Vingt-troisième Journée Scientifique
Twenty-third Scientific Day

30 mai 2013 - 30th May 2013

Résumés des communications
Abstracts of the presentations

epicentre
ÉPIDÉMIOLOGIE • EPIDEMIOLOGY

MEDECINS SANS FRONTIERES

Paris, 30 mai 2013

Bonjour à tous,

Afin de mieux exprimer notre ambition de faire de notre journée scientifique un moment de compte-rendu et d'échange autour des questions de médecine et de recherche nous avons adapté son format. Trois de ces questions – les indices anthropométriques, le diagnostic biologique et le paludisme – seront débattues à partir d'une présentation d'un membre de l'équipe d'Epicentre à laquelle réagiront deux intervenants extérieurs, avant d'engager la discussion avec la salle. Nous avons ainsi voulu mettre l'accent sur un objectif qui donne du sens à notre action, celui de dégager, à partir des résultats des études menées, des perspectives pour MSF et pour les acteurs médicaux exerçant auprès de populations vulnérables.

La première de ces sessions spécifiques ouvrira la journée et traitera des conséquences de l'utilisation des indices anthropométriques dans les programmes de traitement de la dénutrition infantile. Ces indices sont reconnus et utilisés comme des critères d'admission et de sortie dans de tels programmes. Sont-ils toujours satisfaisants et quelles sont aujourd'hui les conséquences opérationnelles de leur utilisation alors que les seuils définissant la dénutrition ont évolué et que la prise en charge s'est simplifiée ? Cela sera débattu après une revue des travaux publiés et de l'expérience de MSF.

En fin de matinée nous aborderons la question du diagnostic. Sans remettre en cause l'examen clinique, mais en réponse à ses limites, le développement de tests biologiques modifie les pratiques médicales. Encore faut-il que ces tests soient adaptés aux divers contextes d'intervention de MSF et que leurs qualités techniques, leur place dans l'algorithme clinique et leur disponibilité réelle soient assurées. Cela sera discuté à partir d'une présentation des travaux menés à Epicentre.

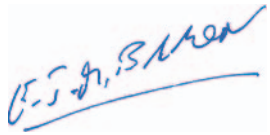
En toute fin de journée, notre troisième thème sera celui du paludisme. Alors que certains discours affirment que des solutions de contrôle de la maladie sont à portée de main, plusieurs éléments amènent à en douter. Une revue des travaux d'Epicentre et leur mise en perspective permettront de dessiner un paysage plutôt contrasté.

Deux autres sessions orales et une spécifiquement dédiée aux posters viendront s'intercaler dans ce programme le matin et l'après-midi. Elles seront l'occasion de découvrir des travaux originaux menés dans le cadre de la réponse opérationnelle de MSF aux épidémies et aux grandes endémies.

Certaines traditions de notre journée scientifique sont immuables : à l'issue de toutes ces communications nous poursuivrons ces débats et bien d'autres sur la terrasse du 9ème étage.

Enfin à l'heure où nous imprimons ces lignes, nos deux collègues de Médecins sans frontières Montserrat Serra et Blanca Thiebaut sont toujours retenues quelque part dans la corne de l'Afrique. Nos pensées vont vers elle et nous exprimons notre soutien à leurs familles et amis ainsi qu'à tous ceux qui œuvrent à leur libération.

Amicalement,



Emmanuel Baron
Directeur Général, Epicentre

Paris, 30 May 20123

Good morning to you all,

This year, we have adapted the format of our scientific day in order to make it a forum for reports and discussions on medical and research topics. Three of these topics – anthropometric indices, biological diagnostics, and malaria – will be presented by a member of the Epicentre team, which will be followed by reactions from two external contributors, after which the discussion will be opened to the floor. This is a way of highlighting the objective that is the reason for our actions - using the results of studies to identify future directions for MSF and other medical groups working with vulnerable populations.

