CAM-HERO
Cameroon HIV/AIDS opErational Research fOrum

18th and 19th November 2021

Kribi, Cameroon

2nd edition of the
Cameroon HIV/AIDS Operational Research Conference 2021
CAM-HERO 2021

Theme:

RESEARCH
FOR POLICY & CARE

ABSTRACT BOOK

MINSANTE Ministère de la Santé Publique
Elizabeth Glaser Pediatric AIDS Foundation
IeDEA International epidemiology Databases to Evaluate AIDS
anrs Maladies infectieuses émergentes
CRENC Clinical Research Education Networking & Consultancy

H.E. **Dr. Manaouda Malachie**
Minister of Public Health, Cameroon

Prof. **Louis Richard Njock**
Secrétaire Général du Ministère de la Santé Publique

Discours d'ouverture de Monsieur le Secrétaire Général du Ministère de la Santé Publique

Madame la Chef de Division de la Recherche Opérationnelle en Santé,

Monsieur le Directeur de l'Organisation des Soins et de la Technologie Sanitaire,

Monsieur le Directeur de la Lutte contre la Maladie les Epidémies et les Pandémies,

Monsieur le Secrétaire Permanent du Comité National de lutte contre le VIH/Sida,

Madame la Présidente du Comité National d'Éthique et Messieurs les représentants des Comités d'Ethique Régionaux et Institutionnels,

Messieurs les Représentants, Directeurs et Coordinateurs des organisations partenaires de CAM-HERO,

- EGPAF
- CIRCB
- CRENC-IeDEA
- Site ANRS-Cameroun
- Cameroon Baptist Convention Health Services research group
- Le Groupe de recherche VIH/Sida de l'Hôpital Central de Yaoundé
- Le Groupe de recherche VIH/Sida de l'Université de Dschang

Mesdames et Messieurs les chercheurs du VIH/Sida,

Chers étudiants,

Chers participants,

C'est pour moi un plaisir renouvelé de vous souhaiter la bienvenue à Kribi, en cette deuxième édition de la « Recherche pour les politiques et les soins de Santé sur le VIH/SIDA».

Le gouvernement du Cameroun s'est fixé l'objectif de faire reculer le VIH/Sida par l'atteinte des « triples 95 » d'ici 2030 à savoir que : 95% des personnes infectées connaissent leur statut sérologique, 95% des personnes infectées soient mis sous traitement et 95% des personnes traitées atteignent la suppression virale. Comme vous le savez, cet objectif ambitieux et cher au Gouvernement ne peut être atteint de manière cohérente, solide et durable sans l'appui de la recherche opérationnelle.

Selon l'enquête CAMPHIA menée sur le plan national entre juillet 2017 et février 2018 par le Ministère de la Santé Publique, il est apparu que malgré les progrès accomplis nous demeurons loin des objectifs fixés. En effet, cette enquête de ménage chez les 15 - 64 ans a révélé que sur

100 adultes séropositifs, seul 56 connaissent leur statut. Parmi ceux qui connaissent leur statut, près de 90% etaient sous TARV mais seulement 80% avaient une suppression de la charge virale.

Ces résultats font l'objet de préoccupations au plus haut niveau et ont généré des stratégies novatrices conçues et mises en œuvre par le GTC-CNLS, la DLMEP et tous les intervenants de la réponse santé, à tous les niveaux de la pyramide sanitaire y compris les organisations à Base Communautaire. Je salue d'ailleurs l'esprit de collaboration dont ces derniers et nos partenaires font preuve par leur présence effective à ces assises. Cette démarche, contribue à donner à la recherche une place de choix.

Mesdames et Messieurs,

En vue d'une accélération des interventions pour l'atteinte des objectifs envisagés, les chercheurs que vous êtes sont invités à examiner constamment et objectivement les diverses stratégies de lutte contre le VIH/Sida mises en place. Conjointement, les acteurs du système de santé sont appelés à collaborer pour l'aboutissement des travaux de recherche susceptibles d'aider à la prise de décision. Dans ce contexte, la mise sur pied de réseaux de chercheurs et structures de recherche apparaît salutaire. Il en est ainsi de la **Cameroon HIV/AIDS Operational Research Forum (CAM-HERO)** qui nous invite à Kribi ce jour. Cette structure créée en 2020, a pour but d'accompagner la lutte contre le VIH/SIDA par la recherche opérationelle, en collaboration avec la DROS. A son actif, on compte en 2020, une réunion participative d'une cinquantaine de chercheurs qui s'est soldée par :

- Un engagement massif des acteurs de différents secteurs et de tous les niveaux ;
- L'élaboration consensuelle d'un agenda de recherche opérationnelle portant sur le VIH/Sida pour une durée de 5 ans. ledit document a fait l'objet d'une publication scientifique dans une revue de haute qualité. Il devra faire l'objet de suivi et d'une actualisation régulière.

Je félicite **CAM-HERO** pour ce pas décisif et vous exhorte à partager cette expérience avec des acteurs d'autres domaines.

Mesdames et Messieurs,

Parmi les objectifs de cette deuxième édition, l'idée d'examiner et valider le concept d'un « registre national de recherche sur le VIH/Sida » retient particulièrement notre attention car à n'en point douter, il facilitera le suivi de la mise en œuvre des travaux de recherche sur le plan éthique et administratif par les Comités d'éthique et la DROS. De même, il permettra une meilleure visibilité des projets candidats aux financements de nos partenaires. En effet, l'enregistrement de tout chercheur, son protocole et la publication y faisant suite dans ce

domaine particulier constitue une innovation et ce projet ne saurait se réaliser sans la collaboration de tous les acteurs ici présents.

Je félicite les concepteurs de cette initiative tout en portant mes encouragements au travail que cela implique. A ce titre permettez-moi de saluer tout particulièrement : EGPAF ; Le Site ANRS-MIE-Cameroun ; Le CIRCB ; le CRENC-IeDEA ; La Cameroon Baptist Convention Health Service research ; le Groupe de recherche VIH/Sida de l'Hôpital Central et de l'Université de Dschang.

Je réaffirme que de telles entreprises sont chères au Ministre de la Santé Publique et vont en droite ligne de son agenda de transformation du système de santé au Cameroun. En attendant de vous une fois de plus des recommandations fortes, concrètes et directement applicables, je déclare ouverte la conférence sur « Recherche pour les politiques et les soins de Santé sur le VIH/Sida».

Vive le Ministère de la Santé publique,

Vive la République du Cameroun et son illustre chef le Président Paul Biya,

Je vous remercie.

Prof. **Louis Richard Njock**
Secrétaire Général du Ministère de la Santé Publique

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MAIN ACTORS OF CAM-HERO 2021

Participating organisations

MINSANTE / DROS

La Division de la Recherche Opérationnelle en Sante a été par Décret N°2002/209 du 19 aout 2002 du Président de la République portant Organisation du Ministère de la Sante Publique. Elle compte deux Cellules à savoir : la Cellule de la Recherche Clinique (CRC) et la Cellule des Réseaux Scientifiques (CRS).

A ce jour, le Décret Nº 2013/093 du 03 Avril 2013 du Président de la République, réorganisant ledit Ministère, a permis de passer de la Cellule des Réseaux Scientifiques à la Cellule des Réseaux Scientifiques et de la Promotion de l'Éthique (CRSPE), lui attribuant ainsi le rôle de la promotion de l'éthique.

La DROS a pour mission régalienne:

- Le suivi des études en matière de recherche clinique;
- La promotion de la recherche en milieu hospitalier;
- Promotion de la recherche opérationnelle et de la vulgarisation des résultats sur la lutte contre les maladies, la santé de la reproduction et la nutrition, en liaison avec les administrations concernées;
- Le suivi des questions relatives à la biotique, en liaison avec les administrations et organismes concernés;
- Le suivi de la recherche sur l'utilisation des médicaments traditionnels améliorés, en liaison avec le Ministre en charge de la recherche;
- La traduction des résultats probants de la recherche en proposition d'action;
- L'appui à la recherche sur les plantes médicinales;
- La mise en place des réseaux scientifiques et la promotion de l'éthique;
- Des relations avec l'enseignement supérieur dans le domaine de la formation initiale et continue.

Principales réalisations

- **Dans le cadre règlementaire de la recherche opérationnelle pour la santé humaine:**

De nombreux efforts ont été faits, l'on peut citer :

- Décision N°0689/D/MINSANTE/SG/DROS du 29 juillet 2009 portant conditions de délivrance de l'Autorisation Administrative de Recherche en Santé Humaine au Cameroun;
- Lettre-Circulaire N°D36-13/LC/MINSANTE/SG/DROS/YC du 09 février 2011 relative à la Mise en Œuvre de la Recherche Opérationnelle en Santé au Cameroun;
- Arrêté N°0977/A/MINSANTE/SESP/SG/DROS du 18 avril 2012 portant Création, Organisation et Fonctionnement des Comités d'Éthique de la Recherche pour la Santé Humaine au sein des Structures relevant du Ministère en charge de la Santé Publique;
- Décision N°1090/D/MINSANTE/SESP/SG/DROS du 13 juillet 2012 constatant la Composition du Comité National d'Éthique de la Recherche pour la Santé Humaine; La délivrance d'une moyenne de 28 AAR par an depuis 2006; La tenue de plusieurs rencontres scientifiques : fora, conférences, journées de restitution des résultats de recherche…

➢ **En matière de la gouvernance de l'éthique de la recherche en santé avec l'appui du projet BREEDSAFCA financé par EDCTP:**

- La révision des textes réglementaires existants sur la recherche pour la santé humaine au Cameroun (en attente d'approbation par le PM);
- L'appui pour la création de 03 comités d'éthique régionaux (Littoral, Ouest et Nord) ;
- L'établissement de réseaux scientifiques avec des institutions de recherche;
- L'élaboration d'un « Guide de procédures d'évaluation éthique et administrative des protocoles de recherche en santé humaine ». (en cours de finalisation).

Comité National de Lutte contre le SIDA (CNLS)

Le Comité National de Lutte contre le SIDA (CNLS) est l'organe chargé de la coordination et de la gestion du Programme National de Lutte contre le SIDA sur l'ensemble du territoire national en collaboration avec les administrations et les partenaires nationaux et internationaux.

La mission essentielle du CNLS est d'offrir un cadre national d'interventions, d'élargir la réponse nationale à l'épidémie et de coordonner la mise en oeuvre des activités de lutte contre le sida. Le CNLS a pour missions de définir la politique générale de la lutte contre le sida au Cameroun, et de veiller à son application.

Il s'agit entre autres :

- De la coordination de la gestion du Programme National de Lutte contre le SIDA
- De l'appui technique aux partenaires impliqués dans la réponse sectorielle ;
- De la coordination de la stratégie nationale de communication du Comité National de Lutte contre le SIDA ;
- De la coordination des activités de surveillance épidémiologique et comportementale
- Du suivi-évaluation des activités menées.

Le CNLS est présidé par le Ministre de la Santé Publique assisté par son Sécretaire permanent le Dr Bonono Nyoto Léonard.

CIRCB

Centre International De Référence “Chantal Biya” Pour la Recherche Sur la Prévention et la Prise en Charge du VIH/Sida

Le Centre International de Référence Chantal BIYA pour la recherche sur la prévention et la prise en charge du VIH/Sida (CIRCB) est l'aboutissement des efforts de la Première Dame du Cameroun, Madame Chantal BIYA, Ambassadrice de l’ONUSIDA et Ambassadrice de Bonne Volonté de l'UNESCO. Créé le 17 Février 2006, avec le soutien des codécouvreurs du VIH (les Professeurs Luc MONTAGNIER et Robert GALLO), le CIRCB a reçu pour missions de mener de la recherche pour une optimisation des stratégies de prévention et de prise en charge du VIH/SIDA.

Le CIRCB a été érigé en Etablissement Publique Administratif en 2012 par Décret Présidentiel, et placé sous la double tutelle du Ministère de la Santé Publique et Ministère des Finances du Cameroun. Pour atteindre ses missions, le CIRCB est doté d’un plan de travail annuel qui s’appuie sur un programme subdivisé en quatre sous-programmes : (1) la prévention du VIH et du SIDA ; (2) la prise en charge des personnes vivant avec le VIH et le SIDA, (3) les analyses d’impact et enseignement spécifiques sur le VIH, (4) la gouvernance et appui institutionnel.

À travers son réseau de partenaires internationaux et multidisciplinaires, le CIRCB est doté des laboratoires modernes et d'un plateau technique de haut niveau à la dimension de ses missions, couvrant ainsi la Virologie, l’Immunologie, la Microbiologie, la Biologie Moléculaire, la Biologie Systémique, les Analyses Médicales, la bio-imagerie médicale et une bio-banque aux standards internationaux.

Le CIRCB entend ainsi pleinement jouer sa partition dans le combat universel contre ce fléau transfrontalier commun qu'est l'infection à VIH. A cet effet, les programmes de recherche et les activités de routine qui y sont menés sont orientés essentiellement vers le mieux-être des personnes infectées et / ou affectées par le VIH. Dans cette action, une partie essentielle est accordée au partenariat scientifique et le CIRCB entend développer davantage ses collaborations tant au niveau national qu'au plan international. Par ailleurs, l'expertise des chercheurs du CIRCB, renforcée constamment avec la collaboration de nos divers partenaires, constitue un réel atout pour le développement de l’institution. Le CIRCB est aujourd’hui un pole de référence non seulement pour le VIH, mais aussi pour le diagnostic moléculaire et surveillance des variants de la COVID-19.

