Vingt-quatrième Journée Scientifique
Twenty-fourth Scientific Day

12 juin 2014 - 12 June 2014

Résumés des communications
Abstracts of the presentations

epicentre
ÉPIDÉMIOLOGIE • EPIDEMIOLOGY

MEDECINS SANS FRONTIERES

Paris, 12 juin 2014

Bonjour à tous,

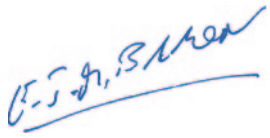
La journée scientifique d'Epicentre n'est pas uniquement un compte-rendu de résultats d'étude. Elle est aussi l'occasion de rappeler que les épidémiologistes d'Epicentre ne font pas que calculer et rédiger. La conduite pratique d'une étude dans des conditions parfois compliquées, est un projet opérationnel très exigeant qui demande méthode et rigueur. Pour mieux y répondre Epicentre a mis sur pied des centres de recherche. Mais quels en sont les enjeux, les atouts, les contraintes, est-ce un bon modèle de développement des capacités de recherche dans une organisation de praticiens comme MSF ? Nous en discuterons lors de la première session.

Cette journée est aussi un espace de débat qui permet de remettre en perspective les travaux d'Epicentre au-delà de la communication orale et écrite des conclusions d'une étude, étape nécessaire mais pas suffisante. Nous aborderons cette année deux sujets importants de politique publique dans lesquels Epicentre s'est investie : l'antibiorésistance, une menace mondiale ; et les maladies tropicales négligées, un domaine « historique » pour MSF. Mais comment pouvons-nous contribuer à ces questions où la recherche et le développement de nouvelles molécules tourne au ralenti ? Plusieurs pistes sont possibles, reste à faire les bons choix.

Au cours des sessions générales et de la session de posters, nous aurons également l'occasion de montrer qu'Epicentre est un groupe bien ancré dans les opérations de MSF. Accompagner MSF dans sa diversité de projets nous impose de maitriser des méthodes pour aborder la pluralité des questions et des situations d'étude : l'investigation d'épidémies (Ebola en Guinée), les enquêtes en population (VIH en Afrique australe, pneumocoque en Ouganda), les essais cliniques (antibiothérapie dans la malnutrition), l'étude de tests diagnostiques (pour la tuberculose ou le VIH) ou encore l'évaluation de stratégies opérationnelles (Chimioprophylaxie Saisonnière du Paludisme).

Enfin cette journée est aussi un lieu de rencontre, de retrouvailles, et l'occasion de faire de nouvelles connaissances. Le temps du déjeuner et du pot de fin de journée seront à nouveau deux « sessions » à ne pas rater.

Je vous souhaite une très bonne journée,



Emmanuel Baron
Directeur Général, Epicentre

Paris, 12 June 2014

Good morning,

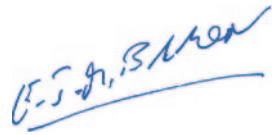
Epicentre's Scientific Day is not just about reporting study results. It is also a reminder that Epicentre epidemiologists do more than calculate and write. Practically, conducting a study in complicated conditions is similar to a demanding operational project requiring method and rigor. To better meet these constraints, Epicentre created research centers. But what are the challenges, strengths and constraints ? Is it a good model for developing research capacity in an organization of practitioners like MSF? We will talk about this during the first session.

Today is also a time to debate where we can put Epicentre's work in perspective, above and beyond communicating study conclusions orally and in writing. This year we will consider two important policy issues that Epicentre is involved in: antibiotic resistance, a global threat; and neglected tropical diseases, one of MSF's "historical" areas of interest. But, how can we contribute to these issues, where new drug R&D is moving at a snail's pace? There are several possible directions; we just have to make the right choices.

We will also have a chance, during the general and poster sessions, to show how Epicentre is a group firmly anchored in MSF operations. Supporting MSF in its wide range of projects requires us to master methods for handling a large number of questions and situations: investigating epidemics (Ebola in Guinea), population-based surveys (HIV in Southern Africa and pneumococcus in Uganda), clinical trials (antibiotics in malnutrition), studying diagnostic tests (for TB and HIV), and evaluating operational strategies (Seasonal Malaria Chemoprevention).

Lastly, today is a meeting place, a place to find old friends and make new ones. This year, again, the lunch and the end-of-day cocktail hour are the two "sessions" you won't want to miss.