The day will start with the first of these special sessions, during which we will examine the consequences of using anthropometric indices, recognised and used as admission and discharge criteria, in programmes treating infant under-nutrition. Are they still satisfactory? What is their impact today, when the thresholds defining undernutrition have evolved and treatment has been simplified? These issues will be debated after a review of published papers and of MSF's experience.

At the end of the morning session, we will discuss biological diagnostics. Without calling the clinical examination into question, but in response to its limitations, the development of biological tests is changing medical practices. These tests need to be adapted to the different contexts in which MSF works, and their technical quality, their place in the clinical algorithm, and their concrete availability guaranteed. This issue will be discussed following a presentation of the work conducted by Epicentre.

Malaria, our third topic, will be debated at the end of the day. While some argue that solutions to control the disease are within reach, several issues suggest this may not be the case. A review of the work conducted by Epicentre, with contributions from participants to put this work in perspective, will reveal a more nuanced picture.

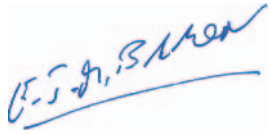
Two other oral sessions and one session specifically dedicated to posters will be interspersed in the morning and afternoon sessions. These will be an opportunity to share the innovative work carried out in the context of MSF's operational response to epidemics and major endemic diseases.

The diversity of Epicentre's work means that there is not time to orally communicate our entire project portfolio. Therefore time will be dedicated to a poster session in the early afternoon.

Some traditions of our scientific day will not change however: once all presentations have been completed, we will continue debating these issues and many others on the terrace of the ninth floor.

As these lines go to press, our two Médecins Sans Frontières colleagues, Montserrat Serra and Blanca Thiebaut, are still being held somewhere in the Horn of Africa. Our thoughts are with them and we would like to express our support for their families and friends and all those working for their release.

Best wishes



Emmanuel Baron
Executive Director, Epicentre

Journée Scientifique Epicentre/Médecins Sans Frontières - Jeudi 30 mai 2013

8h45 Accueil et café

9h30 Introduction générale - Emmanuel Baron

9h40 Session thématique - Anthropométrie et programmes nutritionnels : indicateurs et implication

Modérateur : Stéphane Doyon, MSF-OCBa, Espagne

- Le MUAC comme critère d'admission et de sortie des programmes nutritionnels. (Sandra Cohuet)

Participants externes :

- Susan Shepherd, MSF-OCP, France
- Idrissa Maïga, Ministère de la Santé Publique, Niger

Discussion

10h30 Session générale 1

Modérateur : Samba Sow, Centre pour les Vaccins en Développement, Mali

- Prévalence du pian chez les Aka, République du Congo, 2012. (Matthew Coldiron)
- Première utilisation du vaccin oral contre le choléra en réponse à une épidémie en Afrique : couverture vaccinale, acceptabilité, surveillance des effets secondaires et efficacité vaccinale, République de Guinée, 2012. (Francisco Luquero)

11h45 - 12h00 Pause café

- Association entre le statut sérologique VIH et la séronégativité rougeole au Malawi. (Jonathan Polonsky)
- Late breaker

12h00 Session thématique - Nouveaux outils diagnostiques : amélioration réelle ou faux espoir ?

Modérateur : Jan Jacobs, Institut de Médecine Tropicale d'Anvers, Belgique

- Présentation générale des récentes études d'Epicentre sur les tests diagnostiques incluant le GeneXpert, le String test pour la tuberculose chez les enfants et le test diagnostique rapide du choléra. (Anne-Laure Page)

Participants externes :

- Cara Kosack, Working Group Diagnostic MSF
- Mark Perkins, Foundation for Innovative New Diagnostics, Suisse

Discussion

13h00-14h15 Déjeuner - Buffet sur place

14h15 Session Posters

15h00 Session générale 2

Modérateur : Pedro Pablo Palma, MSF-OCBa, Espagne

- Efficacité des régimes OMS de traitement de la tuberculose multirésistante en condition programmatique. (Maryline Bonnet)
- Approche populationnelle pour évaluer l'épidémie de VIH dans un district rural au Kenya : l'étude d'impact du VIH en population à Ndhiwa. (David Maman)
- Etiologies des infections du système nerveux central chez l'enfants à Mbarara, Ouganda. (Yap Boum II)
- Paludisme en République de Guinée: résultats d'études transversales répétées et de la surveillance dans le programme MSF-OCG à Guéckédou. (Amanda Tiffany)

16h20 Session thématique - Vers la fin du paludisme meurtrier ?