Sous la Direction Générale du Professeur Alexis NDJOLO, le label CIRCB est davantage tourné vers l'international, avec un Conseil Scientifique doté d'éminents professeurs du monde de la médecine et de la recherche scientifique, présidé par le Professeur Carlo-Federico PERNO, et une Task-force animée par le Professeur Vittorio COLIZZI de la coopération italienne. Le CIRCB porte à son actif plus de 200 publications scientifiques sur le VIH et ses coïnfections, ainsi que sur la COVID-19.

CRENC - IeDEA

The International Epidemiologic Database to Evaluate AIDS (IeDEA) is a global research consortium with close to 2 milion people living with HIV/AIDS (PLHV) from over 47 participating countries from seven regions of the world. The Cameroon IeDEA study is part of Central Africa IeDEA regional study; including Rwanda, Burundi, Democratic Republic of Congo, Congo Brazaville, and Cameroon.

The Cameroon IeDEA study is implemented by the Clinical Research Education and Consultancy (CRENC) foundation, in collaboration with the Ministry of Public Health through the National AIDS Control Committee (NACC), the Division of Health Operational Research (DROS) and the respective health facilities involved in the study.

Cameroon CRENC-IeDEA team during a research conference held in Kigali, Rwanda (2017)

The overall goal of the IeDEA study is to use secondary clinical, laboratory and epidemiologic data from HIV-infected patients in various regions to answer HIV/AIDS and other related co-morbidities research questions that cannot be answered with existing individual cohorts in each country. IeDEA also has as one of its priorities to build scientific capacity in Cameroon and enhance scientific productivity using the IeDEA data.

The CRENC worked with overseas IeDEA PIs and the DROS to ensure that IeDEA Cameroon contribute very significantly in covering the National HIV/AIDS research agenda as defined by the Cameroon Ministry of Public Health. Overall, the CRENC is a Cameroon based research organization with the vision of generating the best evidence to support policy and care through high quality research.

Elizabeth Glaser Pediatric AIDS Foundation (EGPAF)

Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) is a proven leader in the global fight to end HIV and AIDS, and an advocate for every child to live a full and healthy life into adulthood. For more than 30 years, EGPAF has been a leader in meeting urgent needs in pediatric HIV and AIDS in the world. It has marked its presence in 19 different countries. EGPAF seeks to end global pediatric HIV/AIDS through prevention and treatment programs, research, and advocacy.

EGPAF marked its first foot prints in Cameroon in 2000 through provision of technical assistance and support to the Government of Cameroon and other national partners like CBCHS in PMTCT program. Since 2015 EGPAF has extended the scope of work through 7 projects which include: ECHO(CDC/DELTA), UNITAID POC EID, Gender Based Violence (CDC), HIV FREE and Atteindre 95(CDC PEPFAR), New horizon(J&J), CAP TB and most recently, the CCA project both sponsored by UNITAID. The projects so far implemented to support control of HIV/AIDS epidemic in Cameroon, in line with Cameroon's HIV/AIDS strategic plan, have enabled the Ministry of Health to improve Implementation of high-quality, evidence-informed case-finding and clinical care services for HIV to achieve the UNAIDS' 95-95-95 and to support progress towards epidemic control in Cameroon. These have helped increase access to EID among HIV-exposed infants and ensured early initiation on ART among HIV-positive infants through procurement and informed placement of innovative POC technologies. EGPAF has also contributed to the reduction in pediatric TB morbidity and mortality in Cameroon, as well as working to improve the integrated use of molecular diagnostics for both TB and HIV. EGPAF contribution through these projects has also helped to address GVB/SGVB and mitigate the life-altering effects of violence. The foundation has equally supported the Cameroon Government to respond to limited availability of second and third-line pediatric and adolescent treatment options through donation of drugs to meet the humanitarian needs of children, adolescents and young people aged 24 years and below who need second or third-line antiretroviral drugs; and is currently supporting the Ministry to improve access to COVID-19 testing, isolation, care and treatment interventions through the CCA project.

EGPAF conducts advanced research and innovation to prevent, treat and end HIV AIDS in children, adolescents and families. This is being implemented with Global Research Unit experts in clinical, implementation, community, regulatory, statistical, qualitative and quantitative research.

In Cameroon, the research and evaluation portfolio varies from clinical randomized trials with particular designs (pragmatic cluster randomized, stepped wedge cluster randomized) to repeated cross-sectional surveys, programmatic evaluation specific approaches (program outcomes evaluation, pre and post intervention evaluation), cost effectiveness analysis and qualitative assessments. The Cameroon research portfolio is classified into three main categories: The HIV Research and Evaluation(R&E) studies, Tuberculosis R&E studies and the COVID-19 R&E studies.

The HIV Research and Evaluation category is made up of Atteindre95 evaluation PPOP, the New Horizon, the MALE study (Closed) and the POC EID CMR study (Closed). While the Tuberculosis Research and Evaluation counts 5 studies: the TIPPI M&E study, the CONTACT study; INPUT study; CAP-TB CEA studies and the CONSENT study. The COVID-19 Research and Evaluation which is the most recent category includes 3 main studies: the IPC study; INTEGRATE study and the EFFECTIVENESS study.

EGPAF Cameroon Leadership courtesy visit to H.E the Minister of Public Health Cameroon

The Founder Elizabeth Glaser with her Child Ariel

Cameroon Baptist Convention Health Services
(CBCHS)

The Cameroon Baptist Convention (CBC) Health Board is a Non-profit, Faith-based Healthcare Organization that offers holistic care to all as an expression of Christian love. The CBC Health Board seeks to assist in the provision of care to all, who need it as an expression of Christian love and as a means of witness, in order that they might be brought to God through Jesus Christ. Thus, the Health Board shall provide exemplary health care with genuine compassion and with overriding purpose of evangelical witness.

The CBC Health Services works in partnership with national and international governmental and nongovernmental health care organizations, and funding agencies in Africa and other parts of the world. Our team of over 5,000 employees; Specialists, Doctors, Nurses, lab scientists, Administrators, Social Workers and other Support Staff respond to the health needs of people in both Urban and Rural underserved communities daily. Our services cover the entire country, with facilities in 7 of the 10 Regions of Cameroon, open 24/7 to provide holistic care to all. We maintain partnerships with National and International Organizations in providing care. Services offered by the CBCHS range from village Primary Health Care to highly specialized hospital-based care with an integration of other social services. It comprises 7 hospitals (2 of which are 250 bed hospitals), over 34 integrated Health Centers, over 50 primary Health Centers, a pharmaceutical procurement and distribution department, a Baptist Training School for Health Personnel (BTSHP), a Baptist Institute of Health Sciences, A Baptist School of Public health, a Center for Clinical Pastoral Education and Social Services (CECPES), Services for People with Disabilities, among others.

From the early 90s, CBCHS started a comprehensive HIV/AIDS care and prevention program focusing on community mobilization for HIV prevention, identification of those HIV positive to put on treatment, provision of care and treatment services to those enrolled on antiretroviral drugs to keep them in care and achieve viral suppression, and psychosocial support for those infected or affected by HIV. With funding from EGPAF and then USAID through the AWARE HIV/AIDS project, CBCHB supported the scale up of PMTCT services in six of Cameroon's ten regions and in 12 countries in the West and Central African sub-region. From September 2011, CBCHB with funding from CDC/PEPFAR projects has contributed in scaling up HIV prevention especially PMTCT and the uptake of ART in the Northwest, Southwest, Littoral, Center and West Regions of Cameroon. CBCHS provides a huge platform for research in Cameroon and has an Institutional Review Board (IRB) which regulates research ensuring the protection of human subjects.

Site ANRS | MIE Cameroun

L'ANRS | Maladies infectieuses émergentes, a renforcé et structuré dès les années 90s ses collaborations avec ses partenaires dans des pays à revenus faibles et intermédiaires.

Actuellement huit pays collaborent étroitement avec l'ANRS|MIE, Maladies infectieuses émergentes : il s'agit des sites du Brésil, du Burkina Faso, du Cambodge, du Cameroun, de Côte d'Ivoire, d'Egypte, du Sénégal, et du Vietnam.

L'ensemble de la recherche actuellement développée sur le site camerounais, est dédiée à l'infection par le VIH, les hépatites, la tuberculose. Le site s'est investi dans la réponse aux maladies émergentes en particulier vis à vis du virus Ebola et depuis peu vis à vis du COVID (SARS-Cov2).

Recherche en virologie : résistances et diversité génétique des différents types de VIH, diversités génétiques et distribution géographique des infections émergentes (Ebola, Coronavirus, …) en lien avec la Santé animale et la recherche de réservoir et cela selon une approche « One Health»

Recherche clinique : essais sur l'évaluation de nouvelles stratégies de traitement antirétroviral chez l'adulte et anti tuberculeux, sur les infections opportunistes (cryptococcose). Recherche en santé publique et en sciences sociales : objectif d'amélioration de la prévention, la prise en charge et l'accès aux traitements efficaces, mieux tolérés et abordables.

KEYNOTE SPEAKERS

From submission to ethical clearance: The first researcher's experience:

Dr. Boris Tchounga (EGPAF)

From submission to ethical clearance: The second researcher's experience:

Dr. Eveline Mboh Khan (CBCHS)

Ethical review of research in Cameroon: Current processes and strategies:

Dr Therese Abong (President, CNERSH)

Administrative authorization for research: tips for the busy researcher:

Mme Naah Felicité (DROS/ MINSANTE)

Ethics committees in Cameroon: Organization of Regional and Institutional Committees:

Prof. Jerome Ateudjeu (MSP/UDS)

Focus sur le développement de nouveaux axes de recherche du Site Cameroun ANRS-MIE :

Dr Marie Varloteaux (ANRS-MIE)

HIV mutations in the era of COVID-19 epidemic: myths or facts?

Dr. Joseph Fokam (CIRCB)

Priority research areas to accelerate the 95s in Cameroon:

Prof. Anne Bissek (DROS/ MSP)

How to design a good research question:

Dr. Appolinaire Tiam

Principles of implementation research:

Prof. John Ditekemena (EGPAF)

Developing and Launching a Cameroon HIV/AIDS Research Registry: How and why?

Prof. Anastase Dzudie

Challenges in the Management of HIV Patients at an Advanced Stage of the Disease. Preliminary Results of the DREAMM Study to The Epidemiology of Meningitis and their Management in HIV Patients With HCY

Dr Charles Kouanfack, (HCY)

New Horizons Project (advancing pediatric HIV care): Pattern of Baseline HIV-DR Among and Outcomes of Patients receiving Etravirine/Darunavir at 6-12-month follow-up.

Dr Appolinaire Thiam

COVID-19 associated changes in HIV service delivery over time in Central Africa: Results from facility surveys during the first and second waves of the pandemic

Dr Rogers Ajeh, (CRENC-IeDEA)

EVENT PROGRAM

Objectives of the meeting:

1. To Disseminate HIV research findings/ HIV policy	1. Diffusion des résultats de la recherche sur le VIH/politique de santé sur le VIH
2. To foster operational research collaboration	2. Collaboration en matière de recherche opérationnelle
3. To build research capacity through a) Basics of research methods b) Tips for grant writing c) Young Investigator Cam-Hero Research awards	3. Renforcement des capacités de recherche à travers a) Fondamentaux de la Méthodologie de la recherche b) Secrets de la rédaction des projets c) Prix du jeune chercheur du groupe Cam-Hero
4. Cameroon HIV/AIDS research registry: Encourage all HIV/AIDS researchers to register their research (protocols and publications)	4. Registre de recherche sur le VIH/SIDA au Cameroun : Encourager tous les chercheurs sur le VIH/SIDA à enregistrer leurs recherches (protocoles et publications).