Wishing you all a very good day,



Emmanuel Baron
Executive Director, Epicentre

Journée Scientifique Epicentre/Médecins Sans Frontières - Jeudi 12 juin 2014

8h45 Accueil et café

9h30 Introduction générale - Emmanuel Baron

9h40 Session thématique 1 - Les centres de recherche : pourquoi à MSF, pour quoi faire ?

Modérateur : Wilfred Mbacham, Université Yaoundé 1, Cameroun

- Introduction. (Yap Boum II)

Participants externes :

- Tom Ellman, Southern Africa Medical Unit, Afrique du Sud
- John Vulule, Kenya Medical Research Institute, Kenya
- Serge Eholié, CHU de Treichville, Côte d'Ivoire

Discussion

10h30 Session générale 1

Première partie 10h30 - 11h15

Modérateur : Wilfred Mbacham, Université Yaoundé 1, Cameroun

- Evaluation de la méthode de filtration des crachats pour le diagnostic microscopique de la tuberculose en Ouganda. (Patrick Orikiriza)
- Evaluation multicentrique des tests de diagnostic rapide du VIH. (Anne-Laure Page)
- Incidence de l'infection par le VIH et cascade de soins : résultats de trois études en population. (Helena Huerga)

11h15 - 11h30 Pause café

Deuxième partie 11h30 -1 1h45

Modérateur : Hellen Gelband, the Center for Disease Dynamics, Economics and Policy, USA

- Amoxicilline systématique versus placébo dans la prise en charge de la malnutrition aiguë sévère au Niger. (Sheila Isanaka)

11h45 Session thématique 2 - Antibiorésistance : que dire, que faire ?

Hellen Gelband, the Center for Disease Dynamics, Economics and Policy, USA

- Introduction. (Céline Langendorf)

Participants externes :

- Richard Murphy, MSF New-York, USA
- Antoine Andremont, Faculté de Médecine de l'Université Paris-Diderot, France

Discussion

13h00 - 14h15 Déjeuner - Buffet sur place

14h15 Session Posters

15h00 Session générale 2

Modérateur : Jean-Clément Cabrol, MSF-Suisse

- Enquête de portage du pneumocoque avant l'introduction du vaccin conjugué en Ouganda. (Sandra Cohuet)
- Mise en œuvre à large échelle de la Chimioprévention du Paludisme Saisonnier dans le Sahel: succès et enseignements. (Matthew Coldiron)
- Ebola s'invite sur un terrain MSF: l'épidémie à Guéckédou, Guinée. (Amanda Tiffany)
- Late breaker

16h15 Session thématique 3 - Ce qu'il ne faut pas négliger dans les maladies tropicales négligées.

Modérateur : Nathalie Strub, Drugs for Neglected Diseases Initiative, Suisse

- Introduction. (Yolanda Muller)

Participants externes :

- Eric Comte, MSF-Suisse
- Simon Croft, London School of Hygiene and Tropical Medicine, UK

Discussion

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

Epicentre/Médecins Sans Frontières Scientific Day - Thursday 12 June 2014

8.45 Welcome and coffee

9.30 General introduction - Emmanuel Baron

9.40 Thematic session 1 - Research Centers: their role and importance for MSF

Chairman: Wilfred Mbacham, Yaounde 1 University, Cameroon

- Introduction. (Yap Boum II)

External participants:

- Tom Ellman, Southern Africa Medical Unit, South Africa
- John Vulule, Kenya Medical Research Institute, Kenya
- Serge Eholié, CHU de Treichville, Côte d'Ivoire

Discussion

10.30 General session 1

First part 10h30-11h15

Chairman: Wilfred Mbacham, Yaounde 1 University, Cameroon

- Evaluation of the sputum small membrane filtration for the microscopic diagnosis of tuberculosis in Uganda. (Patrick Orikiriza)
- Multi-site evaluation of HIV rapid diagnostic tests. (Anne-Laure Page)
- HIV incidence and cascade of care : findings from three population-based studies. (Helena Huerga)

11.15 - 11.30 Coffee break

Second part 11h30 - 11h45

Chairman: Hellen Gelband, the Center for Disease Dynamics, Economics and Policy, USA

- Systematic amoxicillin versus placebo in non-complicated severe acute malnutrition, Niger. (Sheila Isanaka)