Modérateur : Jean-Marie Kindermans, Fondation AEDES, Belgique

- Actualités du paludisme et des projets de recherche à Epicentre. (Jean-François Etard)

Participants externes :

- Philippe Guérin, WorldWide Antimalarial Resistance Network, Royaume-Uni
- Martin de Smet, Working Group Paludisme MSF

Discussion

17h30 Pot de clôture sur place, 9ème étage, Terrasse - Institut du Monde Arabe

Epicentre/Médecins Sans Frontières Scientific Day - Thursday, May 30th 2013

8.45 Welcome and coffee

9.30 Introduction - Emmanuel Baron

9.40 Thematic session - Anthropometry and nutritional programs: indicators and implications

Chairman: Stéphane Doyon, MSF-OCBa, Spain

- MUAC as admission and discharge criteria in nutritional programs. (Sandra Cohuet)

External participants:

- Susan Shepherd, MSF-OCP, France
- Idrissa Maïga, Ministry of Public Health, Niger

Discussion

10.30 General session 1

Chairman: Samba Sow, Center for Vaccine Development, Mali

- Yaws prevalence among the Aka in Republic of Congo in 2012. (Matthew Coldiron)
- First outbreak response using an oral cholera vaccine in Africa: vaccine coverage, acceptability, surveillance of adverse events and vaccine effectiveness, Republic of Guinea, 2012. (Francisco Luquero)

11.45 - 12.00 Coffee break

- Association between HIV status and measles seronegativity in Malawi. (Jonathan Polonsky)
- Late breaker

12.00 Thematic session - New diagnostic tools: concrete improvement or magic bullet?

Chairman: Jan Jacobs, Institute of Tropical Medicine of Antwerp, Belgium

- General presentation on recent Epicentre studies on diagnostic tests including GeneXpert, String test for TB among children and cholera rapid diagnostic test. (Anne-Laure Page)

External participants:

- Cara Kosack, MSF Diagnostic Working Group
- Mark Perkins, Foundation for Innovative New Diagnostics, Switzerland

Discussion

13.00-14.15 Buffet lunch on site

14.15 Poster session

15.00 General session 2

Chairman: Pedro Pablo Palma, MSF-OCBa, Spain

- Effectiveness of the WHO regimen for treatment of multidrug resistant tuberculosis. (Maryline Bonnet)
- Population approach to evaluate the HIV epidemic in a rural district in Kenya: the Ndhiwa HIV impact in population Study. (David Maman)
- Aetiology of infections of the central nervous system among children in Mbarara, Uganda. (Yap Boum II)
- Malaria in Republic of Guinea: results from repeated cross-sectional surveys and surveillance of the MSF-OCG program in Guéckédou. (Amanda Tiffany)

16.20 Thematic session - Is malaria no longer a deadly disease?

Chairman: Jean-Marie Kindermans, Fondation AEDES, Belgium

- Malaria: What's new? Epicentre research projects. (Jean-François Etard)

External participants:

- Philippe Guérin, WorldWide Antimalarial Resistance Network, United Kingdom
- Martin de Smet, MSF Malaria Working Group

Discussion

17.30 Farewell drinks on site, at the 9th floor Terrace - Institut du Monde Arabe

Posters

1. Caractéristiques et évolution des patients avant traitement antirétroviral inclus dans le programme VIH/SIDA de Médecins sans Frontières au Laos. Mathieu Bastard

2. Joint modelling of longitudinal and survival data: an innovative and powerful method for cohort studies. Mathieu Bastard