DAY 1: 18th December, 2021

Time	Theme
07:30 – 08:00 am	**Reception and registration of participants** Facilitators: **Victorine Nkome / Lorraine Guedem**
08:00 – 08:15 am	**Welcome and introduction of participants** (10 mins) Rapporteurs: **Laure Nguemo/ Dr. Saint Just Petnga / Dr. Peter Ebasone** Speakers: **Prof. Anastase Dzudie** (CRENC-IeDEA), **Dr Boris Tchounga** (EGPAF) & **Dr Evelyne Mboh** (CBCHB)
08:15 – 09:15 am	**Abstract session 1: Prevention Science** Panel 1: **Prof. Anastase Dzudie (CRENC-IeDEA), Dr. Patrice Tchendjou** (EGPAF), **Dr Boris Tchounga** (EGPAF), **Dr. Mboh K. Eveline** (CBCHS)
08:15 – 08:30 am	**Abstract 1**: Prevalence and Determinants of Reduced Glomerular Filtration Rate in HIV-Infected Patients on Antiretroviral Therapy at Bafoussam Regional Hospital Presenter 1: Paul Nyibio Ntsekendio
08:30 – 08:45 am	**Abstract 2**: HIV-Self Testing: A Strategy to Optimize Case Identification in Hard-To-Reach Populations Presenter 2: Banlack Ernest
08:45 - 09:00 am	**Abstract 3**: HIV Prevalence and Disease Outcome among Patient with Childhood Cancer in the Cameroon Baptist Convention Health Services Presenter 3: Bernard Wirndzem Njodzeka
09:00- 09:15 am	**Abstract 4**: Engaging Traditional Healers in HIV Testing Service Uptake and Care Cascade: A Randomized Controlled Trial in the South West Region of Cameroon Presenter 4: Charlotte Ayima

09:15 – 10:15 am	**Abstract session 2: Clinical Science** Panel 2: **Prof. John Ditekemena** (EGPAF), **Dr Chi Premius** (CAMBIN), **Dr. Pascal N. Atanga,** (CBCHS), **Dr. Joseph Fokam** (CIRCB, FHS-UB)
09:15 – 09:30 am	**Abstract ID 16:** Association between Cervical Neoplasia and CD4 Counts among Women Living with HIV in Cameroon Presenter 5: Manjuh Florence
09:30 – 09:45 am	**Abstract ID 76:** Service Provision during weekends and extended clinic hours: An effective differentiated patient-centred approach for HIV Care and Management Presenter 6: Ismaila Esa
09:45 – 10:00 am	**Abstract ID 47:** Treatment Outcomes and Factors Associated to Treatment Attrition 12 Months After ART Initiation in A Large Cohort of HIV Positive Clients in The West Region of Cameroon Presenter 7: Tshimwanga Katayi Edouard
10:00 – 10:15 am	**Abstract 50:** Personalized HIV Medicine Improves Antiretroviral Treatment Outcomes Among Adolescents in Cameroon: Experience from the EDCTP Ready-Study. Presenter 8: Willy Leroi Togna Pabo
10:15 – 10:30 am	**OPENING OF THE MEETING** Speaker: **Prof. Anne Bissek** (DROS/ MSP)
10:30 - 10:45 am	**Coffee break: Moderated poster session I - Prevention Science (4 posters)**
10:45 – 11:45 am	**Abstract session 3: Implementation Science** Panel 3: **Prof. Anne Bissek** (DROS/ MSP)**, Dr Charles Kouanfack** (HCY, UDS), **Dr Serges Billong** (CNLS), **Dr Nyenti Arreneke** (LRH)
10:45 – 11:00 am	**Abstract 15:** Differentiated HIV Testing Model and Case Identification in Three Regions of Cameroon Presenter 9: Esther Kuni
11:00 – 11:15 am	**Abstract 35:** Enhanced adherence counselling, support groups and viral load suppression amongst adolescents at Centre Hospitalier d'Essos Presenter 10: Agbornkwai Agbor
11:15 – 11:30 am	**Abstract 63:** Establishing Enhanced Adherence Counselling (EAC) to Monitor and Appropriately Manage High Viral Load (HVL) ART Children/Adolescents at The CBCHS Supported Sites in the West, Northwest and Southwest Regions of Cameroon Presenter 11: Gilbert Tene
11:30 – 11:45 am	**Abstract 32:** Is there an Association Between the Home-Based Care Provider for Children and Adolescents on Antiretroviral Therapy (ART) and Their Viral Suppression Status? Evidence From Cameroon Presenter 12: Eveline Mboh Khan
11:45 – 12:45 pm	**Abstract session 4: Basic Science** Panel 4: **Prof. Pius Tih** (CBCHS)**, Prof. Jerome Ateudjeu** (FMPS, UDS), **Dr. Marie Varloteaux** (ANRS-MIE), **Dr. Denis Nsame** (BRH)
11:45 – 12:00 pm	**Abstract 57**: Facteurs Prédictifs de la Réponse Immunitaire chez les Adolescents Infectés Verticalement par le VIH Au Cameroun Presenter 1 : Aurelie Minelle Kengni Ngueko
12:00 – 12:15 pm	**Abstract 52**: Effect of HIV-1 Genetic Diversity on Immune-Virologic Response Among Adolescents in Cameroon: Experience from The EDCTP Ready-Study Presenter 14: Willy Leroi Togna Pabo
12:15 – 12:30 pm	**Abstract 58**: Incidence and Factors Associated with Virologic Failure in Adult People Living with HIV (PLHIV) with Previous Viral Load Suppression at the Jamot Hospital Yaounde Presenter 15: Tentoum Claire Aimée
12:30 – 12:45 pm	**Abstract 67**: Pre-Treatment HIV Drug Resistance in Cameroon and Implications on First-Line Therapeutic Options Presenter 16: Collins Chenwi

12:4 13:35 pm	**Lunch break (50 mins)**
14:00 - 16:00 pm	**Plenary session I: Opportunities for effective collaboration between researchers, ethics committees and regulatory bodies**
14:00 - 15:00 pm	**From submission to ethical clearance in Cameroon: what are the challenges and solutions?** **Chairs:** Prof Bissek (DROS), Prof. Jerome Ateudjeu (FMPS, UDS) 1. **From submission to ethical clearance: The researcher 1's experience (10 mins):** Dr. Boris Tchounga (EGPAF) 2. **From submission to ethical clearance: The researcher 2's experience (10 mins):** Dr. Mboh **K. Eveline (CBCHB)** 3. **Ethical review of research in Cameroon: Current processes and strategies (20 mins):** Dr T. Abong (President, CNERSH) **Panel discussants:** Prof. Pius Tih (CBCHB), Prof. John Ditekemena (EGPAF), Dr. Léonard Bonono (CNLS), Prof. Anastase Dzudie (CRENC-IeDEA), Dr Chi Premius (CAMBIN), Dr. Charles Kouanfack (HCY) **Q&A Session (20 mins)**
15:00 - 15:50 pm	**Research Regulation & HIV policy** **Chairs:** Dr T. Abong (CNERSH), Dr. Léonard Bonono (CNLS), Prof. Pius Tih (CBCHB), Mme Bouba Pamen (DELMEP), Dr Charles Kouanfack (HCY, UDS), 1. **Administrative authorization for research: tips for the busy researcher (15 mins):** Mme Naah Felicité (DROS/ MINSANTE) 2. **Ethics committees in Cameroon: Organization of Regional and Institutional Committees: what researchers need to know (15 mins):** Prof. Jerome Ateudjeu (MSP/UDS) 3. **Focus sur le développement de nouveaux axes de recherche du Site Cameroun ANRS :** Dr Marie Varloteaux (ANRS-MIE) **Q&A Session (10 mins)**
15:55 - 16:10 pm	**HIV mutations in the era of COVID-19 epidemic: myths or facts?** **Speaker**: Dr. Joseph Fokam (CIRCB)
16:10 - 16:30 pm	**Coffee break: Moderated poster session II – Clinical and Implementation Sciences (7 posters)**
16:30 – 18:30 pm	**Plenary session II**: **Late breaking abstracts** (LBA) Chairs: **Prof. John Ditekemena** (EGPAF), **Prof. Anastase Dzudie** (CRENC-IeDEA), **Dr. Pascal N. Atanga** (CBCHB)
16:30 – 16:50 pm	LBA 1: Presenter 1: **Prof EW Pefura, (CRENC-IeDEA FIMPER, FMBS)**
16:50 – 17:10 pm	**LBA 2**: Challenges in the Management of HIV Patients at an Advanced Stage of the Disease. Preliminary Results of the DREAMM Study to The Epidemiology of Meningitis and their Management in HIV Patients With HCY Presenter 2: **Dr Charles Kouanfack, (HCY)**
17:10 – 17:30 pm	LBA 3: COVID-19 associated changes in HIV service delivery over time in Central Africa: Results from facility surveys during the first and second waves of the pandemic Presenter 3: **Dr Rogers Ajeh, (CRENC-IeDEA)**
17:30 – 17:50 pm	LBA 4: New Horizons Project (advancing pediatric HIV care): Pattern of Baseline HIV-DR Among and Outcomes of Patients receiving Etravirine/Darunavir at 6-12-month follow-up. Presenter 3: **Dr Appolinaire Tiam** (EGPAF)
17:50 – 18:10 pm	Questions and answer session (20 mins)
18:30pm	**Closing remark of day one** **Chair: Prof Anne Bissek**

DAY 2: 19th November, 2021

8:00-9:00 am	**Reception and registration** Facilitators: **Victorine Nkome / Mbunka Muhamed / Lorraine Guedem**
8:00- 8:20 am	**Day one report and adoption** Rapporteurs: **Laure Nguemo/ Dr Saint Just Petnga**
08:20- 10:20 am	**Plenary session III: Research Methodology** Chairs: **Prof E Sobngwi (DOSTS), Dr Joseph Fokam** (CIRCB-CHUY), **Dr Charles Kouanfack** (HCY)
08:20 – 08:45 am	**Priority research areas to accelerate the 95s in Cameroon:** Presenter: **Prof. Anne Bissek** (DROS/ MSP)
08:45 – 09:10 am	**Principle of implementation research:** Presenter: **Prof. John Ditekemena** (EGPAF)
09:10 – 09:35 am	**Discussions**
09:35 – 09:55 am	**Coffee break: Moderated poster session III – Basic Science (3 posters)**
09:55 - 11:55 am	**Workshops: Collaborative research & Research registry** **Round table 1: Collaborative research (1hr)** **Chairs: Prof Richard Njock (SG/MSP), Dr T. Abong (CNERSH), Prof. John Ditekemena (EGPAF),** **1.** How to design a good research question: Dr Appolinaire Tiam **2.** Research collaboration: What are the strategies to transform into a mutual benefit relationship? Cameroon researchers vs foreign partners: Pr Jerome Ateudjeu (FMPS, UDS), Dr Boris Tchounga, Prof. Anastase Dzudie, Prof Eugene Sobngwi, Dr Appolinaire Tiam, Dr. Pascal N. Atanga (CBCHB), Dr. Marie Varloteaux (ANRS) **3.** Remarks and discussions – All **Round table 2: Developing and Launching a Cameroon HIV/AIDS Research Registry (1hr)** **Chairs:** Prof E Sobngwi (DOSTS, MINSANTE), Dr Serges Billong (CNLS), Prof Anne Bissek (DROS-MSP), 1. Why and how – Prof. Anastase Dzudie 2. What are the next steps and key roles? Round table opinion: Dr. Pascal N. Atanga (CBCHS), Pr Jerome Ateudjeu (FMPS, UDS), Dr Charles Kouanfack (HCY), Pr John Ditekemena (EGPAF) 3. Remarks and discussions – All
11:55 - 12:55 pm	**Lunch Break**
12:55 – 13:35 pm	**CAMHERO Awards (40 mins)** Chairs: Prof R. Njock (SG/MINSANTÉ), Prof Bissek (CDROS), Dr T. Abong (CNERSH), Prof. Ateudjeu (FMSP/UDS), Prof. A. Dzudie (CRENC-IeDEA), Pr John Ditekemena (EGPAF), Dr Bonono (CNLS), Dr Arreneke Nyenti (RHL), Prof E. Sobngwi (DOSTS), Dr. Pascal N. Atanga (CBCHB), Dr. Marie Varloteaux (ANRS)

13:35 - 13:50 pm	**Recap of day 1 and 2:** Rapporteurs : **Laure Nguemo/ Dr Saint Just Petnga**
13:50 - 14:05 pm	**Round up of the meeting to the Minister of Health** Prof. Anne Bissek and Prof. Anastase Dzudie
14:05 - 14:30 pm	**Closing Remark by the Secretary General of the Ministry of Public Health** Family photo 2
	Departure

LATE-BREAKING ABSTRACTS

Abstracts Reserved for Special Oral Presentation

LBA 1: New Horizons Project (advancing pediatric HIV care): Pattern of Baseline HIV-DR Among and Outcomes of Patients receiving Etravirine/Darunavir at 6-12-month follow-up

Appolinaire Tiam, New Horizons Group

Elizabeth Glaser Pediatric AIDS Foundation, Washington, DC, USA | atiam@pedaids.org

Background:

There are limited studies of drug resistance among children, adolescents, and young adults failing antiretroviral treatment (ART) in sub-Saharan Africa (SSA). We evaluated baseline drug resistance patterns in children, adolescents, and young adults enrolled in the New Horizon's study, which provides darunavir (DRV) and/or etravirine (ETR) to children failing second-line ART.

Methodology:

From November 2018 to October 2021, we collected data from Cameroon, Eswatini, Kenya, Lesotho, Nigeria, Rwanda, Uganda, Zambia, and Zimbabwe among patients aged 0-24 years initiated on DRV and/or ETR. Data were abstracted from medical records at baseline and approximately every six months thereafter. Susceptibility to various drugs was determined using the genotypic susceptibility score (GSS) using the Stanford University HIV drug resistance database version 8.9.1 portal (hivdb.stanford.edu) and was classified as susceptible, intermediate-level, and high-level resistance.

Results:

A total of 377 patients aged less than 25 years were enrolled and the median age at the time of switching to DRV or ETR was 14.3 years. Immediately prior to DRV or ETR initiation, 84.4% had viral failure while receiving LPV/r plus dual NRTIs. Of those enrolled, 203 (53.8%) had documented baseline resistance results (Figure). Only 27.8% and 26.8% were susceptible to TDF and AZT respectively. For NNRTIs, high-level of resistance to efavirenz (EFV) and nevirapine (NVP) is common at 56.1% and 78.3% respectively. A total of 138 (69.7%) of the participants had cross-resistance to ATV and LPV. Seventy-one (36.4%) of participants were not completely susceptible to all three PI drugs (i.e. some cross-resistance to all 3 PIs), however, 62.6% remained susceptible to DRV with only 0.5% having high-level DRV resistance.

Conclusion:

Highly treatment-experienced children/adolescents in SSA have accumulated high-level of resistance to NRTI, NNRTI, and commonly used PIs, but susceptibility to DRV and second generation NNRTI was retained in most.

