2nd AFRICAN EPILEPSY CONGRESS
CAPE TOWN, SOUTH AFRICA
22nd – 24th May 2014

EPILEPSY IN AFRICA: BRIDGING THE GAP

Final Programme and Abstract Book

www.epilepsycapetown2014.org

CONTENTS

WELCOME MESSAGE FROM THE SCIENTIFIC ADVISORY AND ORGANISING COMMITTEE

Dear Friends,

On behalf of the Scientific Advisory and Organising Committee, we cordially welcome you to the 2nd African Epilepsy Congress (AEC) organised jointly by the International League Against Epilepsy and the International Bureau for Epilepsy, here in the majestic surrounds of Cape Town.

The congress programme is rich and varied, with a broad vision about major daily challenges for diagnosis and management of epilepsy in Africa. The final day of the programme incorporates sessions of particular interest to people with epilepsy, their families and carers. Epilepsy in Africa presents many challenges, however by working together, we hope to bridge the gap. Experts from around the world will share their expertise and commitment with us, in a convivial environment.

Cape Town, a warm and inviting city, offers a wealth of breathtaking sights and activities, which we have no doubt, will exceed your expectations. In your leisure time, a visit to Table Mountain is a must. For nature lovers, Kirstenbosch, South Africa's world-famous national botanical garden, will delight the senses.

We look forward to your contribution in making the 2nd African Epilepsy Congress an outstanding scientific and social meeting.

Welcome to the 2nd African Epilepsy Congress..."welkom" to Cape Town!

With warm regards,

Amadou Gallo Diop (Senegal)
Congress Co-Chair
ILAE Executive Committee Member
Chair, ILAE Commission on African Affairs

Anthony Mulenga Zimba (Zambia)
Congress Co-Chair
IBE International Executive Committee Member
IBE Vice President, Africa

WELCOME MESSAGE FROM THE PRESIDENTS OF THE INTERNATIONAL LEAGUE AGAINST EPILEPSY (ILAE) AND THE INTERNATIONAL BUREAU FOR EPILEPSY (IBE)

Dear Friends and Colleagues,

On behalf of both the International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE), it is our pleasure to welcome you to Cape Town for the 2nd African Epilepsy Congress (AEC).

This is our second congress in the continent of Africa and its strength comes from those bonds we formed in Nairobi, Kenya, 2 years ago. Leading experts with local and global expertise are contributing to the programme, presenting you with the latest clinical developments and cutting-edge topics. The congress also presents you with excellent opportunities to meet with colleagues from different corners of the world. There are superb opportunities for networking, establishing collaborations, and advancing our knowledge, all of which will be important to strengthen our common mission for the wellbeing of people with epilepsy.

Cape Town is a vibrant city, appointed as the World Design Capital of 2014. This year Cape Town will host over 460 design projects aimed at transforming the city. In the same vein, the beauty of Cape Town cannot be over stated, from the breathtaking mountain ranges to the Cape Floral Kingdom (the smallest yet richest in the world), all of which can be enjoyed in your leisure time.

We look forward to meeting you in the coming days and we have no doubt that the congress will prove to be a fruitful experience for you.

With best wishes,

Emilio Perucca (Italy)
President, ILAE

Athanasios Covanis (Greece)
President, IBE

GENERAL CONGRESS INFORMATION

Scientific Advisory and Organising Committee

Amadou Gallo Diop (Senegal), Congress Co-Chair
Anthony Mulenga Zimba (Zambia), Congress Co-Chair

Marina Clarke (South Africa)
Robert Cole (Australia)
Helen Cross (United Kingdom)
Daliwonga Magazi (South Africa)
Youssouf Noormamode (Mauritius)
Karen Robinson (South Africa)
Lawrence Tucker (South Africa)
Jo Wilmshurst (South Africa)

Local Consultative Committee

James Butler (South Africa)
Marina Clarke (South Africa)
Roland Eastman (South Africa)
Karen Robinson (South Africa)
Lawrence Tucker (South Africa)
Tim de Villiers (South Africa)
Jo Wilmshurst (South Africa)

Abstract Review Committee

Birinus A. Ezeala-Adikaibe (Nigeria)
David Anderson (South Africa)
James Butler (South Africa)
Marina Clarke (South Africa)
Robert Cole (Australia)
Helen Cross (United Kingdom)
Amadou Gallo Diop (Senegal)
Roland Eastman (South Africa)
Callixte Tegueu Kuate (Cameroon)
Daliwonga Magazi (South Africa)
Youssouf Noormamode (Mauritius)
Karen Robinson (South Africa)
Lawrence Tucker (South Africa)
Tim de Villiers (South Africa)
Jo Wilmshurst (South Africa)
Anthony Mulenga Zimba (Zambia)

Bursary Selection Committee

Bursaries covering travel and/or registration and/or accommodation expenses are provided by the ILAE and the IBE. The list of awardees is available on page 12.

ILAE Bursary Committee

Birinus A. Ezeala-Adikaibe (Nigeria)
Helen Cross (United Kingdom)
Daliwonga Magazi (South Africa)
Lawrence Tucker (South Africa)

IBE Bursary Committee

Robert Cole (Australia)
Athanasios Covanis (Greece)
Ann Little (Ireland)
Youssouf Noormamode (Mauritius)
Anthony Mulenga Zimba (Zambia)

Facilities Timetable

	Wednesday	Thursday	Friday	Saturday
Registration	15:00 - 18:30	08:30 - 18:00	07:30 - 18:00	08:30 - 16:00
Arrival Tea/Coffee	-	08:30 - 09:00	07:30 - 08:00	08:30 - 09:00
Coffee Break (Morning)	-	11:00 - 11:30	11:00 - 11:30	11:00 - 11:30
Coffee Break (Afternoon)	-	16:00 - 16:30	16:00 - 16:30	-
Lunch	-	13:00 - 14:30	13:00 - 14:30	13:00 - 14:00
Poster Display	-	09:00 - 18:00	09:00 - 18:00	09:00 - 14:00
Exhibition	18:00 - 21:00	09:00 - 16:30	09:00 - 16:30	09:00 - 14:00
Speakers' Desk	12:00 - 19:00	08:30 - 18:00	07:30 - 18:00	08:00 - 14:30

Certificate of Attendance

Attending delegates are entitled to a Certificate of Attendance, which can be collected from the Registration Area from Friday onwards. Those attending the Epilepsy and Society Day Seminar will also receive a Certificate of Attendance, available for collection from the Registration Area on Saturday. Those wishing to obtain a Certificate of Attendance including CPD details, must sign in for a minimum of 3 sessions per day. Once the sign-in information has been verified, you will receive your Certificate of Attendance, by email, after the congress.

Arrival Tea/Coffee

Complimentary arrival tea and coffee will be served in the Exhibition Area, located on Level -1 (Old Harbour Lobby) of the Westin Cape Town, from 08:30-09:00 on Thursday, 07:30-08:00 on Friday and from 08:30-09:00 on Saturday.

Coffee Breaks

Complimentary coffee, tea and snacks will be served during coffee breaks. The coffee breaks will be served in the Exhibition Area, located on Level -1 (Old Harbour Lobby) of the Westin Cape Town. Coffee breaks are from 11:00-11:30 on Thursday, Friday and Saturday and also from 16:00-16:30 on Thursday and Friday.

Exhibition

The Exhibition Area is located on Level -1 (Old Harbour Lobby) of the Westin Cape Town. Exhibition opening times are listed in the above Facilities Timetable overview.

Language

The official language of the congress is English; please note that translation facilities will not be provided.

Lunches

Complimentary lunches will be served between 13:00-14:30 on Thursday in Restaurant37. On Friday lunch boxes will be served from 13:00. A light lunch will be provided on Saturday between 13:00-14:00.

Liability and Insurance

The International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE) and their agents do not accept any liability whatsoever for death, personal injury, accidents, theft, loss or damage to persons, property or belongings of participants or accompanying persons, either before, during or following the congress, tours or their stay in Cape Town. It is therefore recommended that participants arrange their own personal health, accident and travel insurance.

Posters

Posters are exhibited in the Poster Area, opposite to the Grand Ballroom (main session room), situated on Level -1 (Old Harbour Lobby) of the Westin Cape Town. Posters will be on display from 09:00-18:00 on Thursday and Friday and between 09:00-14:00 on Saturday. Presenters are required to set up their posters between 08:30-09:00 on Thursday morning. Presenters are requested to be available to answer questions at their poster from: 13:00-14:30 on Thursday and Friday; 13:00-14:00 on Saturday. Posters must be removed between 14:00-14:30 on Saturday.

Registration

The Registration Area is located in the lobby area of the Westin Cape Town; congress bags can also be collected from this point. Please note that name badges must be worn at all times.

Secretariat Office

Members of the Congress Secretariat can be contacted at the Registration Area, which is located in the lobby area of the Westin Cape Town.

For queries arising after the congress, please contact:

2nd African Epilepsy Congress 2014
ILAE /IBE Congress Secretariat
7 Priory Office Park
Stillorgan Road
Blackrock
Co. Dublin
Ireland
Tel : + 353 1 2056720
Fax : + 353 1 2056156
Email : capetown@epilepsycongress.org

Smoking Policy

The Westin Cape Town is a non-smoking area.

Speakers' Desk

The Speakers' Desk is located beside the Registration Area, in the lobby area of the Westin Cape Town. Facilities to review and amend presentations will be available to all speakers here. Please note that all speakers should submit their final PowerPoint presentations to the technical representatives at the Speakers' Desk, no later than 2 hours in advance of their session. Speakers in early morning sessions are required to submit their material before 18:00 on the day prior to their scheduled session.

Venue

The Westin Cape Town
Convention Square
Lower Long Street
8001 Cape Town
South Africa
Tel: +27 21 412 9999
Fax: +27 21 412 9001
Website: www.westincapetown.com

The Westin Cape Town is situated in the capital's cultural centre, set at the gateway to the V&A Waterfront, near the bustling Long Street. The hotel is a 5-minute drive to the Cape Town Stadium. Camps Bay and Clifton Beach are within a 10-minute drive.

Welcome Ceremony and Reception

All delegates are invited to attend the Welcome Ceremony taking place on Wednesday 21st May from 18:00 - 19:00. The Ceremony will take place in the Grand Ballroom (main session room), situated on Level -1 (Old Harbour Lobby) of the Westin Cape Town. The Ceremony opens with welcomes from representatives of the ILAE and IBE, as well as the congress committee.

The Welcome Reception follows from 19:00 - 20:00.

Wheelchair Access

All entrances of the Westin Cape Town are wheelchair accessible.

Wifi

Complimentary wifi is available to registered delegates in the Westin Cape Town, for the duration of the congress (in public areas and meeting rooms). Please log onto the Westin network and enter the password: **africa2014**

CAPE TOWN PRACTICAL INFORMATION

Business Hours

In general, most offices and shops operate between the hours of 09:00 to 17:00, Monday to Friday. On Saturday, opening hours are between 09:00 and 13:00. Government agencies keep to limited weekday only hours, often closing around 15:00.

Communications

For incoming international calls, the code for South Africa is +27 followed by the city code or cell phone code, dropping the first 0. Cape Town's city code is 021.

You can obtain 24-hour telephone directory assistance by calling **10903**.

South African telecommunications include four mobile service providers that ensure countrywide coverage and generally good reception in urban areas. Mobile phone prepaid airtime can be purchased at most retail outlets.

Currency, Credit Cards and Exchanging Money

International credit and debit cards (Visa or MasterCard) are valid anywhere in South Africa – virtually all restaurants, hotels, stores, etc. will accept them.

There is a wide network of banks throughout Cape Town that will exchange foreign currency, and most major tourist locations such as the airport have dedicated currency exchange facilities. Look for signs that say Bureau de Change, Geld Wechseln or Cambio.

Most banks close at 15:30 weekdays, but are open on Saturday mornings from 09:00 to 11:00.

Taxes

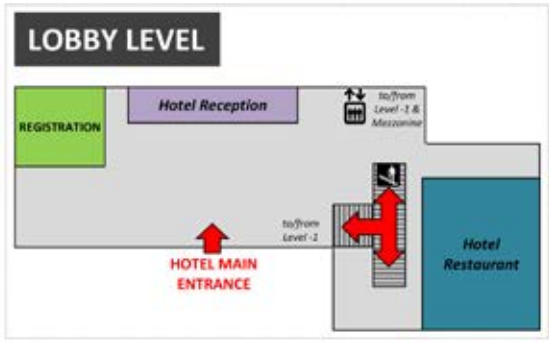
South Africa's VAT (Value Added Tax) is 14% on purchases and services, and can be claimed back for purchases of R250 or more upon departure. The VAT on services may not be reclaimed.

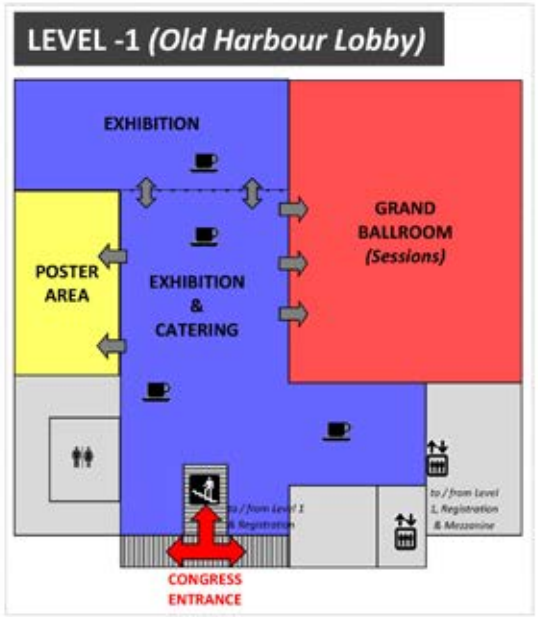
In order to reclaim tax, go to the VAT office in the international departure hall at the airport, allowing plenty of time before departure. A passport and original tax-invoiced receipts are required, together with the purchased goods. Once the necessary paperwork has been completed and processed, the refund may be collected in the applicant's home currency from one of the banks in the departure lounge. The paperwork may also be completed at the VAT Refund Offices at the Tourism Visitor Information Centres.

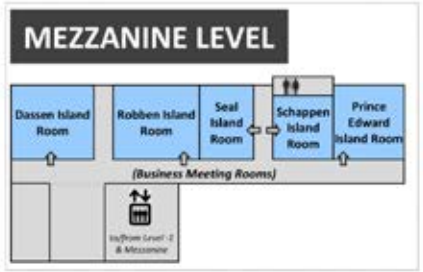
Time Difference

South Africa is two hours ahead of GMT, seven hours ahead of Eastern Standard Winter Time and ten hours ahead of Pacific Standard Time.

CONGRESS FLOOR PLAN







SCIENTIFIC PROGRAMME INFORMATION

Main Sessions

Main sessions are scheduled throughout the programme. On Thursday morning, 09:00-11:00, a session entitled "Bridging the gap in Africa" is taking place. This session provides delegates with an overview of epilepsy in Africa, strengthening the epilepsy organisations in Africa, the UNCRPD and continental plan of action, as well as epidemiology of epilepsy in Africa. The causes and diagnosis of epilepsy, treatment options and the management of epilepsy will be addressed throughout the programme.

Round Table Discussions

Interactive round table discussions take place on Thursday and Friday evenings from 16:30-18:30. The discussions focus on 'Epilepsy surgery in resource poor settings', 'The role of EEG', 'Educational programmes in epilepsy' and 'Epilepsy management guidelines and their implementation'.

How to get your paper published

This new and informative session provides an insight into how to get your paper published in the two leading epilepsy journals: *Epilepsia* and *Epileptic Disorders*.

Joint ILAE/IBE Session

A joint ILAE/IBE session takes place on Saturday morning from 09:00-11:00. The session addresses 'What is being done to target improved care for patients with epilepsy?' in various African regions.

Epilepsy and Society Day Seminar

On Saturday, from 11:30-16:30, the Epilepsy and Society Day Seminar takes place. The seminar will focus on topics such as 'Epilepsy and the family', 'Traditional healers' and 'Anti-epileptic drugs – availability, affordability, continuity of supply'.

CONTINUOUS PROFESSIONAL DEVELOPMENT

The 2nd African Epilepsy Congress is accredited by the Health Professions Council of South Africa (HPCSA) to provide CPD activity for medical specialists.

HPCSA regulates the health professions in the Republic of South Africa in aspects pertaining to registration, education and training, professional conduct and ethical behaviour, ensuring continuing professional development, and fostering compliance with healthcare standards (www.hpcsa.co.za).

The congress is designated for a maximum of, or up to 20 General in Level 1 CPD credits.

Please note:
CPD accreditation is only applicable for South African health professionals.
South African health professionals wishing to receive CPD credits must sign into sessions at least three (3) times per day of the congress, at the official 'CPD sign-in' areas. You are also required to present your HPCSA registration number at the time of signing in.

ABSTRACTS

The Scientific Advisory and Organising Committee would like to thank all of those who submitted an abstract for review for the 2nd African Epilepsy Congress, as well as those who participated in the abstract review process. Details of abstracts can be found on page 30-57 of this programme.