3.Timeliness of patient clinic attendance is a good predictor of virological response and resistance to antiretroviral treatment. Mathieu Bastard

4. The Use of Latent Trajectories in Survival Models to Explore the Effect of Longitudinal Data on Mortality. Mathieu Bastard

5. Characterisation of airborne particulate matter (PM10) in Tshamilemba, Lubumbashi, DRC. Danielle Charlet

6. Risk factors for Hepatitis E in a refugee camp in South Sudan. Mathew Coldiron.

7. Surveillance de la rougeole et évaluation prospective du risque épidémique par ZS en RDC, 2010-2013. Marie-Amélie Degail

8. Une évaluation des risques d'épidémie de rougeole appliquée aux Zones de Santé de la province du Katanga, République Démocratique du Congo, novembre 2012-janvier 2013. Marie-Amélie Degail

9. A retrospective analysis of a Therapeutic Feeding Program from January 2010 to January 2011 in Northern Bahr el Ghazal State, South Sudan: comparison of weight-for-height and mid upper arm circumference as admission criteria. Emmanuel Greletty

10. Observational bias during nutrition surveillance: results of a mixed longitudinal and cross-sectional data collection system in Northern Nigeria. Emmanuel Greletty

11. Mbongolwane et Eshowe : étude sur l'impact du VIH dans une population. Helena Huerga.

12. Proportion of positive tests and time to become negative of a cholera rapid diagnostic test after vaccination: Forecariah, Guinea, June 2012. Isabel Martinez

13. Task-shifting of HIV care and ART initiation: three year evaluation of a mixed-care provider model for ART delivery. Megan McGuire

14. Taux de Mortalité en population générale dans les départements de Madaoua et Bouza (Niger), janvier – octobre 2012. Alexandra N'Goran

15. Evaluation of the PCR using DNA extracts from stained slides and sputum collected on filter paper for Identification and detection of tuberculosis and multidrug resistant (MDR) tuberculosis. Patrick Orikiriza

16. Evolution of rotavirus genotypes during a two-year surveillance study in the city of Niamey and the region of Maradi, Niger. Anne Laure Page

17. Resistance to antiretroviral therapy: risk factors and 4-year mortality. Loretxu Pinoges

18. Outbreaks of Ebola and Marburg, Uganda, November 2012. Jonathan Polonsky

19. Cross-sectional surveys as a project monitoring tool: the example of MSF's program in Koutiala, Mali. Thomas Roederer

20. Description of a hepatitis E outbreak in Yida refugee camp South Sudan. Axelle Ronsse

21. Factors associated with treatment defaulting in drug resistant tuberculosis patients in Yerevan (Armenia). Elisabeth Sanchez-Padilla

22. The Short Musculoskeletal Functional Assessment (SMFA) score and surgical outcomes in reconstructing lower limb injuries in war wounded civilians in Amman, Jordan. Carrie Lee Teicher

23. Prévalence du paludisme dans l'aire de santé de Danga (Province Orientale de la RDC). Brahima Touré

24. Evaluation de la résistance moléculaire de Plasmodium falciparum à la sulfadoxine-pyriméthamine chez les enfants de moins de 5 ans, Madarounfa, Maradi, Niger. Lynda Woi-Messe

Thematic Session

Anthropometry and nutritional programs: indicators and implications

Chairman: Stéphane Doyon, MSF-OCBa, Spain

MUAC as admission and discharge criteria in nutritional programs.
Sandra Cohuet

External participants:
- Susan Shepherd, MSF-OCP, France
- Idrissa Maïga, Ministry of Public Health, Niger

General session 1

Yaws prevalence among the Aka in Republic of Congo in 2012

Matthew E Coldiron, Epicentre, France

Introduction

Yaws is an endemic treponematosis often seen in isolated, marginalized populations. Early stages primarily affect children, causing self-limited skin and bone lesions. Untreated, after years of latency, 10% will develop disfiguring late lesions. The recent Morges strategy, based on universal treatment with single-dose azithromycin in affected communities, aims to eradicate yaws by 2020. MSF-OCP began implementing this strategy among the Aka pygmies in September 2012, with a follow-up campaign in April 2013. We conducted cross-sectional prevalence surveys during both campaigns.