LBA 2: Challenges in the management of HIV patients at an advanced stage of the disease. Preliminary results of the DREAMM study on the epidemiology of Meningitis and their management in HIV patients with HCY

C. Kouanfack, L. Fomete *et al*

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Background:

Central Nervous System (SNC) Infection is a leading complication of advanced HIV disease, causing up to a third of HIV-related deaths in African low-and middle-income countries. Cryptococcal meningitis (CM) alone causes up to 15% of HIV-related deaths. DREAMM (Driving REduced AIDS-associated Meningo-encephalitis Mortality) is a project designed to prospectively determine SNC infections' epidemiology and develop models of care, that reduces mortality.

Methods:

DREAMM is multicentric (Cameroon, Tanzania and Malawi), led according to a BEFORE-AFTER design, with an Observation, Training, and Implementation phase. Its interventions include: 1) Health system strengthening, optimising quality of care for clinical and laboratory pathways, and increasing physician-laboratory communication; 2) Delivery of an education program for HCWs, focused on mortality-reducing interventions; and, 3) Implementation of an algorithm for early diagnosis (bedside rapid diagnostic tests alongside standard microbiology) and treatment (WHO guidance on AHD).

Results:

Respectively, 28 and 99 participants were enrolled during the observation and the implementation phases, out of 214 patients with probable meningo-encephalitis at the Yaoundé Central Hospital, over 13montsh. Patients' mean age was 41 years and about 60% were ART experienced. In the observation phase, 11(3/28) had microbiologically confirmed cases of CNS infections versus 42(38/90) in the implementation phase (with 74(74/99) when radiological confirmation was included). Prevalence of SNC infections: toxoplasmosis 34%, cryptococcal meningitis 30%, tuberculous meningitis 10%, and bacterial meningitis 5%. In other countries, CM was highest (60%) followed by bacterial and TB meningitis respectively, in Malawi 17(14/81), and Tanzania 33(33/99). 2- and 10-week mortality were 51.9% and 56% for the audit phase, and 24.6% and 44.2% for the implementation phase. Admission-death time increase from 3.5 days to 11 days respectively.

Conclusion:

Significant number of deaths of critically unwell PLHIV are preventable using existing diagnostic and treatments. Toxoplasmosis is the most prevalent infection of the SNC in Cameroon. DREAMM's novel methodology is a powerful implementation evidence to inform policy and practice for scale-up.

LBA 3: COVID-19 associated changes in HIV service delivery over time in Central Africa: Results from facility surveys during the first and second waves of the pandemic

Rogers Ajeh*, Ellen Brazier, Anastase Dzudie, Adebola Adedimeji, Marcel Yotebieng, Benjamin Muhoza, Christella Twizere, Patricia Lelo, Dominique Nsonde, Adolphe Mafoua, Athanase Munyaneza, Patrick Gateretse, Merlin Diafouka, Gad Murenzi, Théodore Niyongabo, Kathryn Anastos, and Denis Nash

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Background:

The objective of this study was to document changes in HIV care and treatment services associated with the COVID-19 pandemic at selected HIV clinics in Central Africa, along with clinic-level mitigation strategies for minimizing disruptions in HIV care.

Methods: A 51-item questionnaire on COVID-19 pandemic-associated changes in HIV care and service delivery was administered at two time points to clinicians involved in HIV care in June-July 2020 and October 2020 to February 2021 at 21 HIV care and treatment clinics in five countries that participate in the Central Africa cohort of the International epidemiologic Databases to Evaluate AIDS research consortium. Descriptive statistics were used to characterize changes in HIV care and related services at study sites at each time point.

Results: During the first round, almost half of the sites reported negative consequences of COVID-19 for HIV care, including reduced hours of service delivery (8 sites, 38.1 %), reduced availability of HIV care providers (9 sites, 42.9%) and widespread suspension of community-based programs (15 sites, 75.0%). However, no site reported suspending the enrollment or ART initiation of new patients. In the follow-up survey, fewer sites reported such disruptions (1 and 5 sites, respectively, reported reduced service hours and provider availability), and more sites reported having expanded rapid antiretroviral therapy (ART) initiation services, as well as providing extra supplies of ART medications to reduce clinic visit frequency. However, more sites also reported stockouts of certain commodities during the second round of the survey, including HIV and viral load testing and pre-exposure prophylaxis for HIV. Stockouts of second- or third-line ART were reported by five (25.3%) and four (20.6%) sites during the first and second timepoints, respectively.

Conclusions: While the initial wave of the COVID-19 pandemic resulted in disruptions to HIV service delivery, most of these disruptions appear to have attenuated over time, and many sites introduced measures to help PLWH avoid frequent visits to the clinic for care and medications. However, the impact of HIV supplies and mitigation strategies on ART outcomes needs to be assessed.

ORAL ABSTRACTS

Abstracts Selected for Oral Presentation

ID 12: Prevalence and Determinants of Reduced Glomerular Filtration Rate in HIV-Infected Patients on Antiretroviral Therapy at Bafoussam Regional Hospital

Paul Nyibio Ntsekendio*, Charles Kouanfack, Cavin Bekolo Epie, Dr Sylvain Raoul Simeni Njonnou, Simeon Pierre Choukem

*Department of Public Health, Faculty of Medicine and Pharmaceutical Sciences, University of Dschang | paulnyibio7@gmail.com

Background

Chronic kidney disease (CKD) one of the major problems in patients on Antiretroviral Therapy (ART), and can lead to loss of kidney function, leading to complications and end-stage kidney disease requiring kidney replacement therapy. The purpose of this study was to determine the prevalence and determinants of reduced glomerular filtration rate in HIV infected patients on ART at the Bafoussam Regional Hospital (BRH).

Methods

This was a cross-sectional study conducted from January to April, 2021, targeting HIV infected patients on ART at the Treatment Centre of BRH by consecutive sampling. Data on socio-demographic and clinical factors were collected using a semi-structured questionnaire administered face to face. Statistical analysis was performed by estimating the prevalence using the CKD-EPI (Chronic Kidney Disease Epidemiology collaboration) equation and logistic regression models to identify potential factors associated with glomerular filtration rate reduction.

Results

Of the 1268 participants targeted, 846 (92.66%) consented to participate in the study. The female gender represented about 430(50.83%). A total of 105 (12.41%) participants had an eGFR <60 ml/min/1.73 and 80(16.91%) were on TDF-based regimen. The factors found to be significantly associated with reduced glomerular filtration rate were : male gender (aOR=1.76, 95%CI: 1.01-3.08, P=0.045), HBV coinfection (aOR=2.27, 95%CI: 1.30-3.97, P=0.001), HCV coinfection (aOR=3.24, 95%CI: 2.01-5.97, P=0.001), diabetes (aOR=3.79, 95%CI: 2.15-2.15, P=0.001), hypertension (aOR=3.41, 95%CI: 1.95-5.98, P=0.001), WHO stage [stage III (aOR= 3.15, 95%CI: 1.35-7.33, P=0.01) and stage IV (aOR= 23.4, 95%CI: 10.6-51.8, P=0.001)], ART regimen [AZT+3TC+LPV/r (aOR=6.2, 95%CI: 1.53-25.16, P=0.01) and TDF/3TC/DTG (aOR=4.10, 95%CI: 1.02-16.43, P=0.04)].

Conclusion

High prevalence of reduced eGFR was observed among patients with HIV at BRH. This GFR reduction was associated with history of diabetes, hypertension, HBV/ HCV coinfections, WHO stage III/IV, and patients on AZT+3TC+LPV/r and TDF/3TC/DTG. Thus, decision makers should regulate routine monitoring, screening and management of eGFR in HIVinfected patients especially those with these clues.

Keywords: ART, Bafoussam Regional Hospital., determinant, prevalence, reduced glomerular filtration rate

ID 20: HIV-Self Testing: A Strategy to Optimize Case Identification in Hard-To-Reach Populations

Banlack Ernest*, Atembeh Bernard, Desembuin Felix, Albert Bakor Beteck, Edouard Katayi, Pascal Nji Atanga, Kate Ivo, Tumasang Florence, Mboh Khan Eveline, Tih Pius

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Background:

HIV Self-Testing (HIVST) has the potential to increase the number of people living with HIV who have access to HIV testing services know their status and initiate treatment. We are presenting the outcome of HIVST modality in the South West Region of Cameroon under the HIV-FREE project funded by CDC-PEPFAR.

Method:

Staff were trained to provide HIVST service in 25 health facilities (HF), The region and each HF were supplied with HIVST kits from July 202.to June 20. Each HF distributed HIVST kits to eligible clients and followed up for return of results. A register was drafted and distributed to appropriately document HIVST data. Regional and health facility stakeholders were involved for administrative buy-in and sustainability, and the targeted populations were sensitized on daily basis at HF. The beneficiaries were instructed on how to use the HIVST kit for self and non self. The targeted populations were Key populations, hard to reach contacts of index cases and partners of pregnant women.

Results:

A total of 764 HIVST kits were distributed, 481/764 (63%) results returned to the HF, 31/481 (6%) screened positive, 21/31 (68%) were tested for HIV and 14/21 (67%) were confirmed positive (yield 2.9%-14/481) and 12 (86%) were linked to treatment. A total of 437 clients were tested negative and 106 (24%) were linked to prevention services.

Conclusion:

HIVST contributed to the identification of of some HIV positive hard to reach individuals who would have otherwise been missed. HIVST can boost case identification in hard to reach population if it is scaled up. There is a need to put in place a system to link all negative cases to prevention services.

Keywords: HIV Selt-Testing, Case-Identification, Hard to reach population

ID 55: HIV Prevalence and Disease Outcome among Patient with Childhood Cancer in the Cameroon Baptist Convention Health Services

Bernard W Njodzeka*, Glenn M Afungchwi, Kinang Patience, Paul Wharin, Francine Kouya, Cesar Madimba Peter B Hesseling

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Background/Objectives:

Cameroon has a population of 23.3 million, with 42.2% below 15 years. The Human Immunodeficiency Virus (HIV) prevalence amongst children aged 0-14 years is 0.4%. HIV is routinely tested for every child with cancer treated in the Cameroon Baptist Convention Health Services (CBCHS) Childhood Cancer Programme at Mutengene, Mbingo and Banso Baptist Hospitals in the Southwest and Northwest regions. Childhood cancer patients with HIV are treated with the same protocol as HIV negative cases. Our aim is to evaluate the prevalence of HIV among children diagnosed with cancer and the outcome.

Design/Methods:

Retrospective review of patients records from 2003-2016 on our database (POND). We analyzed all HIV positive cases for cancer type, and length of survival. Records review was conducted for information on antiretroviral therapy (ART). Data was analyzed on SPSS Version 25. An alpha level of 0.05 was considered for statistical significance.

Results:

A total of 1,513 patients were registered, 1,204 (79.6%) were tested for HIV. Twenty two (1.8%) patients were positive for HIV, with a female to male ratio of 1:1.2 and the median age of 7 years. The HIV prevalence by cancer type was as follows: Burkitt lymphoma (1.3%), Kaposi sarcoma (38.9%) and Retinoblastoma (0.9%). The distribution of childhood cancer patients with HIV by stage was: stage I (9.1%), stage II (13.6%), stage III (45.5%) and stage IV (9.1%). There was record of ART for 68.8% of HIV positive cases. Fifty percent were alive with a follow up range of 1-120 months (median 16 months). Survival was better amongst patients on ART (Fisher's exact = 0.006).

Conclusions:

The prevalence of HIV (1.8%) was 4.5 times higher in cancer patients than in the general population (0.4%). Outcome is better amongst patients who receive ART. Enter the body of the abstract here... (clear this field before entering)

Keywords: HIV, Childhood cancer

ID 69: Engaging Traditional Healers in HIV Testing Service Uptake and Care Cascade: A Randomized Controlled Trial in the South West Region of Cameroon

Charlotte Wenze Ayima, Nana Njamen Theohile, Assob J.C.N., Dickson Shey Nsagha

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Background: HIV testing and care is still sub optimal in Cameroon, especially in rural communities. Reaching UNAIDS 95-95-95 goals requires strategies to increase HIV testing, treatment and viral load suppression. This study was aimed at assessing the feasibility of engaging traditional healers in the HIV testing and care cascade.

Methods:

This study was conducted as part of a larger study assessing the role of traditional healers in healthcare delivery. We conducted a randomized controlled trial among 72 traditional healers (36 in the intervention group and 36 in the control group) selected from 9 communities. HIV knowledge (mode of transmission, symptoms, prevention and treatment) and practices (HIV counseling, testing with HIV test kits provided and referrals to treatment centers were assessed at baseline, followed by a six(6) months health education intervention in the intervention group. The ANOVA and paired sample student's t-test were used to compare means for both the intervention and control groups.

Results:

There was an overall significant increase in adequate knowledge score among traditional healers on HIV/AIDS (p=0.011) from baseline 18(51.1%) to post-intervention 27(75.0%) in the intervention group compared to the control group with baseline knowledge score of 17(47.2%) and post intervention 18(50.0%), p=0.314. After 6 months of intervention, there was increase in patient counseling (13.9% to 75.0%), HIV testing (0.0% to 47.2%) and referral to health facilities (0.0% to 27.8%) in the intervention group but not in the control group. Mean number of persons tested for HIV increased significantly from 0.0 at baseline to 25.6 after the intervention.

Conclusion:

Our findings show that health education intervention and provision of HIV test kits greatly enhanced traditional healer's knowledge on HIV, testing and referrals to health facilities for timely initiation on ART.This can be scaled up nationwide to target patients especially in the rural communities who rely on them for healthcare.