BURSARY AWARDS

25 bursaries were awarded by the ILAE and IBE to assist with travel and/or registration and/or accommodation expenses.

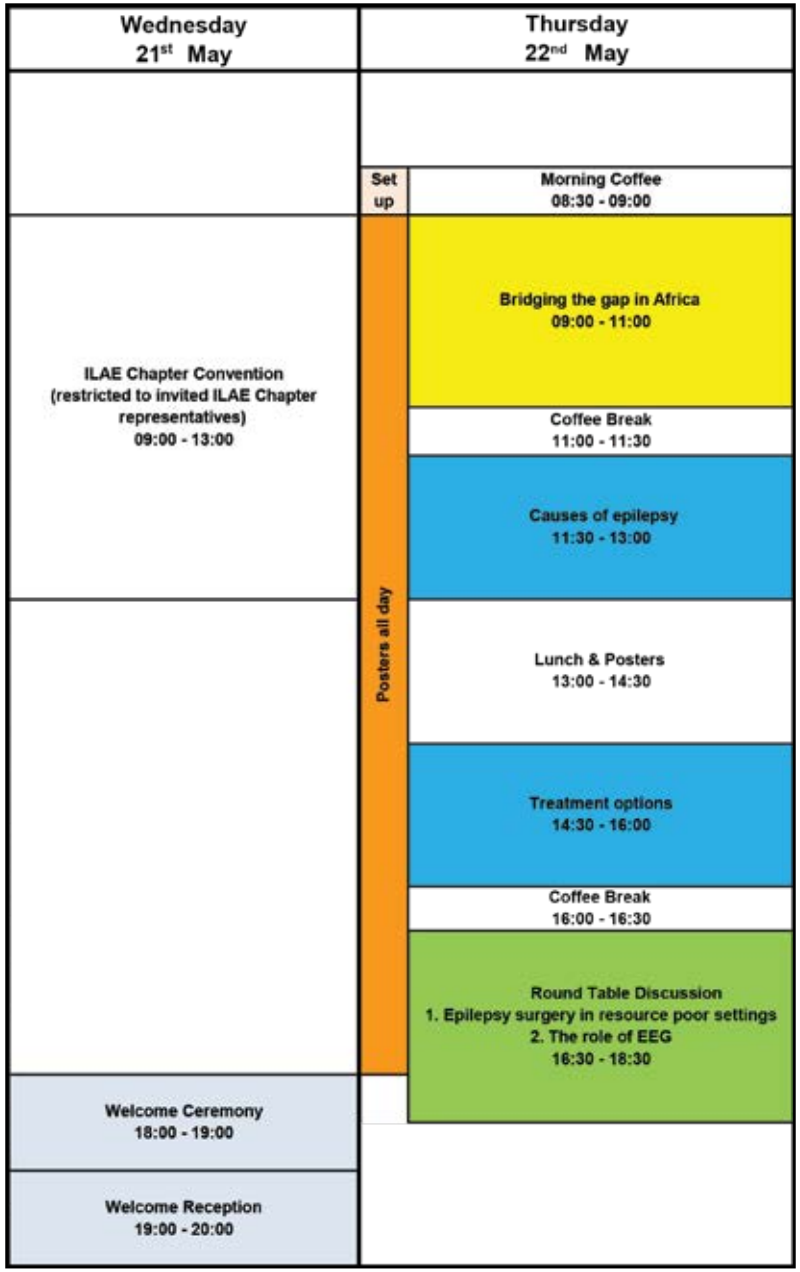
ILAE Bursary Awards

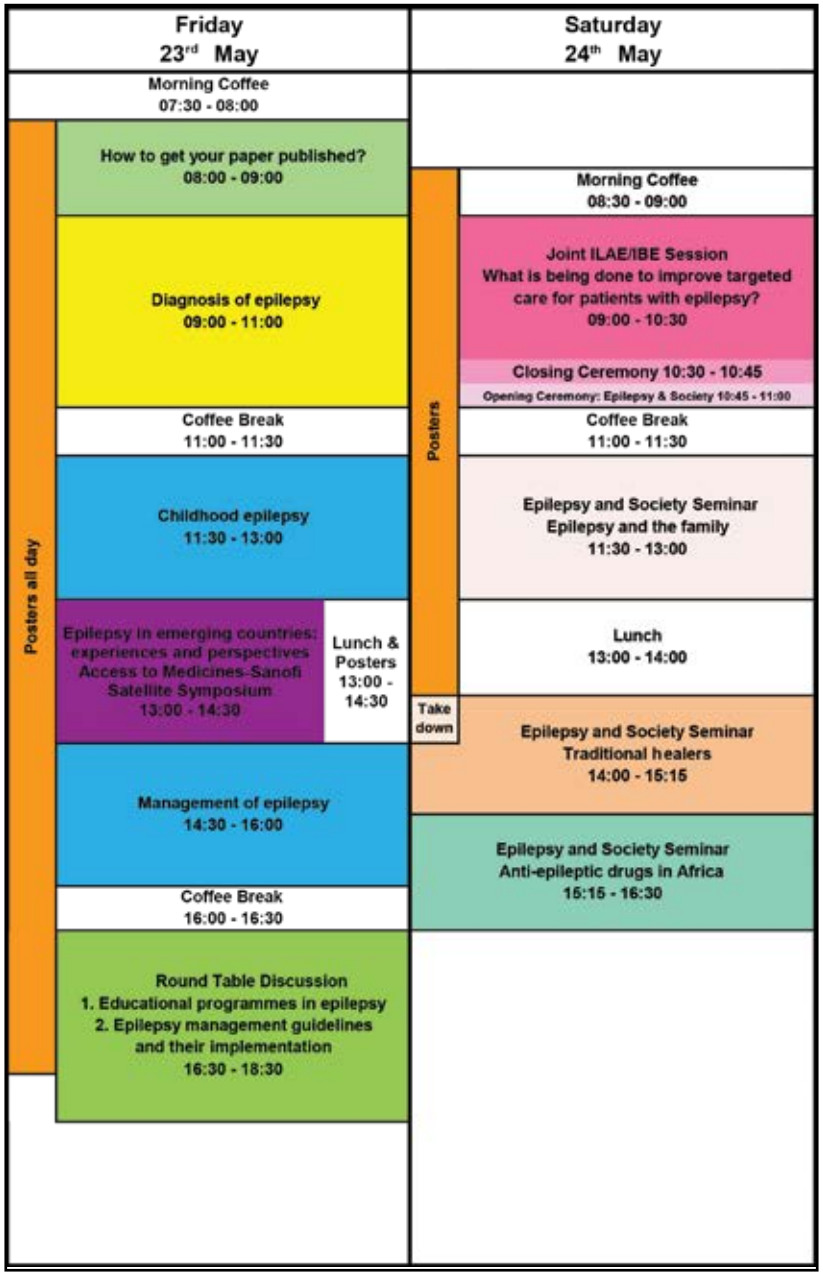
First name	Last name	Country
Ambanibe Jermone	Akeneck	Cameroon
Albert	Akpalu	Ghana
Djbrilla Wazir	Ben-Adji Mamadou	Senegal
Seybou Hassane	Diallo	Mali
Maouly	Fall	Senegal
Mukeba Daniel Lord	Kahamba	Democratic Republic of the Congo
Symon	Kariuki	Kenya
Muzharul	Mannan	Bangladesh
Ntumba	Mbombo	Democratic Republic of the Congo
Jacob	Mugumbate	Zimbabwe
Elisabeth	Ngo Bum	Cameroon
Gwladys	Ngoupaye Temkou	Cameroon
Anil Raj	Ojha	Nepal
Foster	Osei-Poku	Ghana
Taofiki	Sunmonu	Mali
Germain	Sotoing Taiwe	Cameroon
Ryan	Wagner	South Africa

IBE Bursary Awards

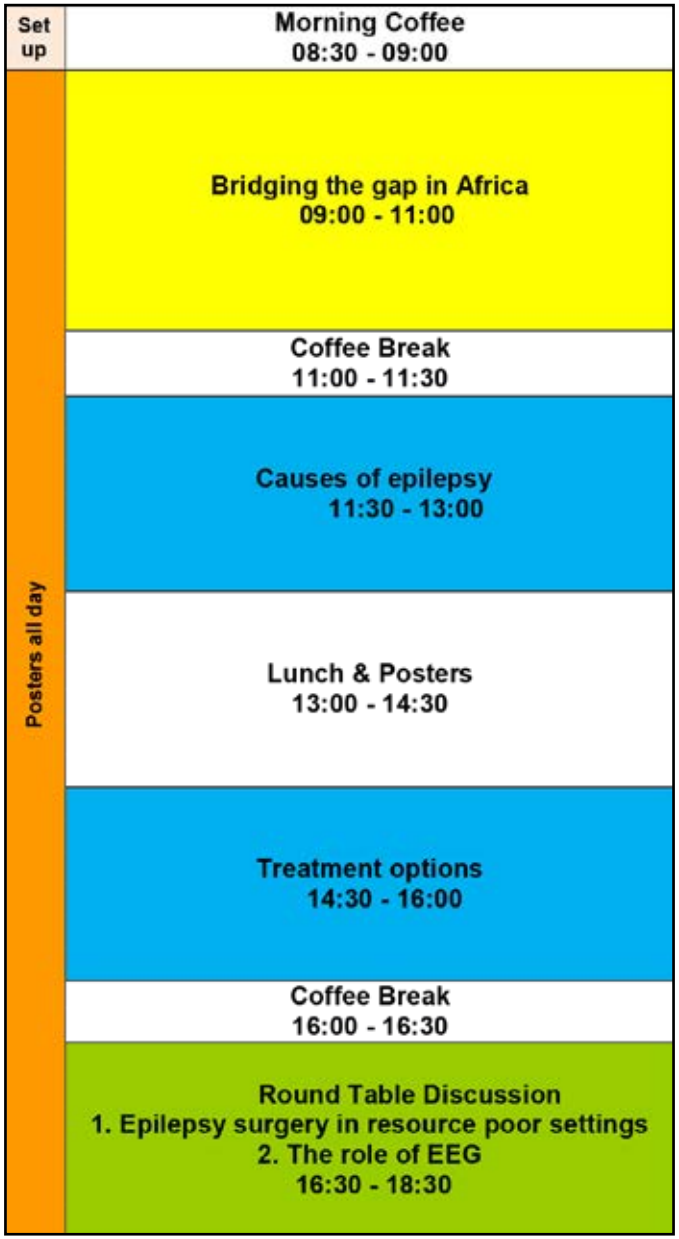
First name	Last name	Country
Soumalia	Boubacar	Niger
Clotilda	Chinyana	Zimbabwe
Rosemary	Gathara	Kenya
Rutendo	Gwatinyanya	Zimbabwe
Nompumelec	Mavuso	Swaziland
Rethabile	Motinyane	Lesotho
Nsom Kenneth	Ninying	Cameroon
Fatai	Salawu	Nigeria

FULL WEEK TIMETABLE





THURSDAY 22ND MAY



THURSDAY 22ND MAY

THURSDAY 22ND MAY

All sessions take place in the Grand Ballroom (main session room)

09:00 - 11:00 **Bridging the gap in Africa**
Chairs: Emilio Perucca, Italy & Athanasios Covanis, Greece

An overview of epilepsy in Africa
Amadou Gallo Diop, Senegal

Strengthening the epilepsy organisations in Africa through capacity building
Anthony Mulenga Zimba, Zambia

The UNCRPD and continental plan of action
Andrew Kudakwashe Dube, South Africa

Epidemiology of epilepsy in Africa
Charles Newton, Kenya

11:30 - 13:00 **Causes of epilepsy**
Chairs: Helen Cross, United Kingdom & Lawrence Tucker, South Africa

HIV and epilepsy
Ahmed Bhigjee, South Africa

Head nodding syndrome
Angelina Kakooza, Uganda

Parasitic diseases and epilepsy in Africa
Richard Idro, Uganda

The role of genetics in epilepsy in Africa
Riadh Gouider, Tunisia

14:30 - 16:00 **Treatment options**
Chairs: Mehila Zebenigus, Ethiopia & Roland Eastman, South Africa

The treatment gap
Gretchen Birbeck, USA

Update on AED efficacy and efficiency
Emilio Perucca, Italy

The role of traditional healers
Daliwonga Magazi, South Africa

Alternative treatments in epilepsy
Katherine Megaw, South Africa

16:30 - 17:30 **Epilepsy surgery in resource poor settings**
Round Table Discussion

Speakers:
Graham Fieggen, South Africa
Helen Cross, United Kingdom

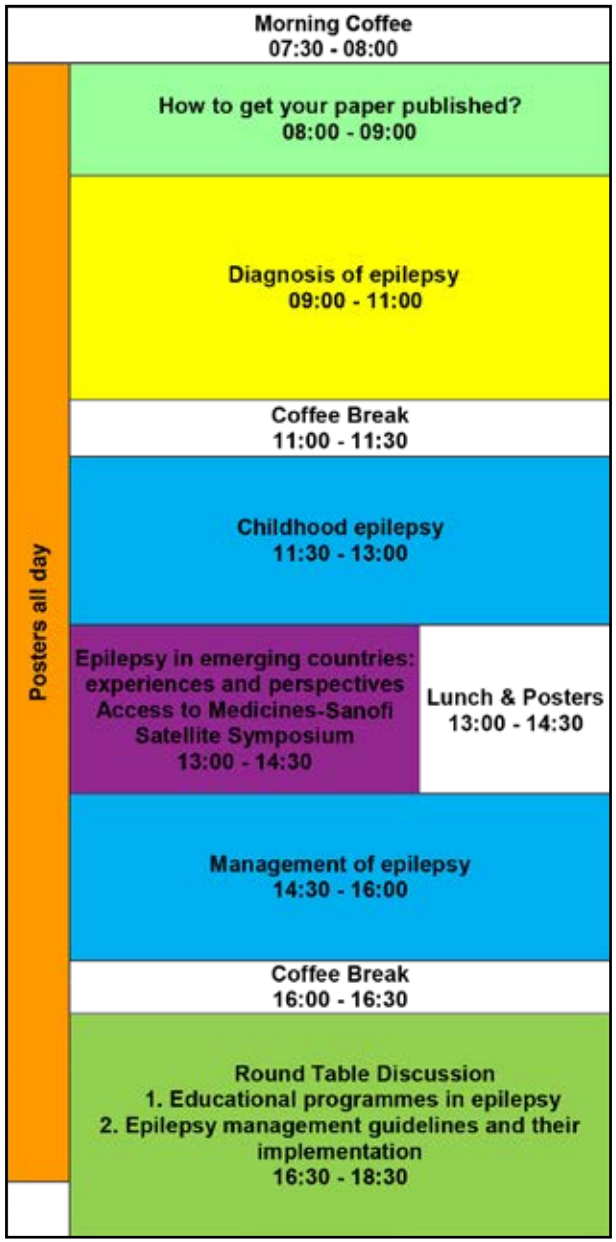
Panel:
David Anderson, South Africa
Ingmar Blümcke, Germany
James Butler, South Africa
Roland Eastman, South Africa
Jerome Engel Jr., USA
Roger Melvill, South Africa
Sally Röthemeyer, South Africa
Samuel Wiebe, Canada

17:30 - 18:30 **The role of EEG**
Round Table Discussion

Speakers:
James Butler, South Africa
Warren Blume, Canada

Panel:
David Anderson, South Africa
Roland Eastman, South Africa
Jerome Engel Jnr., USA
Eddy Lee Pan, South Africa
Perrine Plouin, France
Lawrence Tucker, South Africa
Samuel Wiebe, Canada

FRIDAY 23RD MAY



FRIDAY 23RD MAY

All sessions take place in the Grand Ballroom (main session room)

08:00 - 09:00 **How to get your paper published?**
Chairs: Helen Cross, United Kingdom & Torbjörn Tomson, Sweden

Epilepsia
Astrid Nehlig, France (Co-editor of Epilepsia journal)

Epileptic Disorders
Helen Cross, United Kingdom (Editorial board member of Epileptic Disorders journal)

09:00 - 11:00 **Diagnosis of epilepsy**
Chairs: Solomon L. Moshé, USA & Amadou Gallo Diop, Senegal

The new classification · relevance to practice
Helen Cross, United Kingdom

Seizure semiology in Africa
Alfred K. Njamnshi, Cameroon

The role of investigation in resource poor settings
Mehila Zebenigus, Ethiopia

Psychiatric comorbidities in epilepsy in Africa
Sammy Ohene, Ghana

11:30 - 13:00 **Childhood epilepsy**
Chairs: Athanasios Covanis, Greece & Perrine Plouin, France

Infantile epileptic encephalopathies
Chahnez Charfi Triki, Tunisia

The relevance of treatment to brain development
Edward Kija, Tanzania

Guidelines for the management of early onset epilepsy
Jo Wilmshurst, South Africa

Comorbidities in children with epilepsy in Africa
Pauline Samia, Kenya

13:00 - 14:30 **Epilepsy in emerging countries: experiences and perspectives**
Access to Medicines-Sanofi Satellite Symposium

Chairs: Michel Dumas, France & Amadou Gallo Diop, Senegal

Reducing the treatment gap in epilepsy: a political issue
Robert Sebbag, France

Review of epidemiological data and access to care initiatives in Africa
Pierre Marie Preux, France