Methods

The study took place in the Bétou and Enyellé Districts. At each treatment site, a physician screened Aka <15 years for active yaws.
A treponemal rapid diagnostic test (RDT) was performed on children with lesions suspicious for yaws. Children with suspect lesions and positive RDT were considered confirmed cases. Prevalence was calculated at district - and village-level.

Results

6215 children were screened during the first round of treatment. 485 (7.8%) had suspicious lesions; 480 (99.0%) accepted confirmatory testing. Among those tested, 183 (38.1%) were RDT-positive and considered confirmed cases, of whom 107 (58.5%) were boys, and 89 (48.6%) aged 5-9 years. The most common clinical manifestations were papillomata and ulcers.

The baseline prevalence was 2.0% in Bétou District and 3.8% in Enyellé District; the spatial distribution of cases was highly heterogeneous. Prevalence was 2.3% in villages accessible by road; in villages accessible only by foot, it was 7.5%.

Preliminary results of the follow-up survey show a decrease in yaws prevalence. Full results will be presented at the Scientific Day.

Conclusions

We show the high burden of yaws in remote regions of Congo, underscoring the logistical challenges that yaws eradication poses. The follow-up survey suggests that the Morges strategy is effective in initially reducing yaws prevalence, but further evaluation is needed as the process of yaws eradication continues.

Yaws begins where the road ends.

First outbreak response using an oral cholera vaccine in Africa:
vaccine coverage, acceptability, adverse events and vaccine effectiveness, Guinea, 2012

Francisco Luquero, Epicentre, France

Background
Despite WHO prequalification of two safe and effective oral cholera vaccines (OCV), concerns about the acceptability, potential diversion of resources, cost and feasibility of implementing timely campaigns has discouraged their use. In 2012, the Ministry of Health of Guinea, with the support of Médecins Sans Frontières organized the first mass vaccination campaign using a two-dose OCV as an additional control measure to respond to the on-going nationwide epidemic. Here, we present the results of vaccination coverage, acceptability, adverse events and vaccine effectiveness.

Methods
We offered 2-dose OCV Shanchol, with 2-3 weeks between doses, to all persons older than 1 year and living in targeted districts. Adverse events were monitored at vaccination sites and at health structures in the targeted areas Vaccination coverage was estimated from a cross-sectional cluster survey. We assessed vaccine protection in a case-control study, conducted in the 6 months following vaccination. We compared the odds of vaccination between patients with rapid test-confirmed cholera, and age - and sex-matched neighbourhood controls without diarrhoea.

Results
During the 6 vaccination days per vaccination round, 43 vaccination teams of 5-20 persons working at 287 vaccination sites administered 172 544 doses during the first round, and 143 706 during the second round. 46 minor adverse events were reported. Vaccination coverage with 2 doses was 76% (95%CI 70-80%) and 94% (95%CI 91-96%) with at least one dose. Vaccine effectiveness with 2 doses was 84% (95%CI 60-94%; P-value <0.001).

Discussion
The well-accepted mass vaccination campaign reached high coverage in a remote area with a mobile population. The high vaccine effectiveness against clinical cholera in our setting is consistent with other studies looking at short-term effectiveness of OCV. Reactive OCV campaigns are a feasible and promising strategy to complement a standard cholera control interventions.

The campaign in Guinea showed that reactive interventions with cholera vaccines are a feasible, effective and promising strategy to complement a standard cholera control package.