Key words: Traditional healers, HIV/AIDS, Randomized controlled trial

ID 16: Association between Cervical Neoplasia and CD4 Counts among Women Living with HIV in Cameroon

Manjuh Florence*, Ngalla Calvin, Nulah Kathleen, Che Claudette, Bonghaseh Dianna Mbu, Nwufor Marious, Mboh Khan Eveline, Thomas Welty, Simon Manga, Tih Pius Muffih

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Background:

The current management of women on HAART in Cameroon does not include systematic screening for cervical neoplasia despite its high association with HIV. CD4 immunosuppression is associated with persistent high-risk HPV types that cause cancer. The aim of this study was to verify if there is association between cervical neoplasia and CD4 count among HIV positive women in Cameroon.

Methods:

This was a retrospective study using secondary data from the database of the Women's Health Program of CBCHS between 2009 and 2019. Only files with complete records of CD4 counts were included. CD4 counts were defined as low or high if <200 and >200 counts per ml. Statistical analysis was done using Stata 11 software. Chi-square tests was used to compare participants' characteristics by CD4 count status. Variables with $p<0.05$ in the bivariate analysis were included in the multivariable analysis and binary logistic regression used to model the log odds for cervical neoplasia.

Results:

A total of 4,241 women were screened for cervical cancer with 12% positive. Women <30 years had the highest positive screening outcome in both groups of high and low CD4 counts, n=72 (14.15%) and n=48 (24.37%) respectively. In the high CD4 count category, patients who were divorced and separated were more likely to test positive after screening 17(17.17%) and 25(13.37%) respectively. In the low CD4 count category single (n=53) and married women (n=68) had higher positive rates (17.26% and 16.67%) respectively. There was strong evidence of an association between a positive cervical cancer screening outcome and low CD4 counts (OR= 1.44; $P= 0.0004$)

Conclusion:

These findings demonstrate the importance of screening all women on ART for cervical cancer since it could compromise the impact ART has had in PLHIV. Integrating cervical cancer screening into HIV programs could greatly reduce morbidity and mortality in females.

Keywords: CD4, cervical neoplasia, screening

ID 76: Service Provision during weekends and extended clinic hours: An effective differentiated patient-centred approach for HIV Care and Management

Ismaila Esa, Walter Kum Kang, Agbornkwai Nyenty, Tchekoulong Silvere, Lekeufack GB, Tatah Emile, Mboh Khan Eveline

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Background:

The benefits of differentiated patient-centred approach in HIV Management cannot be over emphasized as it has the potential to increase uptake of services, adherence to and impact of ART. This study sought to analyze the contribution of the weekend and extended clinic hours approach along 95 95 95 UNAIDS targets.

Methods:

This was a retrospective study conducted in Twenty-five (25) CDC/PEPFAR supported facilities in the West region from January to September 2021. We instituted service delivery during weekends and extended clinic hours (WE-ECH) as part of a quality improvement strategy. Site teams were orientated and given necessary skills and resources to offer HIV services in the health facilities at all times. Clients were sensitized during health education sessions to seek services 24/24hrs during extended hours and weekends and the health package was free. This was to decongest clinics as a means of preventing the spread of COVID-19 and accommodate clients who are too busy to come for services during regular working hours. Data was collected weekly on various services offered and analyzed using Excel version 2.0.

Findings:

A total of 7,666 clients were tested for HIV with 456 (6%) new positives identified and 434 (95%) were linked and started on ART. A total of 1,226 clients on ART through the WE-ECH approach representing 5% of the active file. In total 2,959 clients eligible for viral load sample collection gave appointment to come during WE-ECH periods and 2,355 (80%) had their samples collected and sent to the reference laboratory for testing. Viral suppression in the region increased from 92% to 95% during the period.

Conclusion:

Service provision during weekends and extended clinic hours has the potential to significantly improving the uptake of clinical services in HIV programs and should be scaled up to all sites.

Keywords: Extended clinic Hours, Clinical Outcome, Improve Service Uptake

ID 47: Treatment Outcomes and Factors Associated to Treatment Attrition 12 Months After ART Initiation in A Large Cohort of HIV Positive Clients in The West Region of Cameroon

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Background:

Fast tracking the Universal Test and Treat (UTT) strategy to meet the UNAIDS 95-95-95 targets implies active case fining, timely and rapid ART initiation of all HIV+ ART native clients and optimal ART retention in order to achieve viral suppression. We are reporting here the 12 months outcomes and factors associated to treatment attrition in the West region of Cameroon.

Methods:

An analytical cross-sectional study design was used. The data were extracted from the medical records of clients newly diagnosed HIV+ who initiated ART in 25 health facilities in the West Region between October 2019 and September 2020. Descriptive, bivariate and multivariate logistic regression analysis were carried out using SPSS version 20. The p-value of 5% was considered as statistically significant.

Results:

Of the 4097 HIV+ Identified 3799 (92.6%) initiated ART of whom 2319 clients included in the analysis with 851 (36.7%) males. The mean age was 38.6± 11.6 years. After 12 months ART follow-up, 1955 (84.3%) of clients were still on treatment, 147 (6.3%) transferred out, 97 (4.2%) were lost to follow-up, 97 (4.2%) died, 23 (1.0%) strop treatment. The factors associated to attrition (Dead, LTFU and Stop ART) were male sex (AOR= 1.6, p<0.001) and WHO Clinical Stages 3&4 (AOR= 4.0, p<0.001; AOR= 12.7, p<0.001).

Conclusion:

The west region has a suboptimal retention among newly initiated ART naïve clients most especially among male and clients who initiate ART late when they are already symptomatic and at high risk of dying. UTT has to be aggressively implemented with innovative strategies to avoid delayed ART initiation and improve retention among men if we want to be on track with the 95-95-95 goal in the west region for all population types.

Keywords: Antiretroviral treatment, Outcome, Attrition

ID 50: Personalized HIV Medicine Improves Antiretroviral Treatment Outcomes Among Adolescents in Cameroon: Experience from the EDCTP Ready-Study

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Background:

Acquired drug resistance (ADR) is common among adolescents living with perinatal HIV (APHI) in sub-Saharan Africa (SSA). Despite long-term treatment, wide HIV-1 diversity and inconsistent-adherence, pediatric treatment-outcomes could be improved by personalized monitoring. We sought to evaluate the effect of HIV-1 mutational profiling on immuno-virological response and ADR among APHI.

Methods:

A cohort-study was conducted from 2018-2020 among 311 APHI receiving ART in Cameroon. Clinical (WHO-staging), immunological (CD4) and virological (viremia) responses were measured at enrollment (T1), 6-months (T2) and 12-months (T3). Immunological failure (IF: CD4<250 cells/mm^3), and VF (viremia≥1000 copies/ml), ADR were analyzed. Determinants of ADR were assessed, with $p<0.05$ significant.

Results:

At enrolment, male-female ratio was similar (1:1); mean age was 15(±3) years; median [IQR] ART-duration was 36[21-81] months. At T1, T2, and T3 respectively, adherence-level was similar (66.4%, 58.3% and 66.5%); 14 viral clades were found with a predominant CRF02_AG in all phases (58.2%, 59.4%, and 58.3%); and detection of ADR favored an increased switch to second-line ART (16.1%, 31.2%, and 41.9%, p<0.0001). Interestingly, from T1-T3 respectively, there were declining rates of clinical failure (9.9%, 9.9%, and 9.1, P=0.09), IF (25.5%, 18.9%, and 9.83, p<0.0001), VF (39.7%, 39.9%, and 28.2%, p=0.007), and HIVDR (96.4%, 91.7%, and 85.0%, p=0.099). Predictors of ADR were being on first-line ART (p=0.045), VF at baseline (OR=12.56, 95%CI 2.32-68.13, p=0.059), and IF (OR=5.86, 95%CI 1.18-29.04, p=0.010). Inversely, good adherence (OR=0.13, 95%CI 0.02-1.10, p=0.0003), and optimised ART following mutational-profile (OR=0.05, 95%CI 0.01-0.41, p=0.002) were protective factors.

Conclusion:

In this SSA setting with variable adherence-levels, personalized HIV medicine prompts the use of optimized ARV regimens, which subsequently lead to improved immuno-virological responses, with a reduced emergence of ADR. Thus, universal access of optimized ART strategy among ALPHI in SSA would contribute in achieving the 95-95-95 goals.

Keywords: HIV drug resistance; adolescents living with HIV; Cameroon

ID 80: Acceptability of home-based antiretroviral dispensation in Cameroon: A cross sectional analysis from the International epidemiology Database to Evaluate AIDS (IeDEA) study

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Background:

Community-based antiretroviral therapy (ART) models have been adopted by many sub-Saharan African countries as an important public health approach for scaling up ART coverage. This study estimated the acceptability of home-based ARV dispensation (HARV) by a member of an HIV support group (peer) in three HIV clinics in Cameroon.

Methods:

A hospital-based cross-sectional analysis on 2698 patients on ART, interviewed during enrolment in the Central Africa International Epidemiology Databases to Evaluate AIDS (CA-IeDEA) study in Cameroon from January 2019 to December 2020. Willingness to accept HARV dispensation was analysed as a dichotomous outcome variable. Unadjusted and adjusted associations of covariates with willingness to HARV dispensation were estimated at 95% confidence interval using bivariate and multivariable logistic regression models.

Results:

The mean age (years) of participants was 42±8, 66% were female, and 55% had primary education or less.1012/2698(38%) of participants expressed willingness to accept HARV dispensation by a peer. Patients' home-to-HIV clinic travel time [1-3 hours (AOR1.45 (1.17-1.79), p<0.01); >3 hours (AOR1.94 (1.09-3.45), p=0.02)] was associated with willingness to accept HARV dispensation. Patients in the Jamot (AOR(95%CI 5.21 (4.06-6.69), p<0.01) and the Bamenda (AOR(95%CI)2.32 (1.7-3.15), p<0.01) HIV clinics were more likely to accept home-based ARV dispensation.

Conclusion:

Home-based ARV dispensation by a peer was acceptable to at least one in every three patients on ART. Tailoring home-based ARV dispensation to patients with long home-to-clinic travel time while considering HIV clinic-specific context could render the strategy more effective. More research is needed to assess the actual uptake of this ARV dispensation model.

Keywords: Acceptability, willingness, home-based, antiretroviral dispensation, Cameroon

ID 15: Differentiated HIV Testing Model and Case Identification in Three Regions of Cameroon

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Background:

Differentiated model of HIV testing is a gateway to achieving the global HIV Case Identification (CI) target; 95% of People Living with HIV (PLHIV) who know their status. We are presenting the testing yield and contribution of various testing modalities in the West, Southwest and Northwest regions.

Methods.

Three testing modalities were implemented to ensure individuals at risk of HIV were tested, cases identified and timely linked to treatment in 80 health facilities (HF) under the HIV-FREE project funded by President's Emergency Plan for Aids Relief: 1) HF Testing (HFT) whereby Provider initiated Testing and Counseling (PITC) was offered to clients using the Screening Tool (ST) at entry points to assess HIV risk prior to testing, 2) Index Testing (IT) whereby sexual contacts and biological children of HIV positives cases were anonymously notified and tested by index tracers, 3) HF Led targeted Community Testing (HFLCT) to high risk populations. Weekly testing yields and contribution to CI target of each modality were collected, entered into Data Manager and weekly trends generated. The projected targeted yield was 6.1%.

Results:

After 52 weeks, the achievement of testing target was 119% (333,669/279,323) and CI was 59% (10,153/17,101). The achieved yield was 3,0% (10,153/ 333,669). The yield of IT, HFT and HFLCT were 9.9% (2670/ 27020), 3.7% (5,055/137;823), 1.4% (2,428/168,826) and their contribution to positives were 26% (2,670/10,153), 50% (5,055/10,153), 24% (2,428/10,153) respectively.

Conclusion: Achieving CI target was challenging. The achieved yield was lower than the target leading to over testing. IT had the highest yield. HFT contributed the highest to CI despite a low yield. Although FLCT had the lowest yield, its contribution to overall positives was not negligible. There is need to improve/revise the ST/approach in HF, strengthen/prioritize IT to high-risk index, and continue with FLCT.

Keywords: Testing-modalities, yield, contribution

ID 35: Enhanced adherence counselling, support groups and viral load suppression amongst adolescents at Centre Hospitalier d'Essos

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Background: Globally, HIV viral load suppression rate which is an indirect measure of the efficacy of antiretroviral medication is 47%, and in Africa, it is at 52%. In Cameroon, the viral load suppression rate is 44.7% and poor adherence is widely documented as being responsible for the large gap in viral load suppression. Enhanced adherence counseling (EAC) sessions and enrolment and participation in support groups are specific interventions to improve ART adherence and improve viral load suppression. This study assesses the uptake and contribution of support groups and enhanced adherence counseling sessions in the management of adolescents with unsuppressed viral load results at Centre Hospitalier d'Essos, Yaounde.

Methods:

A retrospective correlational quantitative chart review was conducted for 138 files of HIV-positive adolescents aged between 10-19 years with HIV viral loads above 1000 copies/ml enrolled in care between January 2009 and December 2019.