11.45 Thematic session 2 - Antibiotic resistance: what to say, what to do ?

Chairman: Hellen Gelband, the Center for Disease Dynamics, Economics and Policy, USA

- Introduction. (Céline Langendorf)

External participants:

- Richard Murphy, MSF New-York, USA
- Antoine Andremont, Faculté de Médecine, Paris-Diderot University, France

Discussion

13.00 - 14.15 Buffet lunch on site

14.15 Poster session

15.00 General session 2

Chairman: Jean-Clément Cabrol, MSF-Switzerland

- Baseline pneumococcus carriage survey prior to introduction of the conjugate vaccine in Uganda. (Sandra Cohuet)
- Scaling-up of Seasonal Malaria Chemoprevention across the Sahel in 2013: successes and lessons learned. (Matthew Coldiron)
- Ebola in MSF's backyard: the epidemic in Gueckedou, Guinea. (Amanda Tiffany)
- Late breaker

16.15 Thematic session 3 - What should not be neglected in neglected infectious diseases

Chairman: Nathalie Strub, Drugs for Neglected Diseases initiative, Switzerland

- Introduction. (Yolanda Muller)

External participants:

- Eric Comte, MSF-Switzerland
- Simon Croft, London School of Hygiene and Tropical Medicine, UK

Discussion

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

Posters

1. Description of ricketts cases in under-five in Al Salam Hospital, Khamir, Yemen. Saïf **Abdallah**

2. New definition of MDR-TB treatment failure : change in treatment outcomes. Mathieu **Bastard**

3. Risk factors of mortality and lost to follow-up before antiretroviral therapy: a multi centric retrospective cohort study of 48 Médecins sans Frontières HIV programmes. Mathieu **Bastard**

4. Clinical presentation and 2-year outcomes of adolescents and young adults followed in Asian and African HIV programs by age group. Jihane **Ben-Farhat**

5. Association between age at antiretroviral therapy start and mortality, program attrition and first-line treatment failure in children. Jihane **Ben-Farhat**

6. Comparison of muac and percent weight gain as discharge criterion in a large TFP program in Burkina Faso - 2007-2011. Sandra **Cohuet**

7. Etude qualitative sur la santé maternelle en groupes focaux de discussion. Matthew **Coldiron**

8. Taux d'attaque de la rougeole exceptionnel. Estimation et analyse du taux d'attaque et de la létalité rougeole dans l'aire de santé D'Aketi, RDC. Etienne **Gignoux**

9. Violence généralisée à Bangui. Compilation des données des sections de Médecins Sans Frontières Bangui, République Centrafricaine, Décembre 2013-Janvier 2014. Etienne **Gignoux**

10. Impact de la chimio-prévention du paludisme saisonnier dans le district sanitaire de Moïssala au Tchad en 2012. Francesco **Grandesso**

11. Time required to become negative after parasite clearance as factor influencing performance of malaria rapid diagnostic tests in field conditions. Francesco **Grandesso**

12. Couverture vaccinale rougeole et poliomyélite après la campagne de décembre 2013 conduite dans les provinces du Sud et du Nord Kivu, RDC. Emmanuel **Grellety**

13. Is TST a barrier to implement the 36 months Isoniazid Preventive Therapy strategy in HIV infected patients in a resource-constraint setting?. Helena **Huerga**

14. Intérêt du dépistage tuberculinique pour une prophylaxie antituberculeuse de 36 mois chez les personnes vivant avec le VIH dans deux cliniques rurales au Swaziland. Yolanda **Müller**

15. Risk factors for visceral leishmaniasis in Gedaref State, Sudan. Fabienne **Nackers**

16. Two-year surveillance of meningitis in Moissala, Chad, during and after introduction of MenAfriVac. Anne-Laure **Page**

17. Treatment response of Bleomycine combined with antiretroviral therapy in HIV infected patients with advanced Kaposi Sarcoma in a rural disctrict of Kenya. Elisabeth **Poulet**

18. Antibiotic drug-resistant bacteria isolated from Syrian war-injured patients managed in a medical humanitarian surgical program. Carrie **Teicher**

19. Malaria-related morbidity and mortality in the Danga Health Area (Eastern Province, Democratic Republic of Congo). Brahima **Touré**

