platelet count fall >50%	2
Platelet count fall 30 - 50%	1
Platelet count fall <30%	0
Timing of onset	
Within 4 - 16 days of vaccination	2
>2 weeks of vaccination or unclear exposure	1
No history of vaccination	0
Thrombosis	
New thrombosis post vaccination	2
Progressive or recurrent thrombosis	1
No thrombosis	0
Other causes of thrombocytopenia	
None	2
Possible	1
Definite	0
Total score	
0 - 3 indicates low probability	
4 - 5 indicates intermediate probability	
6 - 8 indicates high probability	

VITT = vaccine-induced immune thrombotic thrombocytopenia

An intermediate and high probability from the 4T score should prompt the performance of the PF-4 antibody assay. It is important to note that in HIT, there is a high false positive test with PF4 antibody immunoassays. Therefore, screening patients with the 4T increases the positive predictive value for HIT when utilizing PF4 antibody immunoassays[5]. In HIT, PF4 antibodies are observed in 90% of patients exposed to heparin, but only 10% of these develop thrombosis as opposed to 50 % of patients with thrombosis who were exposed to heparin and have PF4 antibodies. The role of by-stander PF4 antibodies in persons without thrombosis has been questioned[5]. Owing to the similarities between the two immune thrombotic thrombocytopenia, PF4 antibodies by-standers might be present. Therefore, excessive immunoassay performance may not be warranted as they may lead to over treatment.

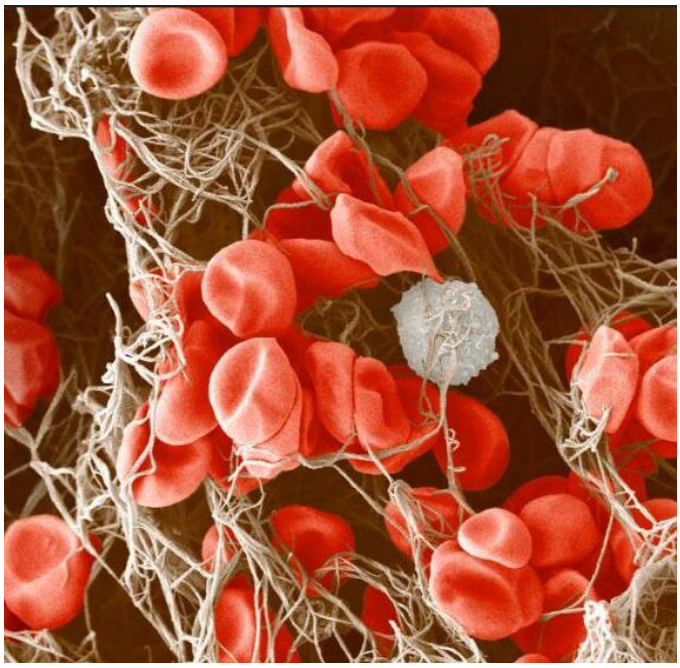
Treatment

The patient should be treated with intravenous immunoglobulins (IVIG) with a very low threshold for initiating non-heparin anticoagulation. The decision to initiate non-heparin anticoagulation should be based on a very high or rising D-dimer or any symptoms of thrombosis.[17,18]. If there is thrombocytopenia but no thrombosis and negative PF4 ELISA, the patient is likely to have a post vaccination immune thrombocytopenia (ITP). These patients should be initiated on a combination of IVIG, and/or steroids and if bleeding, platelets may be transfused. If bleeding does not stop or no response to IVIG and/or steroids, thrombopoietin agents and a single dose of vincristine may be considered[11].
IVIG and steroids should be considered in the following patients:

1. *Signs/symptoms of serious thrombosis and at least one of the following.*
   - *Positive imaging OR*
   - *Low platelets OR*
   - *Both*[18]
2. *Patients with **NO** signs or symptoms or documented thrombosis on imaging but has:*
   - *Low platelets and*
   - *Very high or rising D-dimer OR*
   - *positive PF4 enzyme linked immunosorbent assay (ELISA).*

   However, in high-risk patients, steroids should not be withheld while waiting for PF-4 antibody assay.

The prognosis from VITT varies from mild to fatal thrombosis. The biggest challenged in the treatment of VITT for countries like Zambia lies in the fact that alternative anticoagulation are either unavailable or expensive. The fact that they are not listed in the Zambia Essential Medicines List increases the chance of these drugs not being available to the masses. Therefore, it time we called for their inclusion into the ZEML for the management of VITT or any similar conditions in the country.



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Zambia College of Physicians
University Teaching Hospital
Department of Medicine,
P.O. Box RW1, Lusaka
Email: zambiacollegeofpyhsicians@gmail.com
Contact: 0970 983 397, 0761 330 824
Website: www.zacoph.org
Facebook: Zambia College of Physicians
Follow us on Twitter: @_ZACOPH