Association between HIV status and measles seronegativity in Malawi

Jonathan Polonsky, Epicentre, France

Introduction

After more than a decade of progress in measles control, a very large, unexpected outbreak of measles occurred in Malawi in 2010, with older people accounting for a relatively high proportion of cases. One factor that may have contributed to this outbreak is the high prevalence of HIV infection in Malawi. Infants born to HIV-infected women have lower levels of measles- specific transplacental antibody and ARE often susceptible to infection before receiving measles vaccine at 9 months of age. further, HIV infection is associated with a greater severity of measles disease, higher measles mortality, and prolonged measles virus shedding. Few studies have addressed older children and adults.

Methods

We consecutively recruited (1) HIV-infected patients aged 18 months or older presenting for follow-up care, and (2) HIV-uninfected individuals presenting for voluntary testing and counseling, at Chiradzulu District Hospital between 12 January and 30 September 2012. We collected information on age, sex, measles vaccination and infection histories. Whole blood samples were taken to ascertain levels of measles antibodies and CD4+ count.

Results

1935 STUDY participants were recruited: 501 were HIV-uninfected; 449 were HIV-infected with <350 CD4+ T-cells/µl; 363 WERE HIV-infected with 350-<499 T-cells/µl; and 622 were HIV-infected with 500+ T-cells/µl.

The majority (93%) of both HIV-infected and –uninfected participants aged 15 years and older were seroprotected against measles. However, half (51%) of the children aged less than 15 years recruited into the study were vulnerable to measles although crude numbers are small. A greater proportion of HIV-uninfected children were seroprotected against measles infection (66.7% vs. 43.7%).

HIV status, CD4+ count, and infection history were not associated with the likelihood of being measles seronegative. Younger age, male sex, and prior measles vaccination were independently associated with increased odds of being measles seronegative.

No association was observed between measles antibody titre and CD4+ count or time on HAART.

Discussion

We found no evidence that HIV-infection contributes to measles infection risk among adults, but HIV-infected children were at greater risk. This was true for children older than previously documented.CD4+ levels were not associated with measles seronegativity.

We investigated the relationship between HIV-infection and measles infection risk. HIV status and CD4+ count were associated with measles risk among children, but not adults.

Thematic session

New diagnostic tools: concrete improvement or magic bullet?

Chairman: Jan Jacobs, Institute of Tropical Medicine of Antwerp, Belgium

General presentation on recent Epicentre studies on diagnostic tests including GeneXpert, String test for TB among children and cholera rapid diagnostic test. Anne-Laure Page

External participants:

- Cara Kosack, MSF Diagnostic Working Group
- Mark Perkins, Foundation for Innovative New Diagnostics, Switzerland

General session 2

Effectiveness of the WHO regimen for treatment of multidrug resistant tuberculosis

Maryline Bonnet, Epicentre, Switzerland

Background

Multi-drug resistant tuberculosis (MDR-TB) treatment has not been evaluated in randomized trials. Thus, we often rely on observational cohort studies to assess its effectiveness. Approximately 1500 MDR-TB patients were treated in MSF supported projects in 2011. In this cohort study we report the MDR-TB treatment outcomes and predictors of unfavourable outcomes using retrospective data from MSF projects in five countries: Uzbekistan, Abkhazia, Armenia, Kenya and Swaziland.

Methods

While many patients included in the analysis were enrolled in programs until the end of 2010, the outcomes presented here are for patients enrolled until the end of 2009. Patients received an average of 2 years of treatment with monthly follow-up. Treatment regimens and outcome definitions were based on WHO guidelines. Unfavourable outcomes included death, treatment failures and defaulters in "intention to treat" analysis as well as deaths and failures in "on treatment" analysis after exclusion of defaulters.

Results

Of 1977 patients, 1092 (55.2%) were resistant to first-line drugs only; 442 (22.4%) were pre-extensively drug resistant (pre-XDR) due to resistance to injectable agents; 47 (2.4%) were pre-XDR due to ofloxacin resistance; 44 (2.2%) were XDR and 352 (17.8%) had no results for injectable drugs and fluoroquinolones.