Epilepsy in the 21st Century: How do we go forward from here
Jerome Engel Jr., USA

Building up ex nihilo access to care for people with epilepsy in Laos
Phetvongsinh Chivorakoun, Laos

PROEPI, a large epilepsy care network in the Buenos Aires Province
Brenda Giagante, Argentina

Ethiopia: impact of an educational comic book on epilepsy, a KAP study
Tekle Haimanot Redda, Ethiopia

14:30 - 16:00 **Management of epilepsy**
Chairs: Osheik Seidi, Sudan & Athanase Millogo, Burkino Faso

Status epilepticus: management and factors influencing outcome
Célestin Kaputu, Democratic Republic of Congo

Epilepsy in transition to adult services
Adesola Ogunniyi, Nigeria

Women and epilepsy
Torbjörn Tomson, Sweden

The rights of patients with epilepsy with regard to employment
Michael Bagraim, South Africa

FRIDAY 23RD MAY

16:30 - 17:30 **Educational programmes in epilepsy**
Round Table Discussion

Speakers:
Laura Jurasek, Canada
Gretchen Birbeck, USA

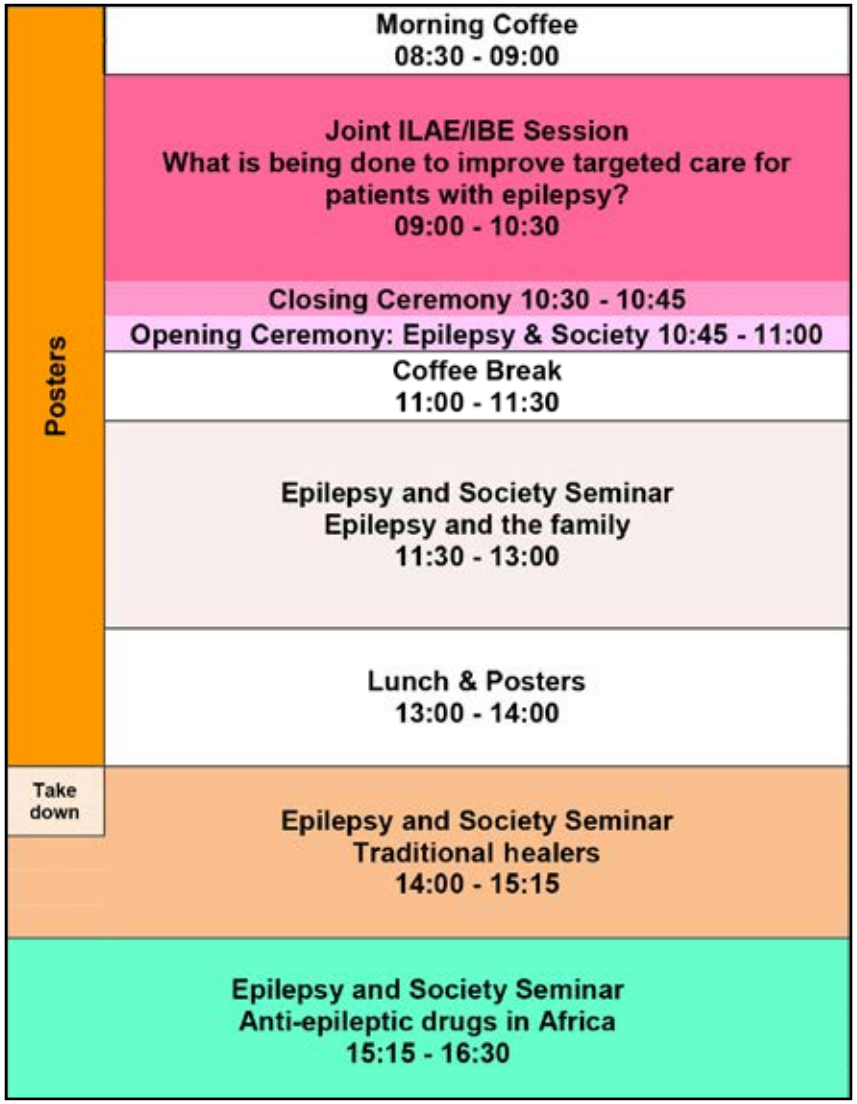
Panel:
Helen Cross, United Kingdom
Daliwonga Magazi, South Africa
Alfred K. Njamnshi, Cameroon
Adesola Ogunniyi, Nigeria

17:30 - 18:30 **Epilepsy management guidelines and their implementation**
Round Table Discussion

Speakers:
Youssoufa Maiga, Mali
Jo Wilmshurst, South Africa

Panel:
Gretchen Birbeck, USA
Helen Cross, United Kingdom
Barry Gidal, USA
Daliwonga Magazi, South Africa
Charles Newton, Kenya
Adesola Ogunniyi, Nigeria
Eddy Lee Pan, South Africa

SATURDAY 24TH MAY



SATURDAY 24TH MAY

All sessions take place in the Grand Ballroom (main session room)

09:00 - 11:00 **What is being done to target improved care for patients with epilepsy?**
Joint ILAE / IBE Session
Chairs: Daliwonga Magazi, South Africa & Harmiena Riphagen, Namibia

Speakers:
Célestin Kaputu, Democratic Republic of Congo
Roland Eastman, South Africa
Osman Miyanji, Kenya
Sammy Ohene, Ghana
Jacob Mugumbate, Zimbabwe
Youssouf Noormamode, Mauritius

Closing Ceremony
Amadou Gallo Diop, Senegal (Congress Co-Chair)

Opening Ceremony, Epilepsy and Society Day Seminar
Anthony Mulenga Zimba, Zambia (Congress Co-Chair)

EPILEPSY AND SOCIETY DAY SEMINAR

11:30 - 13:00 **Epilepsy and the family**
Chairs: Marina Clarke, South Africa & Karen Robinson, South Africa

Personal experiences: from a young person's point of view
Nicole Laxton, South Africa

Personal experiences: from a parent's point of view
Danica Laxton, South Africa

Women's issues - contraception, pregnancy and motherhood
Gretchen Birbeck, USA

Men's issues - sexual problems
Robert Cole, Australia

Epilepsy and schooling
Harmiena Riphagen, Namibia

Epilepsy in old age
Anne Fredericks, South Africa

14:00 - 15:15 **Traditional healers**
Chair: Anthony Mulenga Zimba, Zambia

Speaker:
Johannah Keikelame, South Africa

15:15 - 16:30 **Anti-epileptic drugs in Africa – availability, affordability, continuity of supply**
Chair: Lawrence Tucker, South Africa

Speaker:
Lawrence Tucker, South Africa

SATURDAY 24TH MAY

SPEAKER INDEX

Name	Date	Time	Chair/Speaker
Anderson DG (South Africa)	22-May	16:30	Speaker
Anderson DG (South Africa)	22-May	17:30	Speaker
Bagraim M (South Africa)	23-May	14:30	Speaker
Bhigjee AI (South Africa)	22-May	11:30	Speaker
Birbeck G (USA)	22-May	14:30	Speaker
Birbeck G (USA)	23-May	16:30	Speaker
Birbeck G (USA)	23-May	17:30	Speaker
Birbeck G (USA)	24-May	11:30	Speaker
Blümcke I (Germany)	22-May	16:30	Speaker
Blume W (Canada)	22-May	17:30	Speaker
Butler J (South Africa)	22-May	16:30	Speaker
Butler J (South Africa)	22-May	17:30	Speaker
Chivorakoun P (Laos)	23-May	13:00	Speaker
Clarke M (South Africa)	24-May	11:30	Chair
Cole R (Australia)	24-May	11:30	Speaker
Covanis A (Greece)	22-May	09:00	Chair
Covanis A (Greece)	23-May	11:30	Chair
Cross H (United Kingdom)	22-May	11:30	Chair
Cross H (United Kingdom)	22-May	16:30	Speaker
Cross H (United Kingdom)	23-May	08:00	Chair
Cross H (United Kingdom)	23-May	08:00	Speaker
Cross H (United Kingdom)	23-May	09:00	Speaker
Cross H (United Kingdom)	23-May	16:30	Speaker
Cross H (United Kingdom)	23-May	17:30	Speaker
Diop AG (Senegal)	22-May	09:00	Speaker
Diop AG (Senegal)	23-May	09:00	Chair
Diop AG (Senegal)	23-May	13:00	Chair
Diop AG (Senegal)	24-May	09:00	Speaker
Dube AK (South Africa)	22-May	09:00	Speaker
Dumas M (France)	23-May	13:00	Chair
Eastman R (South Africa)	22-May	14:30	Chair
Eastman R (South Africa)	22-May	16:30	Speaker
Eastman R (South Africa)	22-May	17:30	Speaker
Eastman R (South Africa)	24-May	09:00	Speaker
Engel Jr. J (USA)	22-May	16:30	Speaker
Engel Jr. J (USA)	22-May	17:30	Speaker
Engel Jr. J (USA)	23-May	13:00	Speaker
Fieggen G (South Africa)	22-May	16:30	Speaker
Fredericks A (South Africa)	24-May	11:30	Speaker
Giagante B (Argentina)	23-May	13:00	Speaker
Gidal B (USA)	23-May	17:30	Speaker
Gouider R (Tunisia)	22-May	11:30	Speaker
Idro R (Uganda)	22-May	11:30	Speaker
Jurasek L (Canada)	23-May	16:30	Speaker
Kakooza A (Uganda)	22-May	11:30	Speaker
Kaputu C (DRC)	23-May	14:30	Speaker
Kaputu C (DRC)	24-May	09:00	Speaker
Keikelame J (South Africa)	24-May	14:00	Speaker
Kija E (Tanzania)	23-May	11:30	Speaker
Laxton D (South Africa)	24-May	11:30	Speaker
Laxton N (South Africa)	24-May	11:30	Speaker
Magazi D (South Africa)	22-May	14:30	Speaker

Name	Date	Time	Chair/Speaker
Magazi D (South Africa)	23-May	16:30	Speaker
Magazi D (South Africa)	23-May	17:30	Speaker
Magazi D (South Africa)	24-May	09:00	Chair
Maiga Y (Mail)	23-May	17:30	Speaker
Megaw K (South Africa)	22-May	14:30	Speaker
Melvill R (South Africa)	22-May	16:30	Speaker
Millogo A (Burkino Faso)	23-May	14:30	Chair
Miyanji O (Kenya)	24-May	09:00	Speaker
Moshé SL (USA)	23-May	09:00	Chair
Mugumbate J (Zimbabwe)	24-May	09:00	Speaker
Nehlig A (France)	23-May	08:00	Speaker
Newton C (Kenya)	22-May	09:00	Speaker
Newton C (Kenya)	23-May	17:30	Speaker
Njamnshi AK (Cameroon)	23-May	09:00	Speaker
Njamnshi AK (Cameroon)	23-May	16:30	Speaker
Noormamode Y (Mauritius)	24-May	09:00	Speaker
Ogunniyi A (Nigeria)	23-May	14:30	Speaker
Ogunniyi A (Nigeria)	23-May	16:30	Speaker
Ogunniyi A (Nigeria)	23-May	17:30	Speaker
Ohene S (Ghana)	23-May	09:00	Speaker
Ohene S (Ghana)	24-May	09:00	Speaker
Pan EL (South Africa)	22-May	17:30	Speaker
Pan EL (South Africa)	23-May	17:30	Speaker
Perucca E (Italy)	22-May	09:00	Chair
Perucca E (Italy)	22-May	14:30	Speaker
Plouin P (France)	22-May	17:30	Speaker
Plouin P (France)	23-May	11:30	Chair
Preux PM (France)	23-May	13:00	Speaker
Redda TH (Ethiopia)	23-May	13:00	Speaker
Riphagen H (Namibia)	24-May	09:00	Chair
Riphagen H (Namibia)	24-May	11:30	Speaker
Robinson K (South Africa)	24-May	11:30	Chair
Röthemeyer S (South Africa)	22-May	16:30	Speaker
Samia P (Kenya)	23-May	11:30	Speaker
Sebbag R (France)	23-May	13:00	Speaker
Seidi O (Sudan)	23-May	14:30	Chair
Tomson T (Sweden)	23-May	08:00	Chair
Tomson T (Sweden)	23-May	14:30	Speaker
Triki C (Tunisia)	23-May	11:30	Speaker
Tucker L (South Africa)	22-May	11:30	Chair
Tucker L (South Africa)	22-May	17:30	Speaker
Tucker L (South Africa)	24-May	15:15	Chair
Tucker L (South Africa)	24-May	15:15	Speaker
Wiebe S (Canada)	22-May	16:30	Speaker
Wiebe S (Canada)	22-May	17:30	Speaker
Wilmshurst J (South Africa)	23-May	11:30	Speaker
Wilmshurst J (South Africa)	23-May	17:30	Speaker
Zebenigus M (Ethiopia)	22-May	14:30	Chair
Zebenigus M (Ethiopia)	23-May	09:00	Speaker
Zimba AM (Zambia)	22-May	09:00	Speaker
Zimba AM (Zambia)	24-May	09:00	Speaker
Zimba AM (Zambia)	24-May	14:00	Chair

SPONSORS

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The International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE) would like to thank Cape Town and Western Cape Convention Bureau for their contribution to the 2nd AEC.

EXHIBITION INFORMATION

EXHIBITION OPENING HOURS

Wednesday, 21st May	18:00 - 21:00
Thursday, 22nd May	09:00 - 16:30
Friday, 23rd May	09:00 - 16:30
Saturday, 24th May	09:00 - 14:00

Exhibitor	Stand Number
Cadwell	10
Creatori Health (Distributors of VNS, PMT and Natus)	9
EBNeuro SpA	18
International Bureau for Epilepsy	5/6
International League Against Epilepsy	5/6
Natus Neurology Incorporated	1
Novartis South Africa	2
Sanofi	3/4/7/8
The Anita Kaufmann Foundation	15

POSTER ABSTRACTS

p003
Epilepsy Management programme in South-South Nigeria
A.O.A. Asoera, O.J. Okpiabhele
Angie Epilepsy Foundation, Benin City, South-South, Nigeria

Purpose: To determine the causes of treatment gap among persons with epilepsy in South-South Nigeria.
Method: This study was cross-sectional and descriptive in design using a self-administered custom designed multiple choice questionnaires with sections on general information on epilepsy, awareness and perception of epilepsy and treatment of epilepsy/seizures.
Results: Out of 3, 000 patients interviewed, 92% attributed the cause of epilepsy to witches and spiritual attack and (58%) believed that epilepsy is infectious/contagious. On treatment, 78% believed epilepsy can only be treated by using only herbal remedies and 83% by prayers alone. Only 21% agreed that is treatable using orthodox medicine. Poverty (80%) was the commonest reason for not receiving orthodox treatment. As a mode of treatment, more than 60% believed that some certain foods should not be eaten, while 10% had frequent clinical appointment with neurologists and 5% consistently took their drugs over a period of a year.
Conclusion: There is still a huge knowledge and treatment gap among persons with epilepsy in South-South Nigeria. More effort should be made towards creating awareness of epilepsy, among persons with epilepsy, to improve health seeking behaviour among them and their families.

p004
An audit of epilepsy management in a tertiary care hospital in North East Nigeria
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[2]*University of Ilorin Teaching Hospital Ilorin, Kwara State, Nigeria*

Purpose: To assess the present state of epilepsy care in two district tertiary care hospitals in northeast Nigeria, and to compare with modern management of patients with epilepsy.
Method: This was a retrospective study of hospital records of 200 adults with already established epilepsy over the previous 4 years. We used a questionnaire to collect relevant data relating to diagnosis and management of epilepsy.
Results: There were 150 (75%) males and 50 (25%) females with mean age of 30.2 years (SD 5.8yrs). The main aetiology was post traumatic (37%), cerebrovascular disease (22.5%), partially treated meningitis (17.5%), encephalitis (12%), and alcohol (10%). The majority of reported cases (85%) were generalised tonic-clonic seizures. Less than a fifth had EEG and brain CT before commencement of AEDs. Patients who were referred had to travel long distances for EEG, and MRI brain and most could not afford the high cost of these investigations. One of the hospitals had a neurologist and a psychiatrist. There was no neurosurgeon. Majority of the patients (75%) were on phenytoin capsules, followed by phenobarbitone (10%), carbamazepine (7.5%), sodium valproate (5%), and ethosuximide (2.5%). There were no facilities to monitor blood concentrations of AEDs. No patient had a surgical intervention, even among the eligible cases.
Conclusion: This audit has enabled an examination of epilepsy management and demonstrating sub-optimal level of care in our practice. The most prescribed AEDs are the cheapest as most patients were unable to pay for AEDs from their own incomes.

p005
The prevalence and subjective handicap of epilepsy in Ilie: a rural riverine community in Southwest Nigeria
A. Mustapha[1], P.M. Preux[2], E. Sanya[3]
[1]*Department of medicine, LAUTECH Teaching Hospital , Osogbo, Osun, Nigeria*
[2]*Institut d'Epidémiologie Neurologique et de Neurologie Tropicale UMR1094 Neuroépidémiogie Tropicale, Inserm, Université de Limoges, CHU de Limoges*
[3]*College of Health Sciences, University of Ilorin, Ilorin, Kwara, Nigeria*

