

# Getting the best research literature for your search.

Blessing Mawire

ITOCA – Information Training and Outreach Centre for Africa  
South Africa



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# Contents:

- ▶ Levels of literacy.
- ▶ How to formulate a search strategy.
- ▶ Tools that one can use to refine your search.
- ▶ Know your databases.
- ▶ Introduction to Research4Life.
- ▶ Example of using HINARI and PubMed.



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# Hierarchy of Literacy

- Alphabetic literacy – writing name
- Functional literacy – reading and writing
- Social literacy – communication in a cultural context
- Information literacy – critical location, evaluation and use of information
- Digital information literacy – application of information literacy in the digital environment (\*includes online collaboration skills)

Caroline Stern (2002) Information literacy unplugged: teaching information literacy without technology. White paper prepared for UNESCO, the US NCLIS and National Forum for Information Literacy. [www.nclis.gov/libinter/](http://www.nclis.gov/libinter/)



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# Searching and not getting the right results?

Many researchers find it hard to find the right results for their literature searches. This could be due to:

- Suggest lack of planning
- Insufficient understanding / grasp of information landscape
- I get too many results (terms too broad?)
- I get too little results (terms too narrow?)
- The phrase I searched for doesn't appear
- Synonyms
  - e.g. Agricultural management, environmental degradation
- Plural/singular forms
  - e.g. River, rivers
- Spelling variations
  - e.g. UK versus US
  - e.g. Bourne, borne, born; diarrhea, diarrhoea
- A word exists as variants of a root word
  - e.g. Environment, environmental, pollution, pollutants



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# Formulating a Search Strategy

- Before you begin your search, you must:
  1. Understand & define your information need
  2. Map the information landscape
    - Plot terms associated with the domain / sub-topics
    - Identify gaps in your knowledge



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- Various methods:

- Mind Maps

- Concept Clustering

- Tree Structures

- These help to:

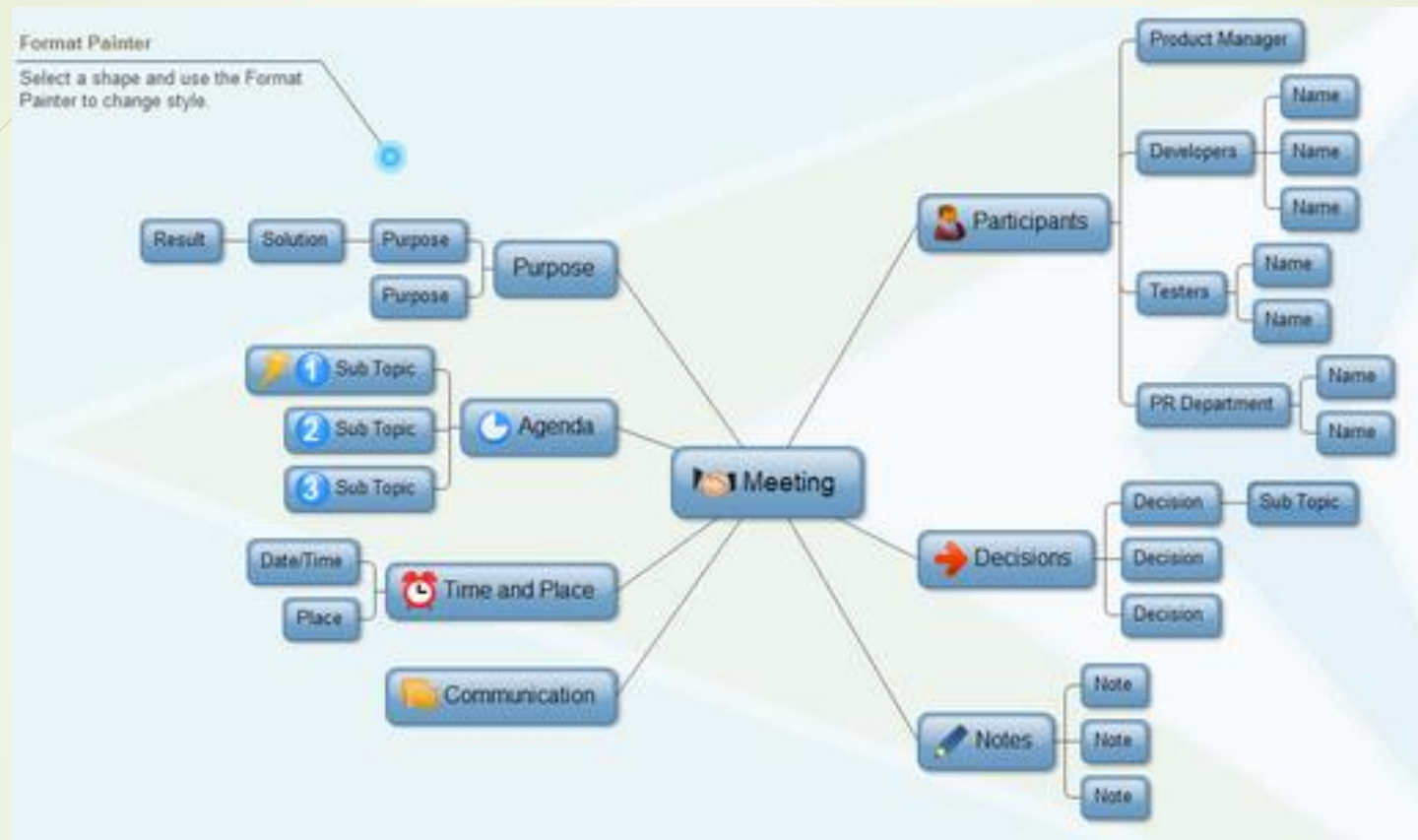
- Define focus of attention / approach (i.e. theoretical framework)