20% of the 1433 patients included in the treatment outcome analysis patients defaulted. Treatment success in "intention to treat" and "on treatment" analyses was 60% and 79% for patients without resistance to injectable agents and fluoroquinlones, and 27% and 37% for XDR patients. History of incarceration, past TB treatment history, body mass index <18.5 kg/m^2, high bacilli load, resistance to fluoroquinolones, amplification of resistance to injectable agents and/or to fluoroquinolones during treatment, prescription of capreomycin instead of kanamycin and treatment interruption due to side-effects were independent predictors of unfavourable outcomes.

Conclusions

Treatment outcomes were mainly dependant on the presence of baseline resistance to injectable agents and fluoroquinolones, disease progression and patient's tolerance of treatment. It is likely that MDR-TB patients with less resistance and less advanced disease might benefit from a lighter regimen. Kanamycin should be the preferred injectable agent when possible.

In the absence of evidence from randomized trials of multidrug resistance tuberculosis treatment, this multinational cohort study suggests simplifying treatment for patients with less resistant and advanced disease.

Population approach to evaluate the HIV Epidemic in a rural district in Kenya: the Ndhiwa HIV impact in population study

David Maman, Epicentre, France

Introduction

Recent findings confirm that the reduction of HIV transmission is now achievable through enhanced testing, preventive interventions (including voluntary male circumcision) and ART treatment programs. Médecins Sans Frontières has therefore conducted a series of population studies in high HIV prevalence settings, in order to establish the baselines needed to monitor transmission over time.

Methods

The first study was conducted in Ndhiwa district, Nyanza, Kenya, between September and November 2012. Using a multistage cluster sampling method, we recruited all individuals aged 15 to 59 years living in 3,300 randomly selected households. Each individual who agreed to participate was interviewed and tested for HIV at home using a serial rapid testing algorithm. Those testing positive were also measured for CD4 countS at home using Point-of-Care methodology and Recent Infection tests (LaG and Biorad avidity). Those already on ART were also monitored for viral load (VL).

Results

Of 6,822 household members eligible for the study, 3,960 (58%) were women. A total of 6,091 (89.3%) agreed to participate and were tested for HIV. Prevalence was estimated at 24.1% (95%CI 22.9-25.2). Among participants in need of ART, treatment coverage reached 70.4% (95%CI 67.3-73.5).

Of participants receiving ART for more than 6 months, 66.7% (95%CI 62.1-71.2) had AN undetectable viral load. The median CD4 counts among newly diagnosed HIV infected women and men were 545[IQR 339-708] and 431[IQR 249-594] respectively.

Of the participants who tested negative, 60.2% (95%CI 58.8-61.7) reported having been tested for HIV in the last 2 years. Among negative male participants, 29.7% (95%CI 27.5-31.8) had been medically circumcised in the previous 5 years.

Discussion

These preliminary findings reveal an estimated prevalence of 24.1% in a random sample of adults in a rural district in western Kenya. They also indicate that reasonably high access to testing, treatment and circumcision can be achieved, even in regions of high prevalence in sub-Saharan Africa.

NHIPS is the first study implemented by MSF which measures HIV incidence, prevalence and programme coverage directly in the population. The results help us to understand the complex relation between coverage of HIV activities and reduction of HIV transmission.

Aetiology of infections of the central nervous system among children in Mbarara, Uganda

Yap Boum II, Epicentre, Uganda

Background

Knowledge of aetiological agents causing central nervous system (CNS) infections among children is essential to the development of guidelines for case management. This is especially true where there is little investigative capacity.

Methods

We conducted a prospective descriptive study of the etiology of CNS infections in children two months to 12 years of age admitted to Mbarara Regional Referral Hospital with fever or a history of fever and at least one sign of CNS involvement. Clinical examination and biological sampling were performed upon admission. Pathogens were identified from CSF and blood samples following microbiological analysis, molecular diagnosis and serology. We diagnosed malaria using rapid diagnostic test and blood smears. Children were clinically assessed at discharge and then followed for any neurological sequellae.