Purpose: The prevalence of epilepsy is high in tropical countries, particularly in Africa with an estimated mean prevalence of 15 per 1000. There is lack of recent data on epilepsy prevalence in Nigeria. The main objective of the study was to determine the prevalence of epilepsy in Ilie in South-West Nigeria .Other objectives were to characterise the seizures with electroencephalographic (EEG) recording, as well as to evaluate the subjective handicap of People living with epilepsy (PWE).
Method: The study which was descriptive cross-sectional, was carried out in Ilie, a rural community in South west Nigeria using a random sample technique. The survey was done in 2 phases from January 2013 to April 2013. Phase 1: Door to door screening using the WHO Neuroscience Research Protocol to detect neurological disorders by health workers. Phase 2: Individuals with positive screening had complete neurological examination by neurologists as well as an EEG recording. The questionnaires for survey of epilepsy in tropical countries and subjective handicap of epilepsy were administered to all PWE.
Results: 2, 212 individuals were screened during the first phase and 33 cases of neurological diseases were detected. During the second phase, 10 cases were confirmed to be epilepsy by neurologists, thus giving a crude lifetime prevalence of 10/2212=4.5/1000 population (CI95%·2.30, 8.04).The level of seizure control was directly related to the subjective handicap scale score.
Conclusion: The prevalence of epilepsy in Ilie South West Nigeria is rather low compared to previous figures from studies in rural Africa.

p006
Electroencephalography in Fann Teaching Hospital: what indications and what expertise? (about 1, 327 patients)
A.D. Sow[1], A.M. Basse[1], L.B. Seck[1], N.F. Ndoye[1], M.S. Diop[1], K. Toure[1], M. Ndiaye[1], M. Diagne[1], M.M. Ndiaye[1], L. Gueye[2]
[1]*Neurological Clinic, Fann Teaching Hospital, BP 5035 Dakar, Fann, Senegal*

Purpose: This work tries to evaluate practices, indications and the impact of EEG in the Teaching Hospital of Fann (Dakar Sénégal).
Method: It was a prospective study concerning 1, 327 patients receipted between March 1st and May 30th 2010 in the Neurophysiological Unit of the one Neurological Department in Senegal, for EEG exploration. We did a systematic analysis of the delay of RV and of attending, of indications and providers structures, and also EEG types and their results.
Results: The middle age of patients was 22 years with principally students and no workers. Delay of doing exam for patients, leaving all provinces of Senegal and countries areas, was 72,36 days, with a staying delay the day of exam of about 3 hours. Epileptic patients used phenobarbital, even if it is not the best tolerated, 58% of EEG was abnormal in all indication. Inaugural seizures are the first indication with an obvious contribution in the diagnosis and prognosis of the patient: EEG abnormal in 67.60 % of cases. Headache came in second position requests for EEG with a low profitability of the EEG (> 60% of normal EEG).
Conclusion: This large cohort study confirms the integration of EEG in Senegalese medical practices. Importance of EEG's demand from the areas of Dakar and Senegalese provinces, and the long waiting time, should bring authorities to install EEG devices in the major health centres of the country. The main indications remain usual, including inaugural seizures and their control, acute behaviours' disorders, but also psychogenic seizures and especially headache. The profitability of the EEG is

excellent for usual indications but very low in the headache. The lack of information or even relevance of applications is a brake on the quality of interpretation and of results, therefore to a good electroclinical correlation. This is why continuous training of health personnel on the issue is a real need.

p007
Musicogenic epilepsy: 3 cases from Sudan and a review
O. A'A Seidi
Soba University Hospital, Faculty of Medicine, University of Khartoum, Khartoum, Sudan

Purpose: Stimulus triggered epilepsy is well known although rare. Triggers include several sensory stimuli including light, patterns, tactile but rarely music. The trigger may involve crude or fine tunes with variable types of seizures usually starting in the deep auditor temporal cortex or auditory associated areas near then that can get secondarily generalised end.
Method: 2 young men attending a marriage ceremony were in audience for a dancing show. One of them was a 40 year old shop keeper who is known to have well controlled temporal lobe epilepsy on Tegretol CR 400 mg BD for many years. He suddenly started to behave out of character and had no recollection of what he did, till he was shown what happened to him on a video recording. The second was a 53 year old, business man who was fit and well without any past medical history of note, suddenly fell from his chair to the ground and went into a tonic-clonic fit for about 30 seconds, after which he was confused for 5 minutes. He denied recollection of what happened and was in denial till shown a video recording of the event.
Results: Later on a brain MRI, an ECG, and EEG were absolutely normal. He will be observed as that was the first time he ever a fit. The third was a retired school teacher who developed a seizure in a public bus where some popular music was played. He didn't link it till he heard the same piece of music again at his home and developed a seizure. He was later put on EEG monitoring with safety precautions and the same piece of music was played. He developed marked EEG changes in the left temporal lobe which soon became secondarily generalised and he went in a fit.
Conclusion: A brief review of musicogenic epilepsy will be presented as well as the videos of these events.This series may be interesting, educational and a stimulus for further research into the epidemiology and mechanisms of music induced seizures.

p008
Pathway and reasons for treatment choices among epilepsy patients in Enugu, South East Nigeria
B. Ezeala-Adikaibe[1], A. Justin[2], O. Chinwe[1]
[1]*University of Nigeria Teaching Hospital, Enugu, Nigeria*
[2]*Federal Neuropsychiatric Hospital, Enugu, Nigeria*

Purpose: To determine the places of care used by patients with epilepsy before seeking specialist care for epilepsy and some of the reasons for such choices.
Method: A cross-sectional survey of 185 patients with epilepsy seen in the University of Nigeria Teaching Hospital was done using a structured Encounter Form questionnaire.
Results: Alternative treatment centres visited were: prayer house ·83(48.5%) and traditional healing centres·7(4.1%). Healthcare facilities visited were psychiatric hospitals, 29(17%) and other hospitals 52(33.4%). The commonest health facility used as a second choice were psychiatric hospitals·104(60.8%). At the first choice of care, the mean number of days spent at alternative care centres was 174.9±416.6 (25.0±59.5 weeks). At the second choice of care, the mean number of days spent at alternative care centres was 68.8±117.6 (9.8±16.8 weeks). The average time spent travelling from home to the teaching hospital was 102.7 minutes (1.7 hours). Proximity and cost were primary considerations in choosing a place for treatment in proximity 12.4% and 3.8%. Belief that epilepsy is only treatable by faith or traditional medicine was a consideration in 11.9%.
Conclusion: A large proportion of epilepsy patients still patronise alternative care medicine. The factors leading people to make choices on where to go, include both proximity and religious beliefs. A considerable length of time is spent at peripheral care centres before coming to specialist care centres.

p014
Neurocysticercosis and epilepsy in rural Lusanga (Democratic Republic of Congo)
N. Mbombo[1], M. Ngoyi[2], O. Luwa[1], T. Katumbay[3], M. K. Luabeya[1]
[1]*Centre Neuropsychopathologique (CNPP), Kinshasa University, Kinshasa, Democratic Republic of Congo*
[2]*Institut National de la Recherche Biomédicale (INRB), Kinshasa, Democratic Republic of Congo*
[3]*(CNPP), Kinshasa University & INRB, Kinshasa, Democratic Republic of Congo*

Purpose: Determine the epidemiology of epilepsy in pig farming-prone rural Lusanga, Democratic Republic of Congo (DRC)
Method: A 2014-cross sectional study was carried out to assess the environmental and socio-economic aspects of pig farming in Lusanga, Bandundu province (DRC). One hundred and twelve subjects (1.3 M/F ratio; 6 – 60 years of age) were subjected to a structured interview, neurological examination, electroencephalography (EEG, 10-20 IS), stool sampling for microscopic examination and blood draw for serological testing for prevalent parasitic infections notably cysticercosis, malaria, and trypanosomiasis.
Results: Pig farming is common in Lusanga. Out of 112 subjects suspect of epilepsy, 71(63.39 %) do not have access to latrines and the majority i.e. 98(87,5%) have no access to clean water. Partial seizures were commonly found (49.1%). Most subjects (78.7%) were unremarkable at the neurological examination. Seventeen subjects (15.18%), however, had neurological deficits. EEG abnormalities were evidenced in 97% of subjects. Ingestion of pork was found to be a risk factor for epilepsy (OR: 3.33: 1.02 – 10.8; p=0.045) in a binary logistic regression model.
Conclusion: Neurocysticercosis may be an important etiological factor of epilepsy in Lusanga, rural DRC. While epidemiological evidence suggests that neurocysticercosis-associated epilepsy is a prevalent morbidity in Lusanga, ongoing analyses will determine the clinical values of parasitologic vs. serologic diagnostic tools. Findings will help develop diagnostic algorithms for neurocysticercosis in rural settings.

p015
Clinico-etiological profile of children admitted with a seizure in a tertiary centre
A.R. Ojha, U.R. Aryal
Kathmandu Medical College, Kathmandu, Nepal

Purpose: Identify the types and causes of seizure in children.
Method: This is a prospective cohort study done at Kathmandu Medical College from 14th April 2009 to 13th April 2012. A detailed history and clinical examination was done in all children admitted for seizure. Patient's demographics, clinical presentations, type of seizure, laboratory investigations, neuroimaging, hospital course and outcome were noted.
Results: Seizure accounted for total of 533(10.2%) patients of total admissions of 5,229. The mean age (SD) was 3.52(±3.3) years. Male accounted for 347(65%) and females for 186(35%). Children below 5 years were 423(79.5%). Fever was associated with fever in 407(75.5%). Generalised tonic-clonic was observed in 436(81%) children. 37(7%) children presented in status epileptics. A total of 370(68.6%) patients were diagnosed as febrile seizure, 86(16%) epilepsy, 15(2.8%) cerebral palsy, 13(2.4%) neurocysticercosis, 13(2.4%) tubercular meningitis, 12(2.2%) viral meningitis, 11(2%) pyogenic meningitis. The mean (SD) duration of hospital stay was 3.3(±2.84) days.
Conclusion: Seizure is important cause of hospital admission in children below five years and they are usually associated with fever. Generalised tonic-clonic seizure is the most common presentation.

p016
Co-existence of complex partial seizures of frontal lobe origin and psychogenic non-epileptic seizures
I. Cupkovic, D. Cerimagic, A. Bogoje Raspopovic
General Hospital Dubrovnik, Dubrovnik, Dubrovacko-neretvanska county, Croatia

Purpose: The authors present a patient with complex partial seizures of frontal lobe origin and psychogenic non-epileptic seizures.
Method: 20 year old female was admitted to hospital because of complex partial seizures of frontal

lobe origin. Her neurological status was normal. MRI of brain showed mild hypoplasia of the splenium corporis callosi and mild dilation of lateral ventricles. EEG showed irritative-dysrhytmic changes in the frontobasal region bilaterally especially during hyperventilation. After the introduction of antiepileptic therapy patient complains of frequent attacks, loss of motivation, insomnia and daytime sleepiness. Psychiatric examination indicates depression and conversion disorder. Diagnosis of psychogenic non-epileptic seizures (PNES) was based on video EEG monitoring during the „attack". Patient currently taking the following medications: clobazam, diazepam, oxcarbazepine, valproic acid, lamotrigine, escitalopram, zolpidem and quetiapin. During the 12 month follow-up occasional PNES generally associated with stressful events still occur.
Results: PNES, also known as non-epileptic attack disorders (NEAD), are events superficially resembling an epileptic seizure, but without the characteristic electrical discharges associated with epilepsy. Thus, PNES are regarded as psychological in origin, and may be thought of as similar to conversion disorder. It is estimated that 20% of seizure patients seen at specialist epilepsy clinics have PNES. However, between 5-20% of patients with PNES also have epilepsy. Frontal lobe seizures can be mistaken for PNES, though these tend to have shorter duration, stereotyped patterns of movements and occurrence during sleep. The most conclusive test to distinguish epilepsy from PNES is long term video-EEG monitoring. Conventional EEG may not be particularly helpful because of a high false-positive rate for abnormal findings in the general population, but also of abnormal findings in patients with some of the psychiatric disorders that can mimic PNES. Following most tonic-clonic or complex partial epileptic seizures, blood levels of serum prolactin rise, which can be detected by laboratory testing if a sample is taken in the right time window. However, due to false positives and variability in results this test is relied upon less frequently. Two thirds of PNES patients continue to experience episodes.
Conclusion: Because of similar clinical presentation of complex partial seizures of frontal origin and PNES differentiation of these clinical entities presents a diagnostic challenge even for experienced epileptologist.

p018
The effectiveness and therapeutic index of oxcarbazepine and lamotrigine in the mouse maximal electroshock seizure test changes with the length and frequency of treatment
K. Borowicz, M. Banach
Medical University of Lublin, Lublin, Lubelskie, Poland

Purpose: Almost all experimental studies evaluating interactions between antiepileptic and non-antiepileptic drugs are based on their single administration, whereas epileptic patients require chronic pharmacotherapy. Herein, we attempted to answer the question whether such studies provide reliable results.
Method: Effects of repeated administration of oxcarbazepine and lamotrigine on their anticonvulsant action were evaluated in the mouse model of maximal electroshock. Antiepileptic drugs were applied in two one-week and two two-week protocols. Single administration served as control. Neurological adverse effects (motor deficit and memory impairment) were assessed in the chimney test and passive avoidance task, respectively. Plasma and brain concentrations of antiepileptics were detected by immunofluorescence assay. All procedures were approved by the Local Ethical Committee of Lublin.
Results: In two-week protocols, 50% effective doses (ED50) of oxcarbazepine were significantly increased from 11.5 to 19.9 and 17.4 mg/kg, respectively. ED50s of lamotrigine, in respective four protocols, were decreased from 7.1 to 4.5, 3.9, 4.9, and 3.3 mg/kg. This effect could, however, result from increased serum and brain concentrations of lamotrigine. No memory impairment was observed after chronic treatment with any of antiepileptics. In the chimney test, 50% toxic doses (TD50s) for oxcarbazepine significantly increased, while those for lamotrigine decreased after repeated treatment. In contrast, the therapeutic index of chronic oxcarbazepine decreased from 5.15 to 4.5, while that of chronic lamotrigine decreased from 3.85 to 5.33.
Conclusion: Repeated administration affected effectiveness and toxicity of both oxcarbazepine and lamotrigine. It seems that the two antiepileptics should be administered chronically to increase reliability of results obtained in animal models.

p019
The burden, causes and outcome of hospital admissions among people with epilepsy in a rural district hospital in Kenya: a cohort and case-control study
S. Kariuki, E. Chengo, F. Ibinda, R. Odhiambo, A. Etyang, A. Ngugi, C. Newton
KEMRI-Wellcome Trust Research Programme, Kilifi, Kenya

Purpose: People with epilepsy (PWE) develop complications and comorbidities which often require admission to hospital, and add to the burden on the health system. We report burden, causes and outcomes of hospitalization among PWE admitted in a Kenyan rural district hospital.
Method: We reviewed case notes review of children and adults who were admitted to Kilifi District Hospital, Kenya from January 2000 - December 2011 with epilepsy. We estimated disability adjusted life years (DALYs), determine predictors of prolonged hospital stay and death; and identified risk factors and causes of admissions.
Results: There were 992 admissions with epilepsy (75%) children) in the 12 year period. The overall incidence of admissions was 45.6/100,000 population/year (95% confidence interval (CI) 43.0-48.7). The overall DALYs were 3.1/1000 people (95%CI, 1.8-4.7) and comprised 55% of Years Lived with Disability and the remainder Years of Life Lost. Only 27% reported using anti-epileptic drugs (AEDs). Risk factors for hospitalization were use of AED (odds ratio (OR)=5.17), previous admission (OR=12.52), acute encephalopathy (OR=2.03) and adverse perinatal events (OR=2.96). Important causes of admission were epilepsy-related complications: convulsive status epilepticus (CSE) (38%), postictal coma (12%) and burns (6%). Age was the most important independent predictor of prolonged hospital stay ((OR=1.02 and mortality (OR=1.07)).
Conclusion: Epilepsy is associated with significant admissions to hospital; and use of AEDs and CSE are the most important risk factors and causes of hospitalization. Improved management of epilepsy in the community and related-complications would reduce the hospitalization of PWE and thus the burden of epilepsy on the health system.

p028
Epimiological profile and main causes of inaugural seizures in Gabriel Toure Teaching Hospital (Bamako - Mali)
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[1]*Service de Neurologie, Centre Hospitalier Universitaire de Gabriel Touré, Bamako, Mali*
[2]*Hôpital de Gao, Gao, Mali*
[3]*Service de Médecine Interne, Centre Hospitalier Universitaire du Point «G», Bamako, Mali*