Thematic Session 1

Research Centers: their role and importance for MSF

Chairman: Wilfred Mbacham, Yaounde 1 University, Cameroon

Introduction. Yap Boum II

External participants:

- Tom Ellman, Southern Africa Medical Unit, South Africa
- John Vulule, Kenya Medical Research Institute, Kenya
- Serge Eholié, CHU de Treichville, Côte d'Ivoire

Discussion

General session 1

Evaluation of the sputum small membrane filtration (SMF) for the microscopic diagnosis of tuberculosis in Uganda

Patrick Orikiriza, Epicentre, Uganda

Rationale

Despite its suboptimal sensitivity, microscopy remains the most common test used to diagnose tuberculosis (TB) in resource limited setting (RLS). Due to technical issues and cost, Xpert MTB/RIF assay cannot be introduced in all microscopy laboratories in RLS. Therefore, there remains a need to improve performance of smear microscopy.

Objectives

We evaluated the diagnostic accuracy of the Small Membrane Filtration (SMF) method, an approach designed to concentrate bacilli after filtration of digested sputum specimen through a polycarbonate membrane that is examined microscopically.

Methods

We enrolled adult pulmonary TB suspects at Mbarara Regional Referral Hospital, Uganda. We obtained three sputum specimens (spot-morning-spot) during two consecutive days for auramine LED-fluorescence microscopy (direct and SMF) and manual MGIT culture. We randomized the two spot samples for either SMF or Xpert testing. We compared the performance of direct microscopy, SMF and Xpert using MGIT manual culture as the gold standard in HIV positive and negative patients. McNemar's test was used for comparisons.

Results

From September 2012 to February 2014 we enrolled 800 pulmonary TB suspects, 50.3% were male and 63.8% were HIV positive. Using the WHO two specimen collection approach (spot-morning), the sensitivity of the SMF method in HIV negative patients was 75.4% (95% CI 63.5, 84.9) versus 85.7% (75.3, 92.9) for direct smear (p= 0.0391). In HIV positive patients it was 67.7% (57.5, 76.7) for SMF versus 69.6% (59.7, 78.3) for direct smear (p=0.804). On one spot specimen, the sensitivity of the Xpert MTB/RIF versus SMF was 93.8% (84.8, 98.3) vs 75.4% (62.2, 85.9) for HIV negative patients (p<0.001) and 94.3% (87.2, 98.1) vs 73.0% (61.4, 82.7) for HIV positive patients (p<0.001). All methods showed similarly good specificity.

Conclusions

The SMF method did not improve the performance of the standard smear microscopy in our setting. Xpert MTB/RIF was the most sensitive method.

Although promising, the concentration of sputum using small membrane filtration did not improve the sensitivity of the standard microscopy used to diagnose tuberculosis in RLS.

Multi-site evaluation of HIV rapid diagnostic tests

Anne-Laure Page, Epicentre, Paris

Background

Rapid diagnostic tests (RDT) have greatly facilitated the diagnosis of HIV infection in resource-limited settings. The diagnostic algorithm, comprised of 2 to 3 RDTs, is generally considered to be highly sensitive. However, differences in the proportions of indeterminate or discordant results along with false positive results reported across countries suggest inconsistencies in test performances.

Methods

We conducted prospective evaluations of the performances of HIV testing algorithms in five programs located in four African countries: Uganda, Republic of Guinea, Kenya, Democratic Republic of Congo and Cameroon. Nine individual RDTs were also evaluated centrally at the AIDS reference laboratory at Institute of Tropical Medicine (ITM), Antwerp, using specimens collected from all sites. At least 220 HIV-positive and 220 HIV-negative participants were included at each site. Results of on-site algorithm and individual RDTs were compared with a reference HIV algorithm (ELISA and line immuno assay) performed at ITM. Adjusted analysis was performed to take into account the verification bias introduced by our sampling strategy.

Results

Between August 2011 and February 2014, a total of 2,289 participants were included. The on-site algorithms showed crude sensitivities of 98.1% to 100% and specificities of 98.7% to 100%. The adjusted analysis led to reduced sensitivities of 92.7% and 89.5% in Kitgum and Arua (Uganda) respectively. When tested at ITM, all individual RDTs showed excellent crude sensitivities >99%. However, specificities varied widely, from 77% to 100%, depending on the test and the origin of specimens used.