Results:

The charts of the adolescents revealed that there was an association between completion of EAC sessions in adolescents with unsuppressed viral load and eventual viral load suppression (R.R=2.5, CI 0.848-6.162, p=0.033). However, there was no significant association between support group enrolment and active participation, and eventual viral load suppression. Furthermore, combining EAC and support group interventions was strongly associated with eventual viral load suppression in this group of initially unsuppressed adolescents (R.R= 7.5, C.I 2.544-22.360, p<0.001)

Conclusion:

Suppression rates were good after the completion of EAC sessions and enrolment and participation in support groups for adolescents with a high viral load. As we move towards having 95% of ART-treated adolescents achieve and maintain viral suppression, there is a need to reinforce these interventions in ART clinics targeting this priority group.

Keywords: High viral load, Enhanced adherence counselling, support groups

ID 63: Establishing Enhanced Adherence Counselling (EAC) to Monitor and Appropriately Manage High Viral Load (HVL) ART Children/Adolescents at The CBCHS Supported Sites in the West, Northwest and Southwest Regions of Cameroon

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Background: ART efficiency mainly depends on patients' adherence. HVL occurs following poor ART adherence which, if not corrected, leads to true failure requiring switching to next ART line. CBCHS implemented EAC aimed at fostering HVL children/adolescents' adherence support and switching needing ones to their next ART lines

Methods:

Sites, regional, and zonal focal points were designated and corresponding tools developed. Data reporting schedule and flow were determined. Sites APS documented HVL children/adolescents, enrolled and worked them through the EAC cascade. On EAC completion, repeated VL testing identified true ART failure for switching to next ART line. Patients with True 2nd line ART failure did HIV resistance tests (HIVRT) before switching to 3rd line ART. Using standardized tools, site focal points compiled patients' data weekly for their regional focal points who compiled regional sites' reports to the zonal focal point for analysis and feedback to sites. Monthly meetings helped discussing arising challenges. Data were analyzed using the percentage method.

Results:

By Q4FY21 in Zone1, cumulatively 2,030 HVL 1st line ART children/adolescents were documented, 1,882 (92.7%) were enrolled for EAC and 1,539 (81.8%) completed their EACs. Of these, 1,478 (96%) repeated their VL. Received VL results were 1,280 with 700 (54.7%) suppressed and 352 of the unsuppressed (60.7%), were switched to 2nd line ART. Same process for 225 2nd line ART HVL children/adolescents led to 42 confirmed true 2nd line ART failure, 31 (73.8%) did the HIVRT with 23 (74.2%) results received and 13 (56.5%) switched to 3rd line ART. Sites non-availability of needed ARVs, unsuccessful defaulters' tracking and deaths prevented some switching to the next ART line.

Conclusion:

EAC helped differentiating HVL from poor adherence needing adherence support and HVL from true ART failure needing switching. Sites suitable ARVs' unavailability, unsuccessful defaulters' tracking and death prevented switching some children/adolescents to their next line ART.

Keywords: Enhanced Adherence Counselling, High viral load, Switching regimens.

ID 32: Is there an Association Between the Home-Based Care Provider for Children and Adolescents on Antiretroviral Therapy (ART) and Their Viral Suppression Status? Evidence From Cameroon

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Background: Cameroon is one of the Sub-Saharan African countries struggling to improve on HIV treatment outcomes for children and adolescents. Some HIV stakeholders believe that children with poor outcomes are those from unstable homes. This study sought to find statistical significance in support of this belief from routinely collected program data in Cameroon.

Methods:

A retrospective cohort study was conducted in 27 health facilities purposefully selected from five regions of Cameroon. Participants included children and adolescents aged 0-19 years on ART and had at least one documented viral load result between Jan 2019 – Dec 2020. Age was coded into children (0-14) and adolescents (15-19). Viral load test results were considered suppressed if <1000 copies/ml and unsuppressed if >1,000 copies/ml/. Type of home-based care provider had three categories; both parents, single parents and others which included, aunts, uncles, grandparents, etc. Existing data in ART registers and patient files was reviewed and data collected using an abstraction form. This data was entered into an excel spreadsheet, clean, coded and analysed using SPSS version 24.

Results:

A total of 2,038 participants were studied with 47% males. Participant's mean age was 11.9 years (SD of 4.549), 66.5% were children and 55% came from urban sites. There was no significant difference in the viral suppression rates; both parents (67.0%), single parent (66.9%) and others 64.4%. A binary logistic regression model revealed no statistically significant association between the two variables (Wald statistics of 1.123 and p = .570) even after adjusting for age and sex.

Conclusion:

Findings suggest that home-based care provider has no relationship with viral suppression. Understanding of the challenges faced by children and adolescents on ART is essential to speed up progress towards the UNAIDS third 95 in Cameroon and promote positive social change in Cameroon.

Keywords: Viral Suppression, Children and adolescents, homebased care provider.

ID 57: Facteurs Prédictifs de la Réponse Immunitaire chez les Adolescents Infectés Verticalement par le VIH Au Cameroun

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Contexte:

L'Afrique subsaharienne compte la majorité de décès chez les adolescents vivant avec le VIH (AVVIH) favorisé par plusieurs facteurs parmi lesquels l'immunodépression. Pour améliorer la prise en charge pédiatrique du VIH, nous avons évalué la réponse immunitaire et les facteurs associés chez les AVVIH (10-19 ans) sous traitement antirétroviral (TARV) au Cameroun.

Méthodes:

Une étude de cohorte a été effectuée en trois phases (à l'enrôlement, et après six et douze mois) chez 283 AVVIH dans la région du Centre Cameroun. La charge virale (CV) et le type lymphocytaire ont été effectuées respectivement sur les plateformes Abbott m2000rt et BD Facs-calibur. Une bonne réponse immunitaire (BRI) était définie par un taux de CD4≥500 cellules/mm3. Les analyses statistiques ont été réalisées par le logiciel SPSS.v22 avec $p<0,05$ statistiquement significatif.

Résultats:

L'âge moyen était de 14±3 ans, avec une prédominance de fille 53,7% (152/283). A l'enrôlement, 57,2% (162/283) étaient en BRI et 24,0% (68/283) en échec immunitaire (EI) (CD4<250 cellules/mm3). Seulement 10,7% (06/56) en EI à l'enrôlement avait une BRI en phase-2 et 31,4% (16/51) en phase-3 contre 28,3% (15/53) en phase- 2 et 44,4% (20/45) en phase-3 chez ceux en immunodépression légère (IDL) (250-499) ; $p<0,0001$. La médiane de la CV chez les AVVIH en EI et IDL était de 62000 copies/ml, 189 copies/ml et 40 copies/ml contre 1364 copies/ml, 590 copies/ml et 186 copies/ml à l'enrôlement, phase- 2 et phase-3 respectivement. A l'enrôlement, 57,7% (19/33) sous IP/r présentaient une BRI en phase-3 contre 67,7% (105/155) sous IRT, $p=0,29$. Après une analyse multivariée,

Conclusion: En pédiatrie, le statut immunitaire reste un paramètre essentiel dans la qualité de la réponse thérapeutique, suggérant un suivi annuel des lymphocytes TCD4 chez tout AVVIH sous TARV en contexte africain.

Mots clés:: HIV, Adolescent infectés, Reponse immunitaire

ID 52: Effect of HIV-1 Genetic Diversity on Immune-Virologic Response Among Adolescents in Cameroon: Experience from The EDCTP Ready-Study

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Background:

Following the numerous benefits of antiretroviral therapy (ART) scale-up, a high rate of HIV drug resistance (HIVDR) has been observed within adolescents living with perinatal HIV (APHI), in the frame of a wide HIV-1 heterogeneity. Our objective was to evaluate the diversity of HIV-1 and its effect on virological response among adolescents.

Methods:

A cohort-study was conducted from 2018-2020 among 311 APHI receiving ART in Cameroon. Sociodemographic data, immunological (CD4) and virological (plasma viral load, PVL) responses were measured at enrolment (T1), 6-months (T2) and 12-months (T3). HIV-1 subtypes were inferred by phylogeny; immunological and virological responses were evaluated using BD FACSCalibur and Abott m2000 RT respectively. Protease and reverse transcriptase gene regions were sequenced and analysed using Stanford HIVdB v8.8; $p<0.05$ was considered statistically significant.

Results:

Male-female ratio was similar (~1:1); with mean age of 15 (±3) years; and median [IQR] duration on ART of 36[21-81] months. From T1-T3 respectively, adherence-level to ART was similar (66.4%, 58.3% and 66.5%). Totally, 14 viral clades were found with a predominant CRF02_AG (58.2%, 59.4%, and 58.3%) in all phases. From T1-T3 respectively, there were declining rates in CD4 cell count<250 cells/mm^3 (25.5%, 18.9%, and 9.83, $p<0.0001$), PVL≥1000 copies/ml (39.7%, 39.9%, and 28.2%, $p=0.007$), and HIVDR (96.4%, 91.7%, and 85.0%, $p=0.099$). Using CRF02_AG vs. non-AG, median CD4 count was 429[286-780] vs. 453[344-635], while median PVL was 19160[5316-161932] vs. 37784[7782-154265]. Moreover, eight potential emerging variants were identified (Recombinant K, G; Recombinant F1, G; Recombinant F2, A1; G, potential recombinant; Recombinant A1, G; Recombinant, F or F2; and Recombinant of F2, A1), indicating a great viral diversity.

Conclusion:

In this vulnerable population living in Sub-Saharan Africa, standard ART monitoring leads to a significant viral response and immune recovery. Despite the very broad and evolving HIV-1 molecular epidemiology, HIV-1 clade does not significantly affect ART response.

Keywords:HIV subtypes; virological response; emerging resistant variants.

ID 58: Incidence and Factors Associated with Virologic Failure in Adult People Living with HIV (PLHIV) with Previous Viral Load Suppression at the Jamot Hospital Yaounde

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Background:

Infection with HIV/AIDS affects about thirty-eight million people worldwide, and is one of the first leading cause of death in Cameroon. The advent of antiretroviral therapy (ART) has improved the survival of people living with HIV/AIDS (PLHIV). Despite achieving viral load suppression, some PLHIV later on experience virologic failure.

Objective: This study aimed at determining the incidence and the factors associated with virologic failure among adult PLHIV enrolled in care who had previous viral load suppression.

Methods: Data were extracted from the database of the International Epidemiology Database to Evaluate AIDS (IeDEA) study in the Jamot hospital. The data included: socio-demographic and HIV-related clinical characteristics, past medical history and anthropometric measurements. Virologic failure was defined as presence of > 1000 copies/ml of HIV RNA in the plasma after achieving viral suppression (<1000 copies/ml) over a 24 months' period of follow-up. SPSS version 23 was used for data analysis. The Chi-square or Fisher exact texts was used to determine associations between covariates and virologic failure. Logistic regression analysis was used to identify factors independently associated with virologic failure.

Results: Overall, 518 adults aged between 20 to 83 years (mean age: 41± 10 years; female: 64.7%) with previous viral load suppression were followed-up over 24 months, of whom 36 experienced virologic failure giving a cumulative incidence of 6.95%. Neither age, gender, nor marital status was associated with virologic failure. A baseline CD4 cell count <100 cells/mm³ was independently associated with virologic failure (aOR: 2.99; 95% CI= 1.21-7.23; p= 0.01).

Conclusion: One out of 14 adult PLHIV enrolled in care experienced virologic failure over 24 months after achieving viral load suppression. Patients with a baseline CD4 count less than 100 cells/mm³ were at higher risk of virologic failure after initial viral suppression; and should therefore benefit from more rigorous follow up.

Keywords: PLHIV, incidence, virologic failure

ID 67: Pre-Treatment HIV Drug Resistance in Cameroon and Implications on First-Line Therapeutic Options

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Background:

The "Treat-All" strategy ensures safer-life among HIV-infected individuals, with an expected optimal benefit with transition to dolutegravir-based regimens. Meanwhile, on-going threats of HIV drug-resistance (HIVDR) might vary by settings and impairs differently the benefit of first-line antiretroviral therapy (ART). We therefore assessed pre-treatment HIVDR-1 drug resistance (PDR) by region, and its implications on the choice of optimal first line therapy in Cameroon.

Methods:

A sentinel surveillance of PDR was conducted in eight regions of Cameroon from 2014 to 2019. Sequencing of HIV-1 protease and reverse transcriptase was performed, drug resistance mutations (DRMs) were interpreted using Stanford HIVdb.v.8.7, and statistical analyses performed using EPI-Info v7.2.2.6, with $p<0.05$ considered statistically significant.

Results:

A total of 379 sequences were obtained from study participants (62% female and average age 36 ± 10 years). Overall rate of PDR was as high as 15.0% [95% CI: 11.8-19.0] nationwide, with a significant disparity between the eight regions ($p = 0.03$). The ARV drug class with the highest-level of PDR was NNRTI, 12.4% [95% CI: 9.5-16.1], of which 7.9% [95% CI: 5.6-11.1] had DRMs to EFV/NVP. Two of the eight regions had EFV/NVP PDR above the critical 10% threshold, namely the Far-north (15%) and East (10.9%). The rate of PDR was 3.2% [95% CI: 1.9-5.4] for NRTI as opposed to 1.3% [95% CI: 0.6; 3.1] for PI/r. The most prevalent mutation was K103N (5.5%). We observed a statistically significant superiority of TDF-3TC-DTG (98.4%) compared to TDF-3TC-EFV (92%), $p <0.0001$, on a national scale, and in all eight regions.