Purpose: Seizures are a common reason for admission to the emergency room (ER) worldwide. In sub-Saharan Africa there is not much data on their etiologies. The aim of our study is to determine the epidemiological and clinical profile of patients admitted for inaugural seizures in the ER of the Teaching Hospital of Gabriel Touré, Bamako, Mali.
Method: We conducted a prospective study in the ER of the Teaching Hospital of Gabriel Touré (Bamako, Mali) from June 2010 to June 2011. We enrolled patients admitted for inaugural seizures. The diagnosis of the crisis was made purely on clinical bases and the search for etiology was done by laboratory tests.
Results: During the study, 56 patients were admitted in the ER for seizures. The mean age was 35.2 years [2-81]. Males were represented the most (sex ratio = 2.3). The majority of patients (80.4%) took no medication that could induce seizures at the time of admission. The causes are dominated by infections (42.9%). Other etiologies were head injuries (17.9%) and vascular (16.1%), tumorous (3.6%), and metabolic (5.4%) diseases. But in 12.5% of cases, no etiology was found. Partial then generalised crisis was the most represented (64%) symptomatic event. The main infectious etiologies were malaria (19.6%) and HIV infection (17.9%). Diazepam was the most used drug in the ER as treatment for seizures (83.9%).
Conclusion: Seizures are frequent in the ER. In Africa, their presence should lead to the screening for infectious etiologies. Causes related to alcohol are rare in the context of Mali.

p030
Febrile seizures: pedigree analysis of simplex and multiplex cases in five families
M. Kahamba[1], O. Luwa E-A[1], K. Kalula[1], F. Kalume[2]
[1]*Center of Neuro Psycho Pathology, Lemba, Kinshasa, Democratic Republic of Congo*
[2]*University of Washington Medical Center, Seattle, Washington, USA*

Purpose: Febrile seizures are among the most common neurological disease of childhood. They afflict up to 5% of children between 6 months and 5 years of age. The underlying mechanisms responsible for their occurrence are not fully understood. The objective of this study was therefore to further clarify the role of environmental and genetic factors in febrile seizures occurrence in Kinshasa, Democratic Republic of Congo (DRC).
Method: Five families with suspected family history of febrile seizures were identified in Kinshasa. Family history was obtained and neurological evaluation of family members with epilepsy was conducted. Pedigrees of the families were constructed and the inheritance pattern was analysed based on age of disease onset, sex, and degree of relationship.
Results: Positive family history of febrile seizure was identified in all five families. Paternal inheritance was observed in one family and maternal inheritance in the other three families. Epilepsy associated with mental illness was observed in one member of each family. The onset of the epilepsy was between 6 and 15 years of age of the affected individual. 90% of the seizure manifestations were associated with infections in all five families.
Conclusion: Results of pedigree analysis support the hypothesis of autosomal dominance and sex preference inheritance of the seizure disorders in these families. Genetic factors and environmental factions play important role in the predisposition and manifestation of relatives to epilepsy in these families. Future genetic studies will investigate the possible association of SCN1A mutations in the pathology of seizure disorders in these families.

p031
Raising the epilepsy profile in Africa through the disability movement
A. Mugarura
Epilepsy Support Association Uganda, Kampala, Uganda

Purpose: To demonstrate that there are tangible benefits in aligning with other persons with disability. To tap into opportunities that governments allocate to persons with disability.
Method: There has been a lot of discussion and debate on whether persons with epilepsy should be categorised as disabled people. In most commonwealth countries, persons with epilepsy are indeed disabled people. It is also a fact that that up to 20% of persons with epilepsy may have other underlying physical, mental or psychosocial disabilities. The UN Convention for the Rights of Persons with Disabilities rightly defines disability to include "long term physical, mental, intellectual or sensory impairements" and encourages all humanity to promote, protect, and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities. Many other national legislations also categorise persons with neurological and sensory impairments as persons with disabilities. Many categories of persons with disabilities have mobilized themselves into national unions and have succeeded to influence their national governments for recognition. In Uganda for example, the National Union of disabled Persons of Uganda (NUDIPU) currently brings together the deaf, blind, physical, deafblind, mentally ill, albinos, those with intellectual and learning difficulties and women with disabilities. By working together and pursuing a common advocacy, disabled people have been able to push the government to create a separate ministry for PWDs and to allocate 5 positions of members of parliament to persons with disabilities. This has facilitated advocacy for service provision and resource allocation. In Sub Saharan African where there is no welfare state, this could also be an opportunity for disabled people to lobby for special budgetary allocations to disabled persons. In Uganda for example, the state has been committed to allocate a special grant for PWDs in the national budget and more recently to set up an equal opportunities commission. For African countries that still depends on grants from partners abroad there is a great opportunity for a united disability fraternity can be able to influence big donors either to directly set aside specific grants for disabled people or to ensure that disability is mainstreamed in their programmes. It is no surprise for example that USAID has finally agreed to set aside a disability grant worth 5 million dollars. The Americans were following Norway, Sweden, Denmark and Finland which have been supporting disabled people in the developing world for very long. The UN Convention itself set up a disability grant that many of us here have not yet benefited from. Whereas these resources and opportunities exist, there is much competition for them and persons with epilepsy in Africa must position themselves a unique and recognisable category that can benefit from these opportunities at national and continental levels. It may be no surprise that a person with epilepsy could become a member of a national legislature by taking advantage of the prevailing legislation.
Conclusion: I would wish to submit that organisations of persons with epilepsy in Africa must organise and strategise to affiliate to national movements of persons with disability a way of raising the profile of epilepsy and in order to take advantage of the budgetary and legislative affirmative actions African states and international partners are willing to pass on to disabled people. This may not come without a challenge though. The more reason we should explore how to work together as a region.

p036
Social media's role in Kenyan epilepsy care
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Purpose: To encourage professionals in African epilepsy care to be pro-active in social media for the provision of correct information on epilepsy among the youth.
Method: YotM used social media (especially via Facebook and Twitter) to communicate with stakeholders in epilepsy care, especially persons with epilepsy, their family and friends. Both medical and lifestyle information regarding epilepsy was provided and the audience was invited to share experiences, opinions and questions. The page had an audience from all over the world, but the majority from Kenya.
Results: Facebook was the social medium that had most interaction between YotM and persons with epilepsy, their friends and family. On Facebook, YotM has 4,050 likes: male were more (61%) than female (38%). Most active is the age group 25-34 (male 30%, female 15%) and the majority comes from Kenya (3,330) followed by the US (160). They come from cities like Nairobi (2,174) and Kisumu (346), but also from villages like Bungoma (9) and Bondo (7).
Conclusion: Social media creates more influence among persons with epilepsy, social media could improve the interaction between stakeholders in epilepsy and as a result contribute in reducing stigma in epilepsy.

p037
Vagus nerve stimulation in the treatment of patients with pharmacoresistant epilepsy: our 17 years' experience
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Purpose: We have studied the efficacy of vagus nerve stimulation (VNS) in patients with pharmacoresistant epilepsy hospitalized in the Neurology Department of the University Hospital Centre Zagreb.
Method: From 1997 to 2001 we have implanted VNS in 11 patients with pharmacoresistant epilepsy, who were magnetic resonance imaging (MRI) negative and from 2007 to 2013 in 35 patients, 30 of them were MRI positive, and were inoperable due to localisation of the pathomorphologic changes (ganglioglioma, hamartoma, various types of cortical dysplasia, porencephalic cysts, bilateral hippocampal sclerosis), 5 were MRI negative. In the group of MRI negative patients 1 patient had complex partial seizures (CPS), 5 patients had CPS with secondary generalisation, 4 patients had primary generalised epilepsy (PGE), 1 patient had elementary partial seizures (EPS), CPS and generalised tonic-clonic seizures (GTCS), 4 patients had Lennox-Gastaut syndrome (LGS) and 1 had Dravet syndrome. In the group of MRI positive patients, 5 patients had EPS and/or CPS without secondary generalisation, 2 had EPS with secondary generalisation, 15 patients had CPS with

secondary generalisation, 4 patients had EPA and/or CPS with secondary generalisation as well as atonic seizures, 3 patients had PGE and one patient had Lafora body disease (LBD).
Results: After implantation of VNS there was significant decrease in mean seizure frequency in the group of MRI positive patients for about 51,4% and in the group of MRI negative patients about 66.78%. Four patients with LGS were seizure free. The most frequent side-effects were hoarseness, throat pain and cough, but they were mild and transitory.
Conclusion: VNS was effective mode of therapy in our group of patients with pharmacoresistant epilepsy.

p038
Large systematic review and meta-analyses estimating the association of cystercosis with epilepsy
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Purpose: We conducted a systematic review and meta-analyses of studies that looked at cysticercosis and epilepsy across Latin America, Asia and Africa, to estimate the risk and preventability of epilepsy due to cysticercosis in the tropical regions.
Method: We collected data (published and unpublished) using a defined search strategy through several databases until 2013. Exposure criteria for cysticercosis was one or more of the following: Ac-ELISA or EITB serum positive, Ag-ELISA or EITB serum positive, histology of nodules, presence of subcutaneous cysts and histology of calcified cysts. A common odds-ratio was then estimated using random effects modeling.
Results: 37 studies (23 countries) were included (N= 24,646 subjects, 14,934 with epilepsy and 9,712 without epilepsy). Of these, 29 were case-control (~50% were matched). The association between cysticercosis and epilepsy was significant in 19 studies. Odds-ratios ranged from 0.1 to 25.4 (a posteriori power 4.5-100%) and common odds-ratio was 2.7 (95% CI 2.1-3.6, p <0.001). Three subgroup analyses gave odds-ratios as: 1.9 (EITB-based studies), 3.2 (CT-based studies), 1.9 (neurologist-confirmed epilepsy; door-to-door survey and at least one matched control per case). Etiologic fraction was estimated to be 63% in the exposed group among the population.
Conclusion: Despite differences, cysticercosis was found to be strongly related to epilepsy in most tropical regions of the world. Strength of this association may also vary depending on the intensity of transmission.

p040
Why children with epilepsy stop going to school in Sierra Leone
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Purpose: Sierra Leonean children with epilepsy drop out of school at an alarming rate with one study suggesting that 48% discontinue schooling because of their epilepsy. We looked in detail at the factors that may affect these children continuing school.
Method: We studied 150 subjects, comprising of 50 children with epilepsy of school going age attending our clinics, their primary carers (50), and teachers (50) using structured questionnaires. We inquired into the knowledge and attitudes regarding epilepsy of the carers and teachers, attitude of their peers, school days missed, and teachers' reactions to a seizure in school.
Results: 82% of children missed at least one school day and 51% more than 5 school days per month and 36% claimed that their peers had a negative attitude towards them. 20% had discontinued school permanently. 36% of caregivers had no education and 40% thought that epilepsy was either demonic or due to witchcraft, compared with 16% of teachers. 45% of teachers knew what to do during an attack but 12% will put an object in the mouth and 16% will hold the child down. The significant factors that influenced children dropping out of school were daily seizures ($\chi2 = 4.31$, $p<0.05$), negative attitudes of classmates ($\chi2= 11.2$, $p<0.001$), and illiterate caregivers ($\chi2= 5.56$, $p<0.02$).
Conclusion: Epilepsy has an impact on school attendance in Sierra Leonean children. Negative attitudes of peers and the educational status of caregivers are important factors. Educational programmes for pupils, teachers and parents will help to eradicate the misconceptions about epilepsy.

p042
Obstetrical, infectious and traumatic factors associated to epilepsy in a rural area of Cameroon
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Purpose: The causes of epilepsy are varied and result from a combination of genetic, perinatal, abnormal cortical development and acquired lesions of the cerebral cortex. The present study was designed to determine the obstetric, infectious and traumatic factors that could explain the high prevalence of epilepsy in the rural city of Bangoua.
Method: This case-control study was conducted in the locality of Bangoua, department of Nde, West region of Cameroon. Consenting patients with epilepsy and non-epileptic controls matched by age and sex were recruited from 4th August to 20th October 2008. The diagnosis of epilepsy was chosen when a patient had reported at least two unprovoked seizures in the past two years.
Results: The patients' ages ranged from 6 to 65 years with a mean of 26.7 ± 10.6 years. Males predominated in patients with epilepsy (54.3%). More than half (57.1%) of epileptic patients had family history of epilepsy and history of infectious damage to the central nervous system were twice as frequent ($p = 0.005$) in epileptic participants (38.6%) than controls (17.4%).
Conclusion: This study found that in Bangoua, a family history of epilepsy, malaria, urinary tract infection or eclampsia during pregnancy, a history of encephalitis are factors associated with epilepsy.

p043
Unrecognised epilepsy and behavioural disorder in infancy: a case report
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Purpose: In several African settings the diagnosis of epilepsy in infancy is still delayed and uncommon epileptic presentations, especially when associated with behavioural disorder, can pass unrecognized and remain untreated for several years.
Method: We present a case of a 2 years and 7 month old male child being referred to the Developmental Intervention Clinic for behavioural disorder and suspected seizures. The anamnesis revealed a past history consistent with infantile spasms from the age of 6 months. Subsequently the child presented daily episodes of staring gaze, sudden flexion of the head and trunk associated with abduction and elevation of upper limbs. Sporadic episodes of confusional state associated with hallucination, inconsistent speech and drowsiness were also reported.
Results: Currently the patient presents speech delay and behavioural disorder characterised by severe hyperactivity and pica. The child never received antiepileptic treatment. Electroencephalography in sleep revealed an electrical pattern consistent with Lennox Gastaut Syndrome.
Conclusion: The patient was started on Sodium Valproate and he has been seizure free for the past 3 months, although hyperactivity and pica persisted.

p044

Domestic health visitor to improve access to care for people living with epilepsy in LAO (PDR)

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Purpose: The objective of this study is to test the effectiveness of a comprehensive primary health care (PHC) approach, namely the domestic health visitors (DHV), performed by health centre staff, to improve access to treatment and care of people with epilepsy (PWE).
Method: This is a clinical trial that started in January 2014 and is conducted in three districts: one intervention district (Pakgnum with 411 PWEs according to estimation 2012 by prevalence 7.7 per 1, 000) and two districts control without intervention (Naxaythong with 533 PWEs and Sangthong with 221 PWEs according to estimation 2012 by prevalence 7.7 per 1, 000). The intervention is DHV who will identify PWE in village and will give mass information by an information education communication tool. A neurologist will confirm the suspected cases and the treatment will be delivered at home every two months by DHV. The identification and follow-up of PWE will be supported by mobile phones for neurologist consultation. The outcome will be evaluated in December 2015.
Results: We expect to reduce by 25% the treatment gap and the case fatality of PWE, to increase 70% uptake and adherence of PWE to their treatment, to increase 60% of knowledge attitudes and practices of PWE and their families related to epilepsy and the treatment, to increase 80% in the knowledge, skills, competence and sense of confidence and independence among the PHC staff. Furthermore, we expect to reduce by 60% the stigma regarding epilepsy in the PWE, their families and the communities.
Conclusion: Our intervention research aims to improve the identification of PWEs and propose them access to an adapted treatment. The effectiveness of this action is conducted through a set of indicators dealing with the improvement of living conditions of PWEs (seizures, compliance, stigmatisation and return to activity). This project is one of the few evaluating through a clinical trial, an intervention to decrease treatment gap in epilepsy in a developing country.

p045

The perception of family function by adolescents with epilepsy in a rural Nigerian community

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Purpose: To assess perception of family function by adolescents with epilepsy.
Method: Eighteen adolescents with epilepsy (subjects) were identified in a rural Nigerian community via a house to house survey and their socio demographic data obtained. The Family APGAR tool was used in assessing perceived family function by the Subjects.
Results: The age range of the subjects was 11-19 years (mean 16.7±2.6 years) with a male preponderance (15, 83.3%). Family dysfunction (Family APGAR Score<7) was indicated by 15(83.3%) of the subjects. The strongest perception of family function was in adaptability while the weakest was with growth. The indication of family dysfunction was significant in the older (Age>14 years) subjects ($p<0.05$).
Conclusion: Majority of the subjects indicated a dysfunctional family setting. It highlights the need to address the role of the family in providing comprehensive epilepsy management.

p047

Effects of a lyophilized aqueous extract of *Feretia apodanthera* Del. (Rubiaceae) on pentylenetetrazole-induced kindling, oxidative stress and cognitive impairment in mice

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Purpose: The aim of the present study was to examine the effects of *Feretia apodanthera* on the course of kindling development, kindling-induced learning deficit, oxidative stress markers and cholinesterase activity in pentylenetetrazole (PTZ) kindled mice.
Method: The effect of pretreatment with *Feretia apodanthera* (150 - 200 mg/kg) was evaluated. Male Wistar rats were injected PTZ (30 mg/kg, i.p.) once every alternate day (48 ± 1 h) until the development of kindling. Cognitive impairment was assessed using elevated plus maze and T maze tests while the oxidative stress was estimated in the whole brain at the end of experiments.
Results: PTZ, 30 mg/kg, induced kindling in mice after 30.00 ± 1.67 days. *Feretia apodanthera* (150 - 200 mg/kg) significantly increased the latency to myoclonic jerks, clonic seizures as well as generalised tonic-clonic seizures; improved the seizure score and decreased the number of myoclonic jerks. PTZ kindling induced a significant oxidative stress and cognitive impairment which was reversed by *Feretia apodanthera*. The decrease in cholinesterase activity observed in the PTZ kindled mice was significantly reversed by *Feretia apodenthera*.
Conclusion: The results indicate that pre-treatment with the aqueous extract of *Feretia apodanthera* antagonizes seizures, oxidative stress and cognitive impairment in PTZ induced kindling in mice. These results thus suggest the potential of *Feretia apodanthera* as an adjuvant in epilepsy both to prevent seizures as well as to protect against seizure induced memory impairment.