Discussion

Although all RDTs showed excellent sensitivity when tested in a reference laboratory, the adjusted sensitivity of on-site algorithms was low in certain sites. Respecting incubation time, correct labelling, testing on plasma versus whole blood can reduce the risk of false results. The results confirm suspected geographical variability in HIV RDT specificity and reveal important disparities across tests. Algorithms should be designed taking local performances into account and some tests should be rejected based on inacceptable performance.

This multicenter evaluation shows great variation in the performance of on-site HIV testing algorithms as well as in individual tests across sites. Our results support the development of better testing algorithms.

HIV incidence and cascade of care: findings from three population-based studies

David Maman, Helena Huerga, Epicentre, Paris

Background

Accurate data on HIV incidence and the cascade of care are essential to define appropriate strategies of intervention in an area. We present the findings of three studies which directly assessed HIV incidence and each step of the cascade of care.

Methodology

Cross-sectional population-based surveys were conducted in Ndhiwa (Kenya), Kwazulu-Natal (South Africa) and Chiradzulu (Malawi). Persons aged 15-59 years were eligible. Face-to-face interviews were carried out followed by rapid HIV testing on site and blood collection for CD4 count, ART levels (in South Africa) and viral load. Incidence was estimated using HIV LAg-Avidity assay corrected by viral load and ART status.

Results

In total 9,802 houses were visited, 21,782 individuals were eligible and 19,057 (87.5%) were included: 6139/6823 in Kenya, 5649/6688 in South Africa and 7269/8271 in Malawi. Of them, 60.7 % were women. In Kenya, South Africa and Malawi, HIV prevalence was: 24.1% (95%CI 22.9-25.2), 25.2% (95%CI: 23.6-26.9) and 17.0% (95%CI: 16.1-17.8) respectively. Overall HIV incidence was: 2.2/100 person-years (PY) (95%CI: 1.3-3.0), 1.4/100 PY (95%CI: 0.6-2.3) and 0.4/100 PY (95%CI: 0.0-1.2) respectively. Incidence in women 15-29 years was: 3.8/100 PY (95%CI: 2.1-5.5), 3.2/100 PY (95%CI: 1.4-4.9) and 0.9/100 PY (95%CI: 0.1-1.7) respectively. ART coverage (among ART eligible) was: 70.8%, 75.0% and 80.4% respectively. The cascade of care (diagnosed, in care, on ART, viral load <1000 copies/ml among all HIV positive) was: 61.8%, 56.2%, 42.2%, and 39.5% in Kenya; 74.8%, 61.1%, 57.1%, and 49.3% in South Africa; and 77.7%, 73.4%, 64.7%, and 61.9% in Malawi. The main loss in the cascade of care was undiagnosed HIV status.

Conclusions

These studies showed that high level of population viral suppression can be achieved in high prevalence settings in sub-Saharan Africa. HIV incidence was lower in the contexts with higher VL suppression. HIV programs should maintain quality of care while filling gaps in the cascade of care, and include preventive strategies for young women.

The 3 HIV population-based surveys carried out in Kenya, South Africa and Malawi found HIV incidences rates of 2.2, 1.4 and 0.4/100 person-years respectively. The main loss in the cascade of care was undiagnosed HIV status: 61.8%, 74.8% and 77.7% HIV positive diagnosed and 39.5%, 49.3% and 61.9% virally suppressed respectively.

Systematic amoxicillin versus placebo in non-complicated severe acute malnutrition, Niger

Sheila Isanaka, Epicentre, Paris, for the Amoxicillin Study Group

Background

The community-based management of malnutrition allows large numbers of children with uncomplicated severe acute malnutrition (SAM) to be treated at home with the use of ready-to-use therapeutic food (RUTF). In addition to RUTF, current protocols recommend a short course of oral antibiotics to all children treated at home. Evidence to support the systematic use of oral antibiotics in children with uncomplicated SAM remains limited, while the practice raises important questions in an era of increasing program burdens and antibiotic resistance. Further study is needed to confirm the benefit of systematic use of oral antibiotics in the treatment of uncomplicated SAM.

Methods

We conducted a randomized, double-blind, placebo-controlled trial in Madarounfa, Niger. Children aged 6-59 months were randomly assigned to receive oral amoxicillin or placebo for 7 days in addition to RUTF for the outpatient treatment of uncomplicated SAM. The primary outcome was the risk of nutritional recovery. Main secondary outcomes included weight gain, death and transfer to inpatient care.