Conclusion:

The heterogeneous levels of PDR reveals two regions with EFV/NVP-PDR beyond 10%. This calls for rapid transition to first-line Dolutegravir-based regimens, as recommended by WHO, with a priority for patients from Far-north and East regions.

Keywords :HIV-1; Pre-treatment drug resistance; Cameroon

POSTER ABSTRACTS

Abstracts Selected for Poster Presentation

ID 23: Health Facility-led Community Index Testing: An Effective Strategy for 95% of People Living with HIV in the Southwest Region of Cameroon to know their Status

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Background:

Identifying people living with HIV (PLHIV) is crucial to the attainment of UNAIDS 95-95-95 goals. Despite years of HIV testing in Cameroon, only about 74% of PLHIV know their status. Health facility-led community index testing (HFLCIT) has the potential to boost HIV case identification (CI). This research analyzes the yield for index contacts (IC) tested in the facility and community, and identified related contributing factors at both levels. The Index Testing (IT) yield was 16% in the Southwest region.

Methods:

The study was conducted in the Kumba and Tombel District Hospitals purposefully selected due to their high yield of IT; 18% and 23% respectively. The records of IC from October 2019 to September 2021 were reviewed and their data analyzed with Microsoft Excel and the R software package. Variables of interest included Age, Gender, Place of test and Test results, as well as interactions of age and gender with the place of test.

Results:

We recorded 2,132 IC with an average age of 34(±14) years for the analysis of whom 51% were males. Over 81% of the IC were sexual contacts with 55% tested in the community. The overall testing yield was 20% (23% in community and 16% in health facility). Age (p<0.0001), Gender (p<0.0001) and Place of test (p=0.0004) were significantly related to the yield while there was no interaction of Gender with Place of test (p=0.3065) and Age with Place of test (p=0.0952).

Conclusion:

Many more cases were identified in the community than in the health facility. The yield was also significantly higher in the community than in the health facility. Reinforcing HFLCIT can improve CI.

Keywords: Index testing, community, yield

ID 53: The Mother-to-Child Transmission of HIV-1 And Profile of Viral Reservoirs Among HIV-Infected Children in Cameroon: A Systematic Review with Meta-Analysis of the Cameroonian Studies

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Background:

Mother-to-child transmission (MTCT) remains on the major route of HIV-transmission among pediatric populations in Africa. Though a prevention of MTCT (PMTCT) high-priority country, data on the MTCT burdens in Cameroon remains fragmented. Thus, we sought to assess MTCT, its risk-factors, and to characterize viral reservoirs of infected-children in Cameroon.

Methods:

All relevant observational cohort and cross-sectional studies conducted in Cameroon were searched from PubMed, African Journals Online, Google scholar and ScienceDirect databases. Heterogeneity and publication bias were respectively assessed by the I^2 statistic and the Egger/funnel plot test. Meta-analysis was performed using the random effects model. MTCT rate >5% was considered as “high”.

Results:

We included a total of 28 studies and analyzed 46684 children born from HIV-positive mothers (8388 males, 8387 females and 29909 without gender reported). The overall rate of MTCT was 7.00% (95% CI = 6.07-8.51), with females being more infected (11.05% [95% CI: 7.24-15.45] *versus* 8.67% [95% CI: 5.44-12.44] for males). According to regions, the highest burden was in Adamaoua-region (17.51% [95% CI:14.21-21.07]) and the lowest in the West-region (4.51% [95% CI: 0.00-15.97]). PMTCT option-B+ resulted in about 25% reduction of MTCT (8.97% [95% CI: 8.71-9.24] with option-B+ *versus* 2.88% [95% CI: 5.03-9.34] without option-B+). MTCT was significantly associated with the absence of PMTCT-interventions both in children (OR:5.40 [95% CI: 2.58-11.27]) and mothers (OR: 3.59 [95% CI: 2.15-5.99]). Mixed-feeding slightly increased risk of MTCT (OR:1.55 [95% CI: 0.92-2.64]). Following MTCT, the mean pro-viral viremia was 3.34±1.05 log_{10}/mL among six infected-children.

Conclusion:

In spite of the dropdown in MTCT following option-B+ implementation, MTCT remains high in Cameroon, with substantial disparities across regions. Thus, in this era of option-B+, achieving MTCT elimination requires interventions in northern-Cameroon. The variation in pro-viral load in infected-children underlines the relevance of characterizing viral reservoirs for possible infection control in tropical settings.

Keywords: HIV-1, mother-to-child transmission, Cameroon

ID 45: Continuous Quality Improvement: Contribution to HIV Case Identification Via Index Case Testing in the West Region of Cameroon

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Background:

Index Case Testing (ICT) is an effective and efficient HIV Case identification strategy. ICT is implemented in the West Region since October 2019 with support of the HIV-FREE project. By March 31, 2021, the uptake was 51% with only 23% contribution to all positives. With the known low HIV sero-prevalence in the West Region, we decided to boost the uptake of this strategy through Site specific Continuous Quality Improvement (CQI). in 25 project sites.

Methods:

An indebt review of ICT performance data across the cascade with all sites, bringing out their key gaps was done. Guidance was provided on areas of the cascade each site had to concentrate. Support systems were st up. A refresher training on effective ICT was provided via zoom involving all key actors, ICT service provision was extended to more service providers, with each assigned a specific target. Finally, sites were supported to set up CQI projects to respond to their specific challenges from April to June, 2021. Daily monitoring and provision of site-specific feedback was done.

Results:

A total of 6541 clients were offered ICT services, causing the overall uptake to increase from 51-74% by the end of June 2021. This was followed by a corresponding increase of HIV+ clients identified from 190-227 and improving the contribution of cases identified via ICT from 23-30%.

Conclusion:

Index Case Testing is a very cost-effective strategy when implemented with fidelity and using well trained staff. Also, effective monitoring and giving feedback to sites further improves results. Scaling up index testing in the whole region and country will accelerate progress to epidemic control in the country.

Keywords: Continuous Quality Improvement, Index Case Testing, West Region-Cameroon

ID 22: Estimating the Economic Burden of HIV/AIDS on Inpatients and Outpatients Living with HIV/AIDS at the Nkambe District Hospital-Cameroon

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Background:

Antiretroviral therapy (ART) services in Cameroon are highly subsidized, but people living with HIV/AIDS still experience an economic burden linked to a non-ART drug cost. The study aimed to estimate economic burden of HIV/AIDS on inpatients and out patients living with HIV/AIDS at the Nkambe District Hospital-Cameroon.

Methods:

A single facility based cross-sectional survey was conducted from February-June 2018 at Nkambe District Hospital, the North West region of Cameroon. Data were collected using an administered questionnaire and secondary data from patients' files. A micro-costing analysis was used for the direct and indirect cost of treatment and access. The catastrophic health expenditure (CHE) was measured by the number of participants whose monthly ART-related household expenditure for outpatient and inpatient visits as a proportion of non-food expenditure was higher than 40% threshold. Used Logistic regression analysis to identify determinants of CHE. A total of 348 participants were enrolled (283 outpatients and 65 inpatients).

Results:

The average direct cost of treatment access was 2108.89FCFA ($3.47) for outpatient and 30414.31FCFA ($54.12) for inpatient, giving an annual average cost of 8435.56FCFA ($15) and 121657.24 FCFA ($216.5), respectively. The incidence of CHE was 20.3% for outpatient and 66.7% for inpatient visits. Determinants of CHE identified were: use of motorbike as mode of transport (OR = 2.058, p-value = 0.05), having a divorced marital status (OR 4.354, p-value = 0.033), burrowing (OR = 2.229, p-value = 0.027) and support from family members (OR = 2.367, p-value = 0.001).

Conclusion:

Subsidization of ART services is not sufficient to eliminate the economic burden of treatment on HIV patients. Implementing effective community dispensation of ARVs and universal health coverage policy in Cameroon will go a long way to help HIV patients and their households.

Keywords: Catastrophic Health Expenditure, Inpatients, Outpatients

ID 42: Time to initiation and factor associated to same day Antiretroviral Treatment (ART) initiation: an analytical cross-sectional study in a large cohort of HIV positive clients in the West region of Cameroon

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Background:

Same-day ART initiation is a key approach in reaching the 2030 Joint United Nations Program on HIV/AIDS goal of 95% of all people living with HIV knowing their status, 95% of those diagnosed receiving sustained ART, and 95% of those receiving ART achieving viral suppression. This study aimed to assess the time to ART initiation and factor associated to same day initiation in the West Region of Cameroon

Methods

An analytical cross-sectional study was used on data extracted from the medical records of clients who initiated ART in 25 health facilities in the West Region from October 2019 to September 2020. Descriptive, and multivariate logistic regression was done on SPSS version 20. The significant level used was 5%.

Results

The mean time to initiation (TTI) of the 3053 clients included in the analysis was 1.61 SD-7.7 days. The TTI was distributes as follow: same day 2346 (76.8%); 1-7 days 552 (18.1%); 8+ days 155 (5.1%). The factors independently associated (positively/negatively) to SDI were, facilities out of Mifi (AOR= 1.4, p=0.01), period of test January-March,20; April-June,20 and July- September,20 (AOR= 2.0, p<0.01; AOR= 1.7, p<0.01 and AOR= 3.4, p<0.01), index testing, in patient, tuberculosis entry points (AOR= 1.6, p<0.01; AOR= 0.2, p<0.01; AOR= 0.2, p<0.01), good general status (AOR= 1.3; p=0.01) and WHO stage 2 (AOR= 0.6, p=0.02)

Conclusion

The same day ART initiation is effective in the West Region. Clients with tuberculosis, those with an altered general status and those with WHO stage 2 at initiation need a good follow-up to ensure their initiation on ART.

Keywords: Antiretroviral, same day, Initiation

ID 70: Itineraire Therapeutique des Patients VIH+ sous Traitement Antiretroviraux a L'Hopital Catholique de Salapoumbe Est-Cameroun

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Objectif :

Décrire le parcours thérapeutique des patients vivant avec le VIH (PvVIH) sous traitement antirétroviraux (TARV) à l'Hôpital Catholique de Salapoumbé.

Méthodologie :

Une étude transversale descriptive a été mené dans la localité de Salapoumbé à l'Est du Cameroun, de novembre 2017 à juin 2018 auprès de ses résidents.

Résultats :

De cette étude il en ressort que des 105 patients rencontrés, les femmes étaient les plus représentées 70(66,7%). La moyenne d'âge était 34,4 ans, l'âge des patients variait de 13 à 71 ans. Ainsi, 38 (36,2%) avaient bénéficié d'un counseling pré-test et 102(97,1%) d'un counseling post-test. De même, 39(37,1%) personnes avaient été dépistés sans leur consentement. Ces déficits pourraient expliquer le fait que plusieurs d'entre eux soit 59(56,2%) aient refait le test de dépistage et 45(76,3%) parmi ces derniers l'aient refait avant la mise sous traitement. Après le diagnostic, 95(90,5%) patients rencontrés avaient débuté leur prise en charge dans une formation sanitaires. Les principales raisons du choix de la prise en charge étaient : la peur de la mort, la prescription du personnel soignent ce qui avaient permis de mettre 61% des patients rencontrés immédiatement sous traitement après le dépistage. Parmi les participant à l'étude, 40 (38,1%) avaient arrêté le traitement, 23(21,9%) l'avaient fait entre 0 et 6 mois après leur mise sous TARV ; seule 20(19,1%)patients l'avaient repris. Les principales raisons de cet arrêt étaient la distance entre l'unité de prise en charge et le domicile du patient (15,24%).

Conclusion : De cette étude il en ressortait que l'itinéraire thérapeutique des PvVIH dans cette localité faisait face à de nombreuses difficultés liées à la procédure, au site de prise en charge et au patient. De ce fait des activités devraient être menées à l'endroit des différents acteurs du processus de prise en charge des PvVIH ceci dans l'optique d'atteindre l'objectif 95-95-95.

Mots clés:: itinéraire thérapeutique ; PvVIH ; Cameroun

ID 24: Mortality and Causes of Mortality Amongst Patients on Art in the NW, SW and WE Regions (Zone 1) Of Cameroon

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Background:

Despite the significant improvement in the uptake of antiretroviral treatment, HIV/AIDS continues to be an underlying cause of death in sub-Saharan Africa. Knowledge of mortality rate and causes of death, in addition to other social and epidemiological evaluations, is the cornerstone of service improvement and planning health policies. The objective of this study was to assess the magnitude and causes of death among People Living with HIV on ART in Zone 1.

Method:

A retrospective study was conducted involving all deaths recorded in the 79 PEPFAR supported sites in Zone 1 from October 2019 to September 2020. Data was extracted from patient's files using a well-designed data collection form. For subjects whose cause of death could not be determined from the medical records, a questionnaire was administered to their contacts. Data was analysed using Stata version 14.

Results:

3,229 deaths were recorded within the study period. The median age of the study population was 42 years, IQR(34-51). Causes of death were established for 2315(72%) patients, of which 60% were HIV-related with the most common causes being advance HIV disease (68%) and tuberculosis (22%). The two leading causes of non-HIV-related deaths (40%) were diarrhea (32%) and malaria (27%). Crude mortality rate was estimated at 3.7% and HIV-related mortality was 2.2%. HIV related deaths were significantly associated with unemployment (P=0.001), clinical stage III and IV at initiation (P=0.001) and TB co-infection at initiation (P=0.001).

Conclusion:

Although clients initiate ART within the same month of diagnosis, late HIV diagnosis remains an important cause of HIV related deaths. Active HIV case finding should be intensified alongside TB case finding in order to curb HIV related deaths**.** HIV care and treatment services needs to be strengthen to ensure that patients on ART do not progress to the advance stage of the disease.