p048

Tonic-clonic seizure in adolescent after energy drink

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Purpose: 14 year-old previously healthy boy was brought to ER by his parents after witnessing a tonic-clonic seizure during his sleep. He had a history of seizures when he was 10 months old. He was prescribed Valproat due to the diagnosis of Epilepsy. After being a two-year seizure free period, his medication was ceased. For the last 12 years, he was seizure and medication free. He did not have any history of head trauma or other medical condition. According to his mother who is a nurse in the neurology section he is an average student and an active basketball player. The day he was brought to hospital, he drank 3 cans of an energy drink (Gladiator, Bursa, 2010, Turkey, 250 mL) to an empty stomach suggested by his peers, just before a basketball practice
Method: On his examination, there was no sign of physical trauma and the rest of the physical examination was unremarkable. Also his blood biochemistry and cranial MRI was normal. EEG shows epileptiform discharges. Levatirasetam started.
Results: After 9 months of follow-up, he has been seizure free and his EEG has been normal. His medication was stopped. A literature review showed several similar reports.
Conclusion: This case report presented to point the danger of energy drinks in adolescents and discusses the possible epileptiform mechanisms of energy drinks.

p049
Sleep disturbances in patients with epilepsy in Nigeria
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Purpose: This study aimed to determine the prevalence, pattern and predictors of sleep disturbances in PWE.
Method: This was a multi-centre cross-sectional study in Nigeria where 150 PWE were recruited. A questionnaire was used to collect information on sociodemographic, epilepsy related issues and sleep problems in PWE. Patients with cognitive defects, spontaneous sleep complaints and use of hypnotics were excluded from the study. The data was analysed using SPSS version 11.0 and $p < 0.05$ was taken as being significant.
Results: There were 150 PWE in the study comprising 94 males and 56 females. The mean age in years was 30.0+14.0 with a range of 16-70years. The mean age of seizure onset was 26.0+14.0 while the mean duration of epilepsy was 8.5+8.6 years. The commonest type of epilepsy was secondary generalised tonic-clonic seizures (56%). About 82% of PWE have sleep disorders and the commonest sleep disorder was parasomnia (47%) followed by insomnia (33%), obstructive sleep apnoea (23%), excessive daytime sleepless (19%) and restless leg syndrome (11%). The type of accommodation that PWE lives in and the time of seizures respectively predicted the presence of excessive daytime sleepiness and parasomnia in the PWE ($P<0.05$).
Conclusion: There is a high prevalence of sleep disorders in PWE. The Neurologists and general medical practitioner should have a high index of suspicion for sleep disorders in PWE.

p052
Promoting access to care for patients with epilepsy in Benin
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Purpose: According to WHO, about 75% of people with epilepsy (PWE) in developing countries do not receive appropriate treatment. The strong stigma associated with this disease is an important limit for access to care. The objective of this work was to improve the management of PWE in Benin.
Method: The experiment was implemented in six pilot areas under a partnership agreement between the Ministry of Health of Benin and the group SANOFI. Activities within the framework of this partnership were: training of health professionals, education of patients and their families, information and public awareness, and providing medicines at preferential prices. All educational materials were provided by SANOFI.
Results: 150 health professionals have been trained in the management of epilepsy. 85 were male and 65 were females (sex ratio = 1.3). The mean age was 37.4 ± 8.2 years. 640 teachers, 194 communicators and 200 community liaisons were briefed on epilepsy. Eight free medical visits were organised for PWE and were as well an opportunity to educate 200 PWE and their families about epilepsy. Valproate and phenobarbital at preferential rates are currently available in purchasing centres and pharmacies of pilot health centres.
Conclusion: This initiative will contribute to improving the management of PWE in Benin and reducing mortality and morbidity related to epilepsy. Its scaling up is necessary.

p053
Epileptic syndromes in children aged 1 month to 6 years in Kinshasa/Republic Democratic of Congo
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Purpose: Epilepsy is a common condition in Africa. In Democratic Republic of Congo, there are few studies on epilepsy and epilepsy children patterns are poorly understood and treatments are inadequate. The objective of this study was to identify the patterns of children epilepsy in order to develop adequate therapeutic approaches.
Method: Epileptic children aged 1 month to 6 years detected accordingly to WHO/IENT criteria. They had been recruited into 3 specialised clinics of Kinshasa, from February 2008 to January 2009. This was a cross-sectional study focused on anamnesis, neurological signs, intercritic encephalography and paraclinical data.
Results: 154 children had been selected. The average age of the children was 43 months. The sex ratio M:F was 1.9: 1. The onset of the seizures was within the first 3 years of childhood (83.8%) with a peak in the first year (53.2%). Generalised epilepsies accounted for 51.3%. Symptomatic epilepsies were found in 51.9%. In this group, the epilepsy began early, neurological deficits and behaviour disorders were associated. Specific epileptic syndromes of the child were defined in 32.4%. They mainly consisted in epileptic encephalopathy (9,6%), epilepsy with generalised tonico-clonic seizures alone (5,2%), encephalopathy with epilepsy (5,2%), West syndrome (3,2%), temporal lobe epilepsy (1,9%), Landau Kleffner syndrome (1,9%), Doose syndrome (1,3%) and others (3%).
Conclusion: The clinical profile of epileptic syndromes in Congolese children is characterised by an early onset. In half of cases, there are neurological disabilities. The study is the first attempt to describe epileptic syndromes in Congolese children.

p054
Electroclinic study of temporal epilepsy in Fann Teaching Hospital, Dakar-Senegal
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Purpose: Temporal epilepsy is the most frequent partial epilepsy, with a polymorphous semiology. Our aim is to illustrate electrical and clinical features of temporal epilepsy in a sample of patients.
Method: We conducted a prospective and descriptive study in neurological department of Fann Teaching Hospital in Dakar, including patients with temporal epileptic abnormalities on electroencephalogram. We collected semiological, electroencephalographic, brain imaging, and therapeutic data, and the disease evolution under treatment.
Results: There were 46 patients aged from 2 years and half to 53 years. Familial history of epilepsy was found in 18.84% and febrile seizures in 8.69%. Most of the patients had a first fit before the age of 10 years. A triggering factor was reported in 28.26% of cases. The most constant clinical signs were secondary motor disorders, which were predominant among electroencephalographic motives. Temporal semiology was most of the time consisting in psychical signs (67.39% of patients) but also automatic activities (52.17%), conscience obnibulation, aphasic disorders, and vegetative manifestations. Brain imaging was rarely available. 32.61% of subjects had stopped their medication because of several reasons. The medications we used were Phenobarbital (Gardénal), sodium valproate (Dépakine), carbamazepine (Tégrétol) and clonazepam (Rivotril). Evolution was favourable for the majority.
Conclusion: Clinical polymorphism of temporal epilepsy can lead to ignoring the diagnosis, which has to be mentioned each time we face psychical or sensorial troubles, particularly if evolving by fits.

p055

Epilepsy and neurocysticercosis in Northwest Cameroon: a serological study

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Purpose: The prevalence of epilepsy in Cameroon is higher than that of the industrialised world. The prevalence of epilepsy appears to be espcially high in the Momo Division of the Northwest Province of Cameroon. Because neurocysticercosis is a major cause of epilepsy in developing countries, we sought to test the hypothesis that those patients in Momo who have epilepsy have a higher percentage of seropositivity to Taenia solium than a matched control population. A case control study was conducted in the Momo sub-division of Ngie which has nineteen villages. Epilepsy patients were recruited from the epilepsy clinics in Ngie and control subjects were randomly selected from members of the Ngie villages. An adapted form of a previously validated screening questionnaire was applied by trained field workers to identify potential cases of epileptic seizures to be included in the study. Blood samples were taken from all consenting individuals by finger prick, stored in StabilZyme Select, and assayed for antibodies to Taenia soleum as described.
Method: We accrued 249 patients with epilepsy and 245 age matched controls. The number of patients with epilepsy who participated in this study represent about 75% of the total number of seizure patients in Ngie where the population is around 40,000 inhabitants. The mean age of control subjects was 17.5 years and that of the seizure population 18.8 years (P > 0.1). There were 53% male and 47% female in the seizure group and 57% male and 43% female in the control group (P >0.1). Seizure onset was at 11.64 yrs. Sixty-eight percent of patients had generalised convulsive seizures with 25% having localisation-related epilepsy with secondary generalised seizures. There was no significant difference between the control and seizure populations in seropositivity to Taenia soleum which was 4.9% in the control group vs. 5% in the seizure group.
Conclusion: These data demonstrate that those patients in the Ngie sub-division of Momo who have epilepsy do not have a higher percentage of seropositivity to Taenia solium than a matched control population and make it highly unlikely that neurocysticercosis plays a causative role in the increased prevalence of epilepsy in the Momo Division of the Northwest Province of Cameroon. Supported in part by The Bloorview Children's Hospital Foundation.

p056

Extracts of *Feretiaapodanthera* Del. demonstrate activities against seizures induced by chemicals and maximal electroshock

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Purpose: The present study was aimed to test the anticonvulsant properties of the aqueous extract and the alkaloid fraction prepared from the stem barks of *Feretiaapodanthera*.
Method: The anticonvulsant investigation was carried out against picrotoxin (7.5 mg/kg)-pentylenetetrazol (70 mg/kg)-, bicuculline (4 mg/kg)-, methyl-β-carboline-3-carboxylate (12 mg/kg)-, N-Methyl-D-aspartate (75 mg/kg)-, 4-aminopyridine (15 mg/kg)--, and maximal electroshock (50 Hz, 30 mA, 0.2 s)-induced seizures or turning behaviour, with diazepam, clonazepam, D-2-amino-7-phosphonoheptanoate and phenobarbital as standard drugs. The time to onset of clonic or tonic seizures, the duration of tonic hind limb extension or seizures and the number of animals protected from tonic hind limb extension and/or seizures were determined in each dose group, 1h after administration of the different treatments. Preliminary phytochemical analysis of the aqueous extract and the alkaloid fraction was performed using chemicals and reagents.
Results: Preliminary analysis of the aqueous extract revealed that it contained flavonoids, alkaloids, saponins, tannins, glycosides, cardiac glycosides, anthraquinones and phenols, but not lipids. The aqueous extract protected mice against picrotoxin-, pentylenetetrazol-, bicuculline-, Methyl-β-carboline-3-carboxylate-, 4-aminopyridine- and maximal electroshock-induced seizures. In addition, turning behaviour induced by N-methyl-D-aspartate was inhibited by the aqueous extract. Also, N-Methyl-D-aspartate- and 4-aminopyridine-induced turning behaviour and seizures respectively, were significantly antagonized by the alkaloid fraction from *Feretiaapodanthera*. The total protection of mice provided by the aqueous extract against convulsions induced by pentylenetetrazol or picrotoxin was abolished by flumazenil, a specific antagonist of the benzodiazepine site in the GABAA receptor complex, pre-treating 30 minutes before the test.
Conclusion: Our data indicates the anticonvulsant effects of *Feretiaapodanthera* in mice, likely via the GABAergic neurotransmission as well as blockade of NMDA receptor complex. However further studies are warranted to identify the active principles responsible for the anticonvulsant activity of *Feretiaapodanthera*.

p060

Public's perception on concept and treatment of epilepsy in Kimpese, a rural area in Democratic Republic of Congo

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Purpose: Epilepsy affects community beliefs and this later impacts on epilepsy treatment mainly in rural areas in which epilepsy seems to be most frequent and less understood. The present study was undertaken in order to get solid knowledge of how people perceive and deal with epileptic manifestations in rural area in Republic Democratic of Congo.
Method: In Kimpese country (48.970 inhabitants), we undertook a survey among 62 relatives of 172 epileptic patients (35 females and 27 males, ranging from 21 to 50 years), from 20th November to 20th December 2005. The study was focused on their knowledge on beliefs about etiology and community experience on dealing with epilepsy.
Results: Convulsions 77.4% (48/62), gaze deviation 32.3% (20/62) and loss of consciousness 29 % (18/62) were recognised as signs of epilepsy. 5. 2% (4/62) thought that epilepsy is inherited, 13. 2% (10/62) considered it as contagious disease and 51.3 % (39/62) considered it as due to witchcraft. But 25.8% (16) of interviewed persons noted also history of early cerebral morbidity. About treatment, 50% (31/68) approved "traditional'' treatment, 38.7% (24/62) the combination of traditional and medical treatments and 11.3% (7/62) medical treatment alone. Cola nifida, Brillantasias patula, costus lucanusianus, kalanchoe crenata and zingiber oficinalis were the plants most used by Kimpese people for treating epilepsy.
Conclusion: Publics' perception and beliefs of epilepsy is a sturdy challenge to fight epilepsy in rural areas in Africa. We have also to understand better the effects of all plants used for treating epilepsy.

P064

Genetic testing in the treatment of epilepsy; what are the ethical issues?

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Purpose: The development of genetic technology in the last two decades has enabled researchers to discover new biomarkers for diagnosis of diseases, prediction of drug toxicity and response. The benefits of these technologies include individualisation of patient's treatment, reduction in the occurrence of adverse drug reactions and reducing the level of treatment failure. In patients living with epilepsy, variability in drug response due to genetic factors could be due to polymorphisms in

genes encoding for drug metabolizing enzymes, drug transporters drug targets and HLA. Studies have shown a high prevalence of HLA-B*1502 allele among some Asian population (10-15%) compared to 1-2% in Caucasian population. While the advantages of genetic testing are obvious, there are ethical issues that must be considered before and while applying the technology. The aim of this work is to elucidate some of these ethical dilemmas.
Method: A review of literature was carried out using the databases PubMed/Medline and Google Scholar. Relevant articles published within the last 10 years were included in the review.
Results: Confidentiality and privacy, adequate protection of genetic information and informed consent issues were some core issues identified. The fact that epilepsy is common among the paediatric and adolescent age group brings the issue of informed consent to the fore. The cost of accessing these tests and its cost-effectiveness are additional ethical problems especially in developing nations of the South. Other issues include the possibility of racial and ethnic profiling and the change in doctors' responsibility to patients.
Conclusion: The genetic era is associated with numerous ethical challenges. It is important for physicians to be aware of them and healthcare institutions to develop policies to address them.

p066
Ghana's initiative to fight against epilepsy
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Purpose: The WHO in partnership with ILAE and IBE is supporting Ghana in a 4-year Fight Against Epilepsy initiative. The goal of the initiative is to improve access to care and services for people with epilepsy.
The specific objectives are:
1. To develop and engage in the strategy for delivering epilepsy care
2. To promote training of all professional health care providers, making them competent in diagnosing and treating epilepsy
3. To improve awareness of community groups to decrease stigma and increase demand for epilepsy care
4. To integrate provision of care and services for epilepsy within the primary health care system
5. To monitor and evaluate the project and disseminate new ideas and knowledge

Method: A training manual on epilepsy using WHO mh Intervention Guide was adapted for Ghana. Three planned training sessions of 2 days in management of epilepsy for health personnel; nurses, community psychiatric nurses, medical assistants, doctors, pharmacists were conducted during the first year of the project; one in Tolon-Kumbungu (Northern) and two in Ashiedu Keteke districts (Greater Accra). In year two scaling up of the training to include middle level grade staff to become trainer of trainers and supervisors of the various sites. Engagement of various stakeholders in the supply chain, health services, civil society, media and public education.
Results: 87 health personnel were trained in year one; 28 from the Northern Region and 59 from the Greater Accra Region using the mhGap intervention, and 95 health staff in year two; 29 Volta region, 31 Northern region (Savelugu Nanton) & 35 in the Central region. A total of 14 trainers of trainers (middle level grade staff) have been taken through monitoring, supervision and use of the mhGap tools. Post test scores significantly improved over the training period. Anti-epilepsy drugs are being integrated into the National health Insurance Scheme which implies increased access. Further scaling up of the project to incorporate four more implementation sites is ongoing. Two districts from the Eastern Region will be enrolled at the same time with additional district each from Volta and Central Regions of Ghana and Christian Health Association of Ghana (CHAG). Public health education and advocacy on Epilepsy has significantly improved. During 2014 supportive supervision and monitoring will be strengthened. Health care providers will be trained in epilepsy management in all the implementation regions and refresher trainings conducted for health care providers trained over a year. A mid-term review conference will be organised.
Conclusion: A unique opportunity of co-operation between providers of epilepsy care, the ILAE/IBE, Epilepsy Society of Ghana, Ministry of health/Ghana Health service and the WHO funded by the Sanofi-Espoir foundation is yielding positive results as the access to care and antiepileptic medication is being scaled up. This is a good model to be emulated by member states in the African region.