Results

Between August 2009 and October 2012 we recruited 480 children with clinically suspected infection of the CNS, with a median age of 2 years (range 1month-5 years). The most important clinical symptoms at admission were prostration (78.5%), reduced consciousness (71.0%) and seizures (50.8%). Eighty-eight children (18%) died in the hospital. Malaria accounted for 166 (35%) of the laboratory confirmed diagnoses with a Case Fatality Ratio (CFR) of 13% while 49 (10%) of the children had culture or PCR-proven bacterial meningitis with a CFR of 16%. The most common pathogens were *Streptococcus pneumoniae (33) followed by Haemophilus influenzae (7) and Salmonella spp. (6).* Preliminary results of viral PCR and serology revealed 4 HHV6 and 1 mumps infections. No etiological agent could be identified in 198 patients (41%). Among those who survived, the proportions of neurological sequellae were 23% at discharge, 17% at one month and 11% at six months.

Discussion

Malaria is the main cause of CNS infections among children in Mbarara. These infections remain an important cause of mortality and morbidity and a treatment challenge due to diagnostic difficulties.

Despite the decrease in malaria incidence in sub-Saharan Africa it remains the main diagnostic among children with signs of CNS infections in Mbarara, Uganda.

Malaria in Republic of Guinea: results from repeated cross-sectional surveys and surveillance of the MSF- OCG program in Guéckédou

Amanda Tiffany, Epicentre, Switzerland

Background
Malaria is a major public health problem in the Republic of Guinea. Since 2010 Médecins Sans Frontières Operational Center Geneva in collaboration with the Ministry of Health has been implementing a comprehensive prevention and treatment program for malaria in Guéckédou Prefecture. Here, we report the results of repeated prevalence surveys conducted in both areas benefiting from the comprehensive intervention and areas without the intervention.

Methods
Four, cross-sectional surveys, using cluster based sampling and stratified by sub-prefecture, were conducted in Guéckédou; the intervention area (IA) consisted of one urban and two rural areas and the non-intervention areas (NIA), one rural area. All residents were eligible for inclusion in the surveys. The surveys were repeated every six months between April 2011 and August 2012, in dry and rainy seasons respectively, to measure the prevalence of P. falciparum infection in each population by RDT.

Results
During the study period 28,206 individuals participated in the surveys, 29% of the participants were ≤5 years of age. Dry season malaria prevalence was 60.8% (95% CI 62.0-66.9) in the IA and 64.5% (95% CI 60.8-66.7) in the NIA. When stratified, there was a significant decrease in the prevalence of malaria from 2011 to 2012 in the urban and one rural IA (P<.001 & P=.003). Rainy season prevalence in the IA was 66.6% (95% CI 64.5-68.7) and 78.8% (95% CI 76.2-81.5) in the NIA. While prevalence in the NIA increased, a significant decrease was noted in the two rural areas of the IA (P<.000 & P<.001). The proportion of households reporting ownership and use of bednets in the IA increased from 54% (95% CI 46.5-61.4) in 2011 to 87.1% (95% CI 82.6-91.6%) in 2012.

Conclusions
Our study presents the prevalence of P.falciparum in Guéckédou for the first time. Our study also reveals a significant decrease in the prevalence P.falciparum in several MSF intervention areas in parallel with the implementation of different program components.

Strategies for fighting malaria in hyperendemic settings have yet to be well defined. This research highlights the success of this MSF project after one year of intervention.

Thematic Session

Is malaria no longer a deadly disease?

Chairman: Jean-Marie Kindermans, Fondation AEDES, Belgium

Malaria: What's new? Epicentre research projects. Jean-François Etard

External participants:

- Philippe Guérin, WorldWide Antimalarial Resistance Network, United Kingdom
- Martin de Smet, MSF Malaria Working Group

Notes

Epicentre, 8 rue Saint Sabin, 75011 Paris, France
Tél : 01 40 21 55 55 - Fax : 01 40 21 55 00 - epimail@epicentre.msf.org
www.epicentre.msf.org