Results

A total of 2402 children with SAM were included between October 2012 and November 2013 and analyzed. Among these, 64.1% recovered with 66.0% and 62.7%, respectively, in the amoxicillin and placebo groups (relative risk [RR] with amoxicillin vs. placebo: 1.05, 95% confidence interval [CI], 0.99 to 1.12). There was no difference in the risk of death at program exit between groups (n=7 with amoxicillin vs. n=6 with placebo). Children who received amoxicillin were 14% less likely to be transferred for inpatient care (RR = 0.86. 95% CI, 0.75 to 0.97).

Conclusion

There was no difference in nutritional recovery among uncomplicated SAM children receiving amoxicillin and those receiving placebo. Further analyses are ongoing on secondary outcomes.

There is limited evidence on the efficacy of oral antibiotics in the treatment of uncomplicated SAM. We found that systematic use of antibiotics in the outpatient treatment of uncomplicated SAM was similar to placebo in terms of nutritional recovery, although additional analyses are ongoing.

Thematic session 2

Antibiotic resistance: what to say, what to do ?

Chairman: Hellen Gelband, the Center for Disease Dynamics, Economics and Policy, USA
Introduction. Céline Langendorf

External participants:

- Richard Murphy, MSF New-York, USA
- Antoine Andremont, Faculté de Médecine, Paris-Diderot University, France

Discussion

General session 2

Baseline pneumococcus carriage survey prior to introduction of the conjugate vaccine in Uganda

Sandra Cohuet, Epicentre, Paris, on behalf of the Study Group

Background

The burden of severe pneumococcal disease is particularly high in young African children. A pneumococcal conjugate vaccine (PCV) is now being introduced throughout Africa. Studying the epidemiology and transmission dynamics of S.pneumoniae before PCV introduction is an essential component to monitor PCV effectiveness and evaluate its direct and indirect impact on pneumococcal nasopharyngeal (PNP) carriage.

Methods

We implemented a cross-sectional population-based survey in 4 sub-counties of Sheema, a semi-rural district in South Western Uganda. All individuals resident in the study area were eligible for inclusion. Sixty clusters were randomly selected proportional to the population size of the villages in the study area. Thirty households within clusters were randomly selected from a list of households in each village. We included one person per household. Each participant was sampled by nasopharyngeal swab and asked to respond to a short questionnaire collecting demographic data, recent antibiotic treatment and history of respiratory symptoms. Pneumococci were isolated from nasopharyngeal specimens in the Epicentre Mbarara laboratory.

Results

The survey was performed between 22/01/14 and 15/03/14 on 1,346 individuals (sex ratio= 0.93). The global prevalence of PNP carriage was 39.1% [CI95% 36.3-42.0]. By age group, the PNP carriage prevalence decreased from 73.1% [CI95% 67.6-77.9)] among children under 2 years and 70.4% [CI95% 63.4-76.5] among children aged 2-4 years to 35.2% [CI95% 30.6-40.1] among children aged 5-14 years and 4.5% [CI95% 3.0-6.8] among adults above 15 years of age.

Discussion

This is the first study reporting PNP carriage estimates in Uganda. We found high PNP carriage prevalence decreasing with age. These results are consistent with other surveys in Africa. They could help to understand pneumococcal pathophysiology and be crucial as baseline data prior PCV introduction in Uganda as well as providing potential lessons for use of PCV vaccine in other settings.

Studying the epidemiology and transmission dynamics of S.pneumoniae before pneumococcal conjugate vaccine (PCV) introduction is an essential component to monitor PCV effectiveness and evaluate its direct and indirect impact on pneumococcal nasopharyngeal (PNP) carriage.

Scaling-up of Seasonal Malaria Chemoprevention across the Sahel in 2013: successes and lessons learned

Matthew Coldiron, Epicentre, Paris

Background

Seasonal Malaria Chemoprophylaxis (SMC) is a new strategy for the prevention of malaria in areas of intense seasonal transmission. Sulfadoxine-pyrimethamine (SP) and amodiaquine (AQ) are administered monthly to children aged 3 months to 5 years during the malaria season. In 2013, MSF implemented SMC in seven districts in three countries (Mali, Niger and Chad). MSF treated nearly 500 000 children with SP+AQ for four months, using a variety of different operational strategies.