p067
Utilisation and yield of electorencephalography (EEG) in paediatric and adult referrals to the Neurology Unit, Korle Bu Ghana
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Purpose: To determine the yield of EEG in identifying functional abnormalities in the brain of patients referred to the Neurology Unit. We analysed EEG recordings of 501 patients seen at the only EEG centre in Ghana, West Africa.
Method: EEG recordings from 501 patients referred to the KBTH Neurology Unit between October 2009 and April 2010 were evaluated in the study. EEG variables recorded include; background activity, slow wave activity, fast wave activity, eye opening effect, hyperventilation, photic stimulation, sleep patterns, and EEG findings. We compared the referral diagnosis to the findings of the EEG. Referral diagnoses were classified into 11 categories. Recordings were performed using a 19 channel awake EEG recording with international 10/20 system of electrode placements. EEGs were categorised as: awake, sleep, sedation, sleep deprived (drowsy), and other (sleep deprived and sleep induced). Sedation was achieved using Chloral Hydrate or Promethazine. The EEG recordings were reported as "normal" and "abnormal" and the abnormality was categorized as diffuse slowing, focal, or general spike and wave abnormalities. We evaluated the entire population and 2 subsets; Paediatrics (0 -12 years) and Adults (13 and above). Statistical analysis: statistical analysis was performed using SPSS data editor version 17.0. Statistical significance was accepted at $p<0.05$.
Results: EEG abnormalities were seen in 49.1% of patients: (64.3% paediatric vs 37.8% adults). EEG yield was highest in the diagnosis of generalised spike and wave abnormalities in both populations, 40.8% paediatric vs 56.8% adult in comparison to focal abnormalities. Abnormal waveforms were highest in patients referred to the neurology unit with convulsive episodes, known seizure disorder, newly diagnosed seizures and neurodevelopmental delays.
Conclusion: While the EEG is not a definitive test, it provides useful information in addition to clinical presentation to determine the presence of functional brain abnormalities.

p068
The schooling of children with epilepsy
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Purpose: Epilepsy in Senegal mainly concerns children and is sometimes associated with cognitive disorders that disrupt children's schooling. The aim of this work is to study the frequency of absence of schooling in a cohort of children in Senegal followed for epilepsy and identify the causes.
Method: This is a retrospective study of cases of epileptic children regularly monitored at FANN University Hospital and Children's Hospital Albert Royer, from July 2003 to December 2010. The inclusion criteria were: children with epilepsy less than 16 years of age, regularly monitored for at least 3 years, with a suitable treatment, effective dose, with good adherence.
Results: We collected 522 children, aged 3 months to 16 years, with a sex ratio of 1.7 in favour of boys. We deplored in 117 children (22.41%) problems of schooling: a school delay in 8.24 % of cases, an exclusion in 2.87% of cases and in 11.30% of cases, patients were not enrolled in school. It is noted 27 children with a global cognitive deficit whose 24 (88.88%) had symptomatic epilepsy. Among the causes of the absence of schooling was the stigmatisation, both by parents and teachers and other students.
Conclusion: In order to fight against the absence of schooling in children with epilepsy, physicians must stabilize seizures, it should be reduced symptomatic epilepsy rate, and do big campaigns to bring epilepsy out of the shadow.

p069

A case report of Lignocaine Infusion in the management of refractory status in FIRES

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Purpose: Febrile infection–related epilepsy syndrome (FIRES) is an epileptic syndrome presenting with multifocal refractory status epilepticus in previously normal children. Seizures are resistant to treatment with a variety of antiepileptic drugs (AEDs) and immunomodulatory agents.
Method: A previously well 7 year old boy was admitted to intensive care following a prolonged seizure in the setting of a febrile acute ear infection. He continued to have prolonged focal seizures (eye version, unilateral facial twitching, posturing and clonic movements of upper limb) many of which generalised. EEG showed shifting laterality posteriorly. MRI was normal.
Results: Various AEDs (Phenytoin, Phenobarbitone, Levetiracetam, Midazolam infusion, maximum 20mcg/kg/min, Sodium Valproate, Thiopentone coma, Clobazam, Pyridoxine, Carbamazepine, Lacosamide, Ketamine, Topiramate, Ketogenic diet, Lamotrigine, Vigabatrin) were trialled with short term or no benefit. Steroids, IVIG and Rituximab also failed. Lignocaine infusion at 10mg/kg/ hr gave complete seizure control. The EEG became almost normal and he remained alert through the infusion. No cardio-respiratory or gastro-intestinal side effects occurred. Two attempts at stopping the infusion were unsuccessful but after almost 4 weeks, Lignocaine infusion was weaned off completely. There was minor recurrence of seizures which were controlled on Midazolam infusion initially and then oral AEDs. At discharge his epilepsy was controlled on 3 AEDs and he had moderate to severe learning difficulties. Infective, auto-immune and metabolic work up was negative. Follow up MRI showed mild global atrophy.
Conclusion: Lignocaine infusion is an effective and safe alternative in the management of refractory status in FIRES where conventional medications, including ketogenic diet have failed.

p070

Prevalence and societal impact of epilepsy in Rwanda: results of a cross-sectional survey

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Purpose: To determine the prevalence of epilepsy and its sociocultural perception in Rwanda.
Method: A cross-sectional, nationally representative survey was undertaken in five different regions. After cluster sampling, 10 sectors, each comprising approximately 111 patients, were selected. The survey was conducted by trained investigators in three parts: epilepsy prevalence; sociocultural perception of epilepsy; and knowledge and practices of healthcare professionals.
Results: In September 2005, 1137 individuals (62% from rural areas) were interviewed. Prevalence of epilepsy was estimated to be 49 per 1000 people. Onset of epilepsy before the age of 2 years occurred in 36% of cases. Premature delivery was reported in 68% of cases, family history of epilepsy in 53%, and head trauma in 50%. 46% of patients did not receive any medical treatment for epilepsy. Responses from the general population (N=1127) revealed that people with epilepsy were not entitled to work (according to 72%), use public places (69%), schooling (66%), or marriage (66%). Furthermore, 50% believed epilepsy was untreatable and 40% thought it was transmissible. Of 29 healthcare professionals interviewed, 25 knew the definitions of epilepsy and status epilepticus, as well as basic treatment options and side-effects. However, 90% believed treatment was necessary only in the first week after a seizure.
Conclusion: An epilepsy prevalence of 49 per 1, 000 people in Rwanda ranked among the highest in sub-Saharan Africa, though this may be lower with objective diagnosis via electroencephalogram. Living with epilepsy was associated with stigma and a treatment gap (46%) was identified. This survey was supported by the Rwandan Ministry of Health and the WHO; publication costs were supported by UCB Pharma.

p071

Development of a Paediatric Clinical Neurophysiology Service in Maputo Central Hospital: the results and the ongoing activities of a cooperation project between Italy and Mozambique

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Purpose: We report the results of an international co-operation project involving Italy (Milan) and Mozambique (Maputo) from 2008 onward, aimed to develop the first Child Neurology and Clinical Neurophysiology Service in Mozambique.
Method: An international co-operation project between Milan (Neurological Institute "Carlo Besta") and Maputo (Maputo Central Hospital) started in 2008 and is still ongoing. The purpose consisted in training different professionals for child neurology. This activity, carried out in Milan and Maputo, led to the creation of the first Child Neurology Service in Mozambique. In order to support the diagnostic processes, a video-EEG laboratory has been set up in Maputo Central Hospital from 2010. Hence the training of the professionals (nurse and paediatrician) also implied the acquisition of the expertise for video-EEG execution, interpretation and reporting.
Results: A total of 1, 205 EEG recordings has been performed so far, from November 2010 to December 2013. About 70% of paediatric inpatients and outpatients was submitted to EEG, observing a pathologic EEG activity in about 67% of inpatients and in 60% of outpatients. The most frequent diagnosis of the evaluated patients resulted by far epilepsy (up to 50%), followed by encephalitis, brain tumours and malformations. Epilepsy type was: focal in 50%, epileptic encephalopathy in 25%, generalised in < 5%. Status epilepticus was observed in 7%.
Conclusion: The recent availability of an EEG device is giving an important contribution to the diagnostic processes mainly for epileptic patients evaluated at Maputo Central Hospital. This is an important step for "bridging the gap". A telemedicine service is being started.

p072

Parvalbumin-expressing interneurons modulate seizure dynamics via depolarizing effects

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Purpose: Although the initiation of epileptic seizures has been extensively studied, much less is known about what sustains seizures or how they ultimately terminate. Most epileptic seizures involve two consecutive morphological stages: an initial tonic phase followed by a longer period of rhythmic afterdischarges known as the clonic phase. We set out to investigate the cellular and network mechanisms, in particular the role of GABAergic transmission, in the generation of clonic afterdischarges.
Method: To investigate this we used *in vitro* hippocampal slice models of epilepsy and performed gramicidin-perforated or whole-cell patch-clamp recordings of CA3 pyramidal neurons in conjunction with pressure application of GABA or optogenetic manipulation of parvalbumin-expressing (PV+) interneurons.
Results: We find that CA3 pyramidal neuron activity becomes highly synchronized during seizures exhibiting the highest degree of synchrony during clonicafterdischarges. Secondly, we find that the clonic afterdischarges are dependent on GABAergic transmission which becomes depolarizing during seizure activity through intracellular Cl^- accumulation. Despite biophysical predictions, we find that this depolarizing effect is strongest at the somatic region of CA3 pyramidal neurons. Indeed, channelrhodopsin-2-mediated activation of PV+ interneurons during seizures generates depolarizing GABAergic responses resulting in initiation and entrainment of epileptic afterdischarges. Conversely, archaerhodopsin-mediated inhibition of PV+ interneurons during seizures reduces the occurrence of afterdischarges.
Conclusion: In conclusion, we suggest that seizure-associated Cl^- accumulation subverts PV+ interneurons to exacerbate rather than terminate pathological network hyperexcitability during the clonic phase of epileptic seizures.

p073
Late onset seizures in adults: clinical and etiologic aspects in Kinshasa, Democratic Republic of Congo
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Purpose: The relatively high frequency in Africa of epileptic syndromes and epilepsies in adults of different ages is well known. Late-onset epilepsies in adults have also been described and related to an etiology linked to age or to events occurring with aging. This study was undertaken in order to discriminate etiological contexts or factors implicated in occurrence of epilepsy of late onset in adults.
Method: Our study was prospective, descriptive, analytical and described clinical aspects, etiological profile and brain CT scan findings of 51 patients with late onset epilepsy received in the Centre for Neuropsychiatric of Kinshasa during the period from January 2010 to December 2012.
Results: Epilepsy syndromes affected both sexes with high rate around 56-65 years (29.4%) and 46-50 years (27.5%).The first seizures appeared in a context of acute brain aggression, either through direct brain attack (stroke , CNS infection, traumatic head) or indirect through eclampsia, toxic or metabolic etiologies: 35.3%. The context was not identified in 27.4%. 37.2% patients have presented status epilepticus as first expression of epilepsy. Late onset seizures were frequently associated with neurological symptoms or disorders: motor deficit (39.2%) combined with language disorder and intracranial hypertension in 21.6% related to tumour or infectious intracranial process. Cerebrovascular diseases (19.8%), CNS infections (17.6%), cerebral tumours (13.7%) were major risk factors for epilepsy.
Conclusion: Late onset epilepsies are usually symptomatic and require thorough investigations including brain imaging to determinate the accurate etiologies for better management.

p074
Determinants of epilepsy in infancy in Bangladesh: a case-control study
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Purpose: This study was designed to explore the determinants of epilepsy in infancy, in Bangladesh.
Method: A case-control study involving 63 patients with epilepsy was performed in two specialised hospitals in Bangladesh. Children with epilepsy were the study population.
Results: Birth asphyxia, neonatal seizure and history of consanguinity were significantly associated with epilepsy in infancy (OR 7.4, 95% CI 2.37 – 6.57, OR 4.13, 95% CI 1.67-4.65 and OR 10.85, CI 2.11-41.08 respectively). Complication during antenatal period of pregnancy was found to be higher in children who develop epilepsy in infancy but it was not significant (OR 2.76; 95% CI 1.08 – 4.89). Co-existing impairments were highly significant in children having seizure onset in infancy (OR 5.9; p=.000); these were: developmental delay, speech and language delay, mental retardation and cerebral palsy.
Conclusion: Birth asphyxia, neonatal seizure and parental consanguinity, were significantly associated with epilepsy in infancy in Bangladesh. Antenatal complications were higher in infancy though not significant. Epilepsy starting at this age was significantly associated with neurodevelopmental impairments.

p075
Training primary healthcare professionals and improving access to AEDs in Peru
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Purpose: To improve diagnosis, care quality and access to AEDs for patients with epilepsy.
Method: To supply knowledge for detection and initial management of patients with epilepsy to a group of general practitioners (GPs), an epilepsy education course took place, during a first stage of 3-week, which contained 6 modules for primary care physicians from a wide area of Lima (Lima Este). Also a test at the beginning and at the end of the course was done.
Results: Our project indicators showed improvement in: a) Epilepsy knowledge of GPs (according to the post-test): a regular degree knowledge increased from 18% of GPs to 22%, a good degree from 0% of GPs to 40% and an excellent level from 0% of GPs to 30%; b) Diagnosis of GPs, demonstrated in the number of cases of epilepsy diagnosed during the 6 months before and after the intervention in Lima Este which increased in 48%; and c) Access to medicines, measured with the number of patients included in a low cost programme for AEDs during the 6 months before and after the training, the increase was approximately 15%.
Conclusion: It is possible to improve epilepsy knowledge in GPs who work in primary health care with few economic costs.

p076
The anti-convulsant and sedative effects of *Gladiolus dalenii* extracts in mice
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Purpose: *Gladiolus dalenii* Van Geel is a medicinal plant commonly used in traditional medicine in Africa to treat epilepsy and many other diseases.
Method: Two in vivo mouse models (maximal electroshock and pentylenetetrazol-induced convulsions) were used to evaluate the anticonvulsant activities of the plant extracts. Diazepam-induced sleep was used for the evaluation of the sedative properties.
Results: The macerated extract of G. dalenii protected 100 and 83.3% of mice against PTZ- and MES-induced seizures, respectively. The aqueous extract of G. dalenii protected 100 and 83.3% of mice against PTZ- and MES-induced seizures, respectively. The lyophilized extract of G. dalenii also protected 100 and 83.3% of mice against PTZ- and MES-induced seizures, respectively. The co-administration of G. dalenii with diazepam resulted in an additive effect, while the co-administration of G. dalenii with flumazenil or FG7142 resulted in antagonistic effects. The macerate of G. dalenii also exerted sedative activity by reducing the latency time to sleep and increasing the total duration of sleep induced by diazepam. The sleeping time increased from 16 ± 3 min in the control group to 118 ± 11 min at a dose of 150 mg/kg of G. dalenii.
Conclusion: The effects of G. dalenii suggested the presence of anticonvulsant and sedative activities that might show efficacy against secondarily generalised tonic-clonic seizures and primary generalised seizures and insomnia in humans.

p078
Myths, beliefs and incorrect knowledge as a barrier to medical treatment of epilepsy in rural Zimbabwe
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Purpose: The aim of this study was to assess the myths, perceptions and incorrect knowledge that people in rural areas of Zimbabwe harbour about epilepsy.
Method: It was conducted amongst 100 people living with epilepsy in Buhera Rural District using a standardised questionnaire that was developed after two focus group discussions with 20 village health workers and interviews with seven key informants. Each respondent was interviewed during their monthly visit at Murambinda Mission Hospital. Focus group discussions and interviews identified 32 types of myths, perceptions and incorrect knowledge relating to causes, prevention, treatment and effects of epilepsy.
Results: Four categories and 32 forms of myths, perceptions and incorrect knowledge were found. The 32 forms were categorised into causes of epilepsy; prevention of epilepsy or seizures; treatment and control of epilepsy; and effects of epilepsy. Most of the respondents agreed that epilepsy is a misunderstood condition that has stigmatising myths, perceptions and incorrect knowledge surrounding it.