Keywords: mortality, causes, antiretroviral therapy

ID 65: Obstacles à l'observance thérapeutique du traitement antirétroviral chez les Réfugies vivant avec le VIH/SIDA à Douala, Cameroun

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Introduction

Le succès du TARV repose sur l'observance. Elle est nécessaire pour diminuer le risque de résistance, restaurer l'immunité, réduire l'incidence, la morbidité et la mortalité. Les données sur le ratio des réfugiés et des personnes affectées par les conflits et porteuses du VIH sont rares. Cette étude avait pour objectif d'identifier les obstacles à l'observance thérapeutique du traitement antirétroviral chez les Réfugiés vivant avec le VIH/SIDA à Douala.

Méthodologie :

Dans une étude quantitative transversale à visée analytique conduite chez les Réfugiés vivant avec le VIH/SIDA à Douala, l'observance a été évaluée sur la base des déclarations des patients et sur la régularité du renouvellement des ordonnances. Les données quantitatives collectées à base du questionnaire ont été entrées avec Epi Info version 7.1.3.0. L'analyse descriptive et inférentielle a été réalisée avec SPSS version 17.0 qui nous a permis de déterminer à travers le test du Chi-carré de Pearson l'association entre les facteurs prédisposants et l'observance du TARV. La significativité statistique a été fixée à p <0,05 et les intervalles de confiance calculés à 95%.

Résultats :

200 réfugiés répondant à nos critères d'inclusion ont été interrogés. La moyenne d'âge était égale à 40,66 ans ± 9,35 et le sexe ratio 2,39 en faveur du sexe féminin. Le niveau d'observance déclarée était significativement inferieur au niveau global de l'observance calculée (67,5% vs 71,0%, P=0,000). Les principaux obstacles à l'observance étaient l'oubli et l'absence de nourriture. Les personnes ayant reçu une information précise sur leur maladie étaient plus observantes (P=0,000).

Conclusion :

Le faible taux (< 95%) d'observance noté chez les réfugiés PvVS est lié à plusieurs facteurs. La différence observée entre les résultats des deux méthodes utilisées pour estimer l'observance nous a montré qu'il serait plus objectif de faire usage des méthodes biologiques dans l'évaluation du niveau d'observance thérapeutique.

Mots clés : Observance thérapeutique, Réfugiés, traitement antirétroviral

ID 61: Enhanced Adherence Counselling (EAC) Enrollment via Phone, a Strategy to Improve Timeliness of EAC Enrollment and Completion Among HIV-Infected Patients on Antiretroviral Therapy at Nkwen Baptist Hospital

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Background:

National guidelines for antiretroviral therapy (ART) recommend enhanced adherence counselling be provided for patients with high viral load before making a decision whether to switch ART regimens. Significant gaps exist in the timeliness of this intervention. We present EAC enrollment via phone as a strategy to improve timeliness of EAC, including its effect on viral re-suppression.

Methodology:

A comparative retrospective observational study that involved patients with high viral load (HVL) enrolled in care and treatment at NBHC as at June 2021. The electronic patient register (DAMA) was used to extract information on the timeliness and completion of EAC.

Findings:

Of the 103 clients eligible for EAC only 93 completed 3 EAC sessions. Of these, 56 received EAC1 physically (54%) whereas 47 (46%) had EAC1 via phone. Overall 68 viral load (VL) results were received (91%) and out of this 53 were suppressed (78%). Out of those enrolled physically 48 (86%) completed 3 EAC sessions, 38 (79%) had repeat VL sample collection, 35 (92%) results were received with 26 suppressed (74%). Out of the 47 enrolled via phone, 45 (96%) completed 3 EAC sessions, 37 (82%) had repeat VL sample collection, 33 (89%) results were received, 27(82%) had suppressed VL. The overall average time to enrollment on EAC was 19 days, average time to enrollment on EAC physically was 33 days. Average time to EAC completion for patients enrolled physically was 123 days, average time of completion for patients enrolled by phone was 92 days.

Conclusion:

Enrollment of patients with HVL on EAC by phone is an effective strategy and has the potential of scale up to improve the uptake, timeliness and completion rates of EAC.

Keywords: enhanced, adherence, counselling

ID 54: Determinants of poor immune recovery among patients with undetectable viremia in Cameroon: Men at higher risk of opportunistic infections

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Background:

Antiretroviral therapy (ART) generally ensures the control of HIV-replication and CD4-cells recovery among infected individuals. However, inspite of a viral control (viral load [VL] < 50 copies/ml), normalization of CD4-cells, which might sustain risk of disease progression. We therefore sought to assess the rate and the determinants of immunological non-response (INR) among patients experiencing viral control under ART in a sub-saharan African context (SSA).

Methods:

A facility-based study was conducted from (August-October 2020) among HIV-infected patients with viral control in Yaoundé-Cameroon. VL and T-lymphocyte phenotyping were performed on Abbott m2000rt and BD Facscalibur respectively. INR was defined as absolute CD4<500 cells/mm^3. Data were analyzed by SPSS and p<0.05 was considered significant.

Results:

A total of 687 patients enrolled: 67.8% female, 620 adults and 67 adolescents. According to ART regimen, 628 (91.4%) were on reverse transcriptase inhibitors (RTI)-based versus 59 (8.6%) on protease inhibitors (PI)-based ART. Median duration on ART was 84 [48-132] months. Overall INR was 41.0% (282/687), including 4.9% (34/687) with CD4<200 cells/mm^3;15.0% (103/687) with CD4 ranging [200-350] cells/mm^3, and 21.1% (145/687) with CD4 ranging [351-499] cells/mm^3. Following ART-exposure, INR was 41.2% (259/628) on RTI-based versus 38.9% (23/59) on PI-based (p=0.73). According to ART duration, INR was 45.1% (172/381) ≤84 months versus 35.9% (110/306) ≥84 months (p=0.015). According to sex, INR was 36.1% (171/466) versus 50.2% (111/221) among female versus male respectively (p=0.001). Following age, INR was 43.2% (268/620) among adults versus 20.8% (14/67) among adolescents (p=0.001). After multivariate analysis, male gender (OR :1.71 ; p=0.001) and adolescents age (OR=0.97 ; p<0.001) were significantly associated to INR.

Conclusion:

Among people with a successful viral control, about four out of ten have not achieved immune normalcy. Poor immune recovery occurs among adults, of whom men are more concerned. Thus, a successful ART in SSA requires a male-centered monitoring strategy to further prevent opportunistic infections.

Keywords: HIV, Immune recovry, undetectable viremia

ID 56: Integrase genotyping is highly effective on diverse HIV-1 non-B clades circulating in Cameroon: toward a successful transition to Dolutegravir-based regimens in Africa

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Background: Transition to dolutegravir-based regimens as preferred first-line antiretroviral therapy (ART) is underway in several African countries. A successful transition requires a thorough routine monitoring of integrase drug resistance for a long-term effectiveness of these drug regimens. However, subtype diversity could impaired integrase genotyping efficiency in Africa. We thus sought to evaluate the performance of our in-house integrase genotyping assay on a wide range of HIV-1 viral loads and clades.

Methods: We conducted a study among HIV-infected patients seen routinely from February-2019 through January-2021 at the CIRCB Virology laboratory in Cameroon. HIV-1 integrase sanger-sequencing was performed; sequence quality was validated following the WHO operational framework; and phylogeny used MEGAv6. Desirable and acceptable performance rates were set at ≥80% and 60-79% respectively. Performance was stratified by viremia and subtype-coverage determined.

Results: Out of 195 (13 INSTI-exposed and 182 INSTI-naïve) patients enrolled, 128 had a vireamia >1000copies/mL (i.e. WHO threshold for genotypic resistance testing in RLS). Median [IQR] viremia was 23,574 [518–109,235] copies/mL. A total of 18 viral clades were detected: 72(51.1%) CRF02_AG, 38(26.9%) pure subtypes and 31(22.0%) other recombinants. Sequencing performance was 82.81%(106/128) at ≥1000copies/ml. Regarding viremia, performance was 85.00%(68/80) with ≥100,000copies/mL versus 76.67%(23/30) with 10,000–99,999copies/mL (p=0.22); 83.33%(15/18) with 1,000–99,999copies/mL (p=0.55); 73.68%(14/19) with 500–999copies/mL (p=0.19); 50%(13/26) for 200–499copies/mL (p=0.0005) and 36.36%(8/22) for <200copies/mL (p<0.0001). Regarding INSTI-resistance, the only patient with therapeutic failure, after exposure to raltegravir and dolutegravir, was found with major integrase resistance associated mutations (E138KQ, G140A, Q148R, S147G and E157Q).

Conclusion: Our developed in-house HIV-1 integrase genotyping is highly effective on non-B clades, with a desirable performance for patients experiencing virological failure (>1000copies/mL) and an acceptable performance at low-level viremia of 500-1000copies/mL. Additionally, its wide subtype coverage underscores the usefulness of this assay for the surveillance of HIV-1 integrase resistance, to monitor the scale-up of dolutegravir-based regimens in African RLS and beyond.

Keywords: Integrase-genotyping; Dolutegravir; Cameroon

ID 27: Factors Associated with Virological Failure Among Children and Adolescents on Antiretroviral Therapy in the Mifi Health District

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Background:

Based on World Health Organisation recommendations, viral load (VL) suppression is the best marker of antiretroviral treatment effectiveness. According to the 2019 national committee for the fight against aids annual report, the viral suppression rate obtained in adolescents aged 10-19 years, in the Western region (66.9%) is lower than that obtained in adults: 88.3%.

Objective: Determine the factors associated with virological failure in children and adolescents on antiretroviral therapy in the MIFI Health District.

Methodology:

This was a cross-sectional study. Information was collected from registers and medical records of patients aged 0-19 years with at least 6 months of treatment completed in all health facilities with children and adolescents on treatment in the district (Bafoussam Regional Hospital, Mifi District Hospital, Lafe-Baleng CMA, Djeleng CMA, CBC-Bamendzi Hospital, Police CM, King place CSI). Virological failure was considered as a viral load > 1000 copies/ml determined by 2 consecutive measurements at 3 months interval, after a minimum of six months of antiretroviral treatment.

Results:

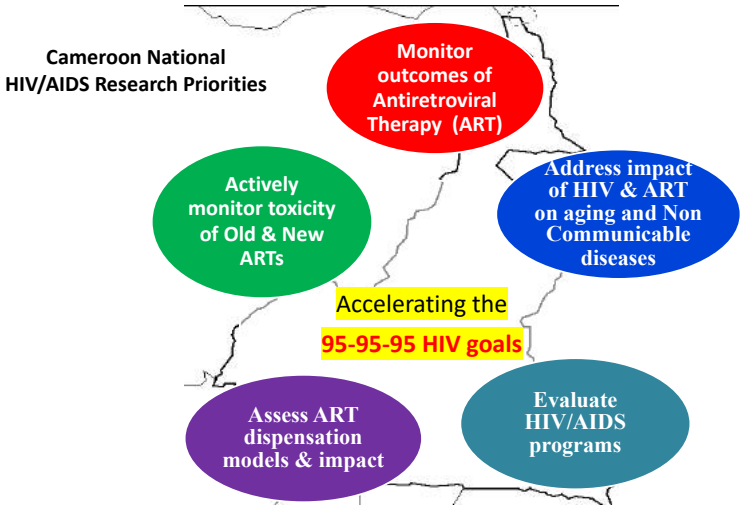
During the study, data from 371 patients (104 children and 267 adolescents) were collected. The viral load coverage rate at 06 months of treatment was 48% in 2019 and 83% in 2020. The viral load suppression rate was 66% in 2019 and 78% in 2020, and increased adherence had no significant effect on viral suppression (P-value fischer exact test: 0.07). The prevalence of virological failure was 24.53% (22.4% in children and 26.05% in adolescents). Factors significantly associated with virological failure were: single-parent family (AOR: 2.50; 95% CI: 1.13-5.50), being initiated at WHO stage 2 or higher (AOR: 2.91; 95% CI: 1.38-6.14), and having the father as a caretaker (AOR: 2.51; 95% CI: 1.01-6.30).

Conclusion:

Viral load suppression is insufficient in children and adolescents. Taking into account the social context of children and adolescents could help to improve their management.

Keywords: Factors, Mifi, virological failure.

Cameroon National HIV/AIDS Research Priorities



Research Article:

Research priorities for accelerating the achievement of three 95 HIV goals in Cameroon: a consensus statement from the Cameroon HIV Research Forum (CAM-HERO)

Anastase Dzudie, Boris Tchounga, Rogers Ajeh, Charles Nkouanfack, Peter Vanes Ebasone, Tatiana Djikeussi, Leonard Bonono Nyoto, Joseph Fokam, Jerome Ateudjieu, Patrice Tchendjou, Ezechiel Ngoufack Jagni Semengue, Fabrice Youbi, Jean Anoubessi, Marie Varloteaux, Boris Youngui, Felicite Naah Tabala, Benjamin Atanga, Leonie Simo, Armel Zemsi, Emile Shu Nforbih, Gilles Ndayisaba, Anereke Nyenti, Apungwa Cornelius Ntabe, Therese Abong Bwemba, Eugene Sobngwi, Serge Billong, John Ditekemena, Anne Cecile Zoung-Kany Bisseck, Louis Richard Njock

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