Methods

Epicentre has conducted multiple programmatic coverage surveys, a series of surveys for molecular markers of resistance to SP+AQ, as well as studies to estimate the number of cases of malaria avoided. In Niger and Mali, programmatic coverage was estimated using standardized two-stage cluster surveys. In all three countries, prior data were collected and Poisson regression models fitted to predict the number of expected cases for 2013 and 2014. These predictions were then compared to the number of cases observed. For resistance markers, in 2013, a community-based sample was selected in Niger, and in 2014, a health center-based study is underway in Chad.

Results

In Mali, it was estimated that 86.7% (IC95 [80.1-91.4], deff 5.4) of targeted children received at least 3 of the 4 monthly distributions. In Niger, this proportion was 94.9% (IC95 [93.8-95.8], deff 3.1). Reporting of side effects was highly variable among the different districts. Adherence to at-home doses of AQ was acceptable. After one year of SMC in Chad, the relative risk reduction for all cases of malaria was 87.0% (IC95 [82.1-89.8]). Similar results from Niger and Mali will be presented.

Discussion

Coverage of MSF's SMC programs across the Sahel in 2013 was good, although it varied by context. SMC appeared to be effective in reducing cases of malaria in the target zones, in line with expectations. In coming years, more data are needed regarding side effects, medication adherence and overall program acceptance, and malaria surveillance should be reinforced, as the efficacy and acceptability of SMC as a public health strategy may change over time.

Scaling up SMC has been a major effort which appears to have been successful and effective. Continued monitoring will be necessary in the future.

Ebola in MSF's backyard: the epidemic in Guéckédou, Guinea

Amanda Tiffany, Epicentre, Geneva, for the Ebola epidemiology investigation team

Background

In January 2014, a cluster of cases of severe diarrhoea, initially thought to be cholera was identified. By March 2014 reports of a serious illness of unknown origin were received. Laboratory confirmed as Ebola Zaire in March 2014, the ongoing outbreak in Guéckédou, Guinea, is estimated to be responsible for at least 140 suspect, probable and confirmed cases with a CFR between 70-80%. The first case has been epidemiologically linked to a cluster of rural deaths that occurred in December 2013.

Médecins Sans Frontières (MSF) Switzerland has been present in Guéckédou since 2010. In collaboration with the Ministry of Health, MSF has implemented a comprehensive, multi-component malaria prevention and treatment program which has included a community-based mortality surveillance system to monitor malaria program activities.

Methods

We conducted a retrospective analysis of the data from the community-based mortality surveillance system between November, 2013 and March, 2014. Deaths are reported on a monthly basis by families to community health workers. Symptoms preceding death were recorded and deaths categorized as due to malaria/fever or another cause. Symptoms and reported causes of death were compared to the WHO clinical case definition for suspected Ebola.

Results

From November 2013 to March 2014, a total of 142 deaths were reported in Guéckédou prefecture. Of these, 55 were categorized as malaria/fever deaths. Sixteen deaths had symptoms included in the WHO case definition for suspected Ebola patients. Among these, 4 reported hemorrhagic symptoms. Two of the 16 suspected Ebola deaths captured by the community-based surveillance system were laboratory confirmed.

Discussion

Community-based surveillance is a pillar of programmatic monitoring and evaluation. Although the proportional mortality burden of Ebola was low, and the data had many limitations, the community-based system provided important information for malaria program implementation and could be used to identify clusters of other potential epidemic prone diseases. While the majority of deaths in the community continue to occur among cases of suspected malaria, the Ebola outbreak might have been identified earlier had community-based surveillance for outbreak detection been in place.

Using a community-based mortality surveillance system in Guéckédou, Guinea, a retrospective data analysis identified suspected Ebola deaths (16/142) and probable malaria deaths (55/142) between November 2013 and March 2014. The use of community-based surveillance systems for outbreak detection may result in the earlier detection of outbreaks.

Thematic Session 3

What should not be neglected in neglected infectious diseases

Chairman: Nathalie Strub, Drugs for Neglected Diseases Initiative, Switzerland

Introduction. Yolanda Muller

External participants:

- Eric Comte, MSF-Switzerland
- Simon Croft, London School of Hygiene and Tropical Medicine, UK

Discussion

Notes

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