Conclusion: The study concludes that these myths, perceptions and incorrect knowledge are a hindrance to the aim of reducing the treatment gap in Buhera, Zimbabwe and that desired quality of life for people with epilepsy can only be achieved after imparting accurate understanding of epilepsy in rural communities. Generally the results confirm earlier findings that some communities in Zimbabwe and in other parts of Africa hold false beliefs regarding epilepsy and seizures. This shades more light on why people with epilepsy are stigmatised: the stigmatiser is ignorant. This study directly uncovers specific felt stigma, and the underlying community held myths, perceptions and incorrect knowledge that may prevent some patients from seeking treatment for epilepsy. Their communities believe epilepsy is not treatable. The same conclusions were reached in studies in India and Tanzania. This is a huge setback for efforts to reduce the treatment gap.

p081

The study of the effects of aluminium chloride on the hippocampus of wistar rats

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Purpose: Aluminium is present in many manufactured foods, medicines and is also added to drinking water for purification purposes. The hippocampus is often the focus of epileptic seizures. Hippocampus damage is the most commonly visible type of tissue damage in temporal lobe epilepsy; although, it is not yet clear however, whether the epilepsy is usually caused by hippocampus abnormalities or whether the hippocampus is damaged by cumulative effects of seizures. The purpose of this study was to investigate the possible effects that aluminium could have on hippocampus.
Method: Fifty adult wistar rats were used for this investigation. Group I was the control that received distil water only; while groups II, III, IV and V received 0.4mg/kg, 1mg/kg, 2mg/kg and 3mg/kg respectively for duration of three months. The Wistar rats were humanly sacrificed using chloroform and the brain tissues were fixed immediately in Bouin's fluid and later processed. The sections were stained in Haematoxylin and Eosin and examined under the light microscope fitted with camera.
Result: In experimental settings where repetitive seizures are artificially induced in animals, hippocampus damage is a frequent result; this may be a consequence of the hippocampus being one of the most electrically excitable parts of the brain.The histological examinations revealed that there were reduced pyramidal cells and neurodegeneration(damage) of the hippocampus of the aluminium exposed groups when compared with the control that had normal histological features.
Conclusion: Aluminum had deteriorating effects (damage) on the hippocampus, which could induce seizures and impair memory.

p085

Fosphenytoin for seizure prevention in childhood coma in Africa: a randomised clinical trial

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Purpose: We conducted a double-blind trial to determine whether a single intramuscular (IM) injection of fosphenytoin prevents seizures and neurological sequelae in children with acute coma.
Method: We conducted this study at Kilifi District Hospital, in coastal Kenya, and Kondele Children's Hospital in western Kenya. We recruited children (Age: 9 months - 13 years) with acute non-traumatic coma. We administered fosphenytoin (20 Phenytoin Equivalents (PE) /Kg) or placebo and examined for prevalence and frequency of clinical seizures, and occurrence of neuro-cognitive sequelae.
Results: We recruited 173 children [median age 2.6 (IQR 1.7, 3.7) years] into the study; 110 had cerebral malaria, 8 bacterial meningitis, and 55 encephalopathies of unknown aetiology. Eighty five children received fosphenytoin and 88, placebo. Thirty-three (38%) of children who received fosphenytoin had at least one seizure compared to 32 (36%) who received placebo (P = 0.733). Eighteen (21%) and 15 (17%) children died in the fosphenytoin and placebo arms respectively (p=0.489). At 3 months post-discharge, 6 (10%) children in the fosphenytoin arm had neurological sequelae compared to 6 (10%) in the placebo arm (P=0.952).
Conclusion: A single IM injection of Fosphenytoin (20PE/Kg) does not prevent seizures or neurological deficits in childhood acute non-traumatic coma.

p086

Clinical, aetiological and evolutive aspects of West syndrome in Yaoundé (Cameroon)

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Purpose: To determine the main clinical, aetiological and major evolutive aspects of West syndrome in child neurology unit in a university-affiliated hospital in Yaoundé.
Method: It was a retrospective descriptive study conducted from September 2011 to January 2012 in the child neurology unit of the Yaoundé Gynaeco-Obstetric and paediatric hospital. The medical records of 68 children followed for West syndrome (WS) in the service during the period from February 2008 to January 2012 (48 months) were used. All infants of 1 to 16 month-old with the diagnosis of WS were included. The diagnosis of WS was based on clinical evidence of spasm in flexion and/or in extension with global development delay, and EEG evidence of hypsarythmia or focal/multifocal epileptic abnormalities when hypsarythmia are absent. For each included infant, relevant medical history and complete physical examination were performed. The following data were collected and reported on a standardized questionnaire: prenatal, perinatal and postnatal past histories, age at onset of spasms, age at diagnosis, semiology of spasms, psychomotor development, the EEG and CT aspects and the evolutive modes of WS under treatment. Psychomotor development was assessed using the Denver developmental screening test (DDST) which assesses the mental age compared to chronological.
Results: The age of onset of spasms varied between 1 and 16 months with a mean of 4.69(± 1.98) months. Males were highly represented with a sex ratio of 1.72. Flexion spasms were the most common clinical presentation (79.41%). 82.83% of the patients had a global developmental delay on the onset of spasms. Structural causes or symptomatic West syndrome was the most frequent presentation (77 .94%). Perinatal aetiologies were highly represented (73.58%) with the main cause being neonatal asphyxia (55.88%). A hypsarrythmic tracing was found on the electroencephalogram (EEG) in 73.53% of cases. The most frequent CT anomaly was cortico-subcortical atrophy (38.24%). At the end of our study, global developmental delay persisted in 89.72%.
Conclusion: The main aetiologies of West syndrome in our context are the sequelae of neonatal asphyxia and viral embryofoetopathies. There is a high incidence of associated global developmental delay. More prevention on risk factors for foetal distress and proper monitoring of deliveries to minimize severe neonatal asphyxia are indispensable.

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Incidence, remission and mortality of convulsive epilepsy in rural northeast South Africa

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Purpose: Epilepsy is one of the most common neurological conditions globally, estimated to

constitute 0.75% of the global burden of disease, with the majority of this burden found in low- and middle- income countries (LMICs). Few studies from LMICs, including sub-Saharan Africa, have described the incidence, remission or mortality rates due to epilepsy, which are necessary to better quantify the burden and inform policy.
Method: A cross-sectional survey of the Agincourt Health and Socio-demographic Surveillance Site (HDSS) in South Africa was conducted in 2008, which, from 81,756 individuals, identified 296 with convulsive epilepsy. A follow up population survey was conducted in 2012. Age-standardised incidence and mortality ratios were estimated, and remission rates were calculated using the DISMOD II software package.
Results: The incidence rate for convulsive epilepsy was 35.7/100,000 per year (95%CI: 26.9-47.4). Remission rates were 3.6% and 3.9% per year for males and females, respectively. The standardised mortality ratio was 2.7 (95%CI: 1.8-3.7), with 36.3% of deaths directly related to epilepsy. Mortality was higher in men than women (adjusted rate ratio (aRR) 2.7 (95%CI: 1.3-58)), and was positively associated with seizure frequency for daily versus yearly seizures (aRR 12 (95%CI: 3.0-48.3)) and older ages- 50+ years versus those 0-5 years old (RR 4.7 (95%CI: 0.6-35.9)).
Conclusion: The incidence and mortality rates were similar to other African studies, though this study found higher mortality rates amongst older males. There is a need to enhance primary care to better control of seizures and reduce mortality due to epilepsy in this context.

p091
Missed diagnosis of orthopaedic injuries in patients with epilepsy - a report of 2 cases from Enugu, South East Nigeria
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Purpose: Many orthopaedic injuries can occur following a seizure. Regretably, these injuries are often diagnosed late or misdiagnosed. We shall highlight two such missed injuries.
Method: We report two of such cases.
Results: A 73 year old man was referred to us as a case of possible stroke in a patient with epilepsy from a peripheral hospital. He had limitation of movement of the right lower limb and right groin pain following a seizure episode. He had stroke 3 years ago when he was told he was hypertensive. Physical examination showed only external rotation of the right lower limb, tenderness and reduced range of movements (ROM) of the right hip joint. Hip radiograph showed fracture dislocation of the right femur. MRI of the brain showed age related atrophy, deep white matter ischaemic changes and mild hydrocephalus. His seizures were controlled with combination of carbamazepine and levetiracetam. He had a successful right hip arthroplasty. Second case is a 45 year old man with epilepsy who developed bilateral shoulder pain following a generalised tonic-clonic seizure. Examination revealed tenderness and reduced (ROM) of both shoulder joints worse on the right. X-ray of both shoulders showed the presence of Hilsach's lesions on both humeral head with slight inferior displacement of the right humeral head. He was managed for bilateral posterior shoulder instability with Hilsach's lesions secondary to seizure using analgesic and physiotherapy by the orthopaedic unit with reasonable improvement.
Conclusion: High index of suspicion should be entertained in patients with epilepsy presenting with musculoskeletal pain following a seizure.

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Prevalence and risk factors of focal epilepsy in people with active convulsive epilepsy (ACE) in a rural area of Tanzania
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Purpose: Focal features are thought to be common in people with epilepsy in Africa, but the prevalence is unknown. In addition to the semiology of the seizures electroencephalography (EEG) and imaging studies can be used to identify focal epilepsy and possibly provide information about the aetiology.
The broad objective is to determine the prevalence and risk factors of focal epilepsy using semiology and EEG in Ifakara, a rural area in Southern Tanzania.
Method: This was a descriptive cross-sectional community based study that was conducted in Ifakara. Patients with acute convulsive epilepsy, were detected during a cross-sectional survey. Clinical focal epilepsy and risk factors evaluation were identified with semiology, neurological examination and EEGs. The data were analysed using SPSS version 16.
Results: The prevalence of focal seizures in patients with epilepsy as determined by semiology and EEG was 125/563 (22.2%). Both sexes are equally affected by the focal epilepsies; males 267 (47.4%) and females 296 (52.6%), the age group most affected by the focal seizure were >20 years 292 (51.1%) followed by age group of 21 – 40 years who were 174 (30.9%). Of all 563 electroencephalography done 411 (73.0%) were normal, 122 (21.0%) were epileptic features and 30 (5.3%) were undetermined. Focal epileptiform discharges were in large percent found in extratemporal 57 (10.1%) and focal temporal 49 (8.7%). Most of the probable causes of focal seizures were not well known 556 (98.8%), but a few had a definite history of perinatal complications 3 (0.5%), sickle cell disease 3 (0.5%) and stroke 1(0.2%).
Conclusion: Findings showed that EEG is useful in detecting focal seizures in addition to semiology alone, therefore EEG is recommended in all all patients with active convulsive epilepsy. The high prevalence of focal epilepsy suggests that a significant proportion of epilepsy could be prevented.

p095
Epilepsy in 176 children with intellectual disability in South Tunisia: evaluation and classifications approaches
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Purpose: Epilepsy is a disorder commonly found in children with intellectual disability (ID). The objective of our study was to bring out the relationship between these two neurological diseases and to highlight the classifications approaches which have an important impact in clinical practice.
Method: A total of 176 children, aged 3-18 years, with ID and epilepsy followed in the Child Neurology department of Sfax have been reviewed. Post-natal and per-inatal causes were excluded. The severity of ID was estimated (using EDEI test or clinically). We have focused on seizures types and used the ILAE 2010 syndromes' and etiologic classifications.
Results: The mean age of our patient was 10 years (sex ratio=1,05). The severity of ID was estimated (mild (21%), moderate (34%), severe (21%) and profound (17%)). Different types of seizures were noted (focal (33%), generalised (77%)). An electo-clinical syndrome was found for 33/176 (19%) patients (West syndrome (6%), Lennox Gastaut (7%)...). Epilepsy attributed to structural-metabolic causes was noted in 40/176 (23,5%) (Metabolic diseases for 9/176 (5%) and structural abnormalities for 31/176 (17,5%)). Genetic causes were confirmed for 8 patients (4,5%) (chromosomal abnormalities (n=4) and genes mutations (n=4)).
Conclusion: The relationship between epilepsy and ID is evident. In fact, the prevalence seems to increases with the severity of ID as found in our study and we have individualized an etiology for 27% of our patients. Both electro-clinical syndromes' and etiologic classifications of epilepsy are considered to be the major determinant of clinical course and prognostic.

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Using community health clinics to improve access to drugs and clinical care in epilepsy in rural Kenya
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Purpose: Access to drugs and clinical care by people with epilepsy (PWE) is particularly limited in most rural areas of Africa. In Kenya, this is compounded by illiteracy, poverty, stigma and deep rooted

socio-cultural practices that discourage modern medical practices. We present our experience with a strategy to combat the epilepsy treatment gap using community owned health kiosks linked to enterprises and community health insurance schemes.
Method: Since August 2013 to date, we have set-up 3 community health clinics in rural coast of Kenya. These clinics are co-owned with community self-help groups and are linked to enterprises set up by the community to help offset some of the expenses of running the clinics, and community insurance schemes, to enable PWE to save for their clinical needs in the future. Clinical officers and nurses' manning these clinics were trained on diagnosis and management of epilepsy.
Results: A total of 327 PWE were registered in the three sites in the year 2013. All the patients recruited did not have access to regular anti-epileptic drug (AED) supply. By the time of this audit in January 2014, 320 PWE (98%) had access to regular medication and most were seizure free. Older children had the highest rate of non-adherence.
Conclusion: The community health clinics helped PWE to have better access to epilepsy care with significantly reduced seizure burden. The strategy of using community health clinics is a useful strategy for reducing the epilepsy treatment gap.

p098
Unverricht Lundburg disease in Tunisia
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Purpose: Unverricht-Lundborg disease (ULD) is the most common form of progressive myoclonic epilepsies (PME) characterized by myoclonus, epilepsy, and ataxia, without major cognitive decline. Objectives are to describe clinical and electrophysiological features of ULD in Tunisian patients.
Method: We included all patients with ULD followed up in department of neurology at Razi Hospital between 2002 and 2013. Clinical and electrophysiological features (EEG, EMG, visual and somatosensory evoked potentials (VEP and SEP)) were analyzed. Genetic study was made for all patients.
Results: 22 patients from 10 Tunisian families were included. Dodecamer repeat is found in 19 patients. Mean age at onset was 11.5 years. All patients had myoclonus. Generalised tonic-clonic seizures were observed in 83%. Cerebellar signs were observed in 8 patients (36%). None had mental retardation. EEG showed slow background activity in 7 patients (31%). Generalised spike and wave discharges were observed in 8 patients (35%), which were improved in 4 patients after adaptation of antiepileptic treatments. C reflex was present in 6 patients (27%). ''Giant'' SEP were detected in 3 /11 patients and ''giant'' VPE in one patient. All patient received Valproic acid and clonazepam except one. Antiepileptic drugs were more effective in controlling epileptic seizures than myoclonus. We noted inter and intra familial variability for clinical signs and long term evolution.
Conclusion: Isolated myoclonus without epileptic seizure or juvenile myoclonic epilepsy phenotype can be observed in ULD. Interference with daily living was variable and EEG shows no relevant deterioration of background activity over time.

p099
Impact of seizure frequency on outcome of epilepsy during pregnancy
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Purpose: Epilepsy in women have clinical and therapeutic particularities. It influences the different phase of life, mainly pregnancy. The aim of this study is to determine the frequency of seizure on different periods of pregnancy in epileptic women.
Method: We conducted a retrospective study in the Neurology department in Razi Hospital in Tunisia (2004 to 2010). We included all epileptic women who had at least one pregnancy. We have precise for each pregnant women the number of seizures occurring during pregnancy and during the three months prior to pregnancy.
Results: We collected 40 patients who completed 80 pregnancies. 25% of patients had seizures in the three months prior to pregnancy. 27% of pregnancies were complicated by seizures during the first trimester, 16% during the second trimester and 21.6% during the third trimester. During labour, 3.7% of pregnancies were complicated by seizures. Among the patients who had seizures during the three months preceding pregnancy, 82% had seizures during the first trimester, 71% in the second trimester and 86% in the third trimester. Generalised seizure was noted in 54% of cases. Only 55% of patients had good therapeutic compliance.
Conclusion: The occurrence of seizures during the three months prior to pregnancy increases the risk of seizures during pregnancy. In concordance with literature, the prognosis of epilepsy during pregnancy depends on its profile over the months preceding.

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Australia – Fiji collaboration in paediatric neurology: a work in progress
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Purpose: We describe the process of setting up a clinical and educational collaboration in Paediatric Neurology between the John Hunter Children's Hospital, Newcastle Australia, Colonial War Memorial Hospital, Suva and Lautoka Hospital in Fiji.
Method: A Paediatric Neurologist and Clinic Nurse Consultant (Epilepsy) from Newcastle, Australia visited their paediatric colleagues in both Suva and Lautoka. There are historical post graduate training links between the three sites. There was an emphasis on childhood epilepsy.
Results: We found no established guidelines for such collaborations and neither much helpful literature. A useful fact-finding trip preceded the first clinics. On the first formal attendance the visiting team saw 21 children with epilepsy out of a total of 34 clinic attendees. Consistent with Fiji's Essential Medicines List, children were predominantly treated with Phenobarbitone, Phenytoin, Carbamazepine and Valproate. Clonazepam was also provided privately by some families. State of the art EEG recording as well as CT and MRI is available in Suva although limited ancillary support still reduces access. There were numerous opportunities for mutual education.
Conclusion: This was partly self-funded and partly financed using conference leave (RLS). We will explore recurrent external funding. We plan to develop a system of collaboration that will benefit the health and educational needs of both countries and not depend on personalities or limited ad hoc arrangements.

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Potentially unsafe herb-drug interactions between noni juice and phenytoin
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Purpose: Herbal and natural products of folk medicine have been used as complimentary medicines alongside the conventional drugs because they are always considered to be natural and safe. However, some of them may interact with conventional drugs. Noni juice, an herbal remedy which is made from the fruit of *Morinda citrifolia L.* (noni) is a popular natural drink in Asia for being healthy. Noni juice and drug interaction was never reported before.
Method: We observed a patient with epilepsy who took phenytoin incidental stopped the Noni juice he drunk every day, and he developed pheytoin intoxication as the drug level jumped to 38μg/dl. Then, we test the hypothesis that Noni juice will decrease the drug level. To compare the phenytoin level in the period of noni juce add-on and without noni juice for two times in this case.
Results: The case received 500 mg phenytoin, the level could reach to 38 and 33μg/dl during the period of without noni juice and it decreased to 17.82 and 19 μg/dl during the period of combing noni juice and phenytoin.
Conclusion: Noni juice would not be safe to use while receiving phenytoin therapy, and should be stopped if possible. Moreover, as far as we know, this is the first human case that proposes possible herb-drug interaction between noni juice and phenytoin.

AUTHOR INDEX

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