- Plot broad subject / subject terms



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# Example of Mind Map



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# Concept Clustering

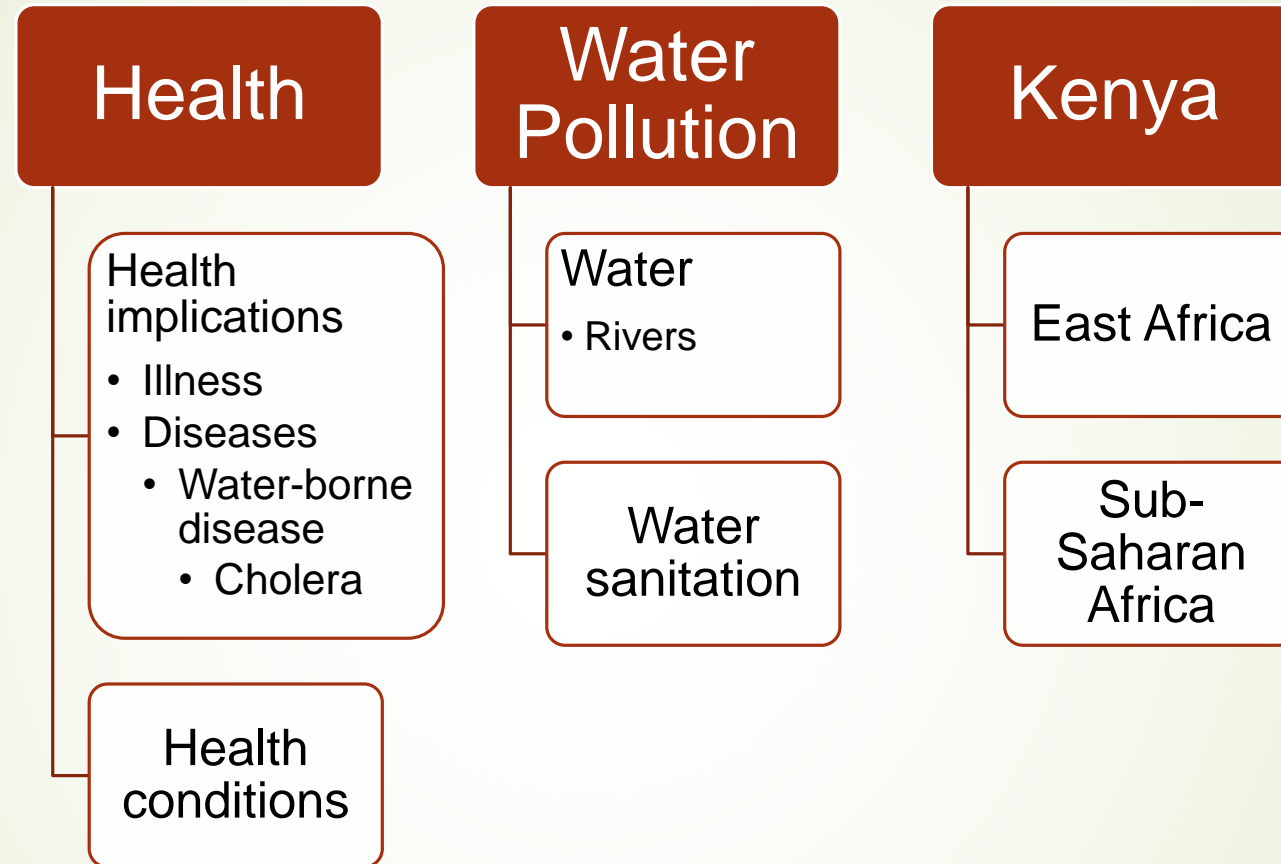
Concept 1	Concept 2	Concept 3	Concept 4
Antony	Cleopatra	Shakespeare, Shakespearean	power, politics, political, politician, rome, roman



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# Tree Structures



# Tools to refine searches.

- These are some of the tools that help in refining your search:
  - **Boolean Operators**
    - AND, OR, NOT (+,/, -).
  - **Truncation/Wild Cards**
    - Politic\*, Organi?ation\*.
  - **Phrase searching**
    - “Fee structure”
  - **Proximity**
    - Fee (NEAR5) structure.
  - (\*Know your controlled vocabulary)





# Subject Specialized Databases

- Do you know your subject database?
- Database versus portal?
- Database versus website?
- Database versus search engine?
- Database versus citation index?
- Database versus content management system?



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# Introduction to Research4Life

<http://www.research4life.org>

- ▶ Research4Life (R4L) is the collective name for four programmes: HINARI, AGORA, OARE and ARDI that provides developing countries with free or low cost access to academic and professional peer-reviewed content online.
- ▶ R4L is a public-private partnership of the World Health Organization, Food and Agriculture Organization of the United Nations, United Nations Environment Programme, Cornell and Yale Universities and the International Association of Scientific, Technical and Medical Publishers – STM. Working along with technology partners as Microsoft Corporation, Serial Solutions and others.



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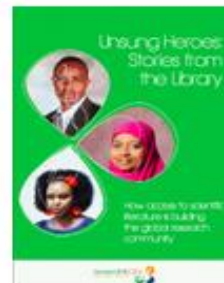
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13th May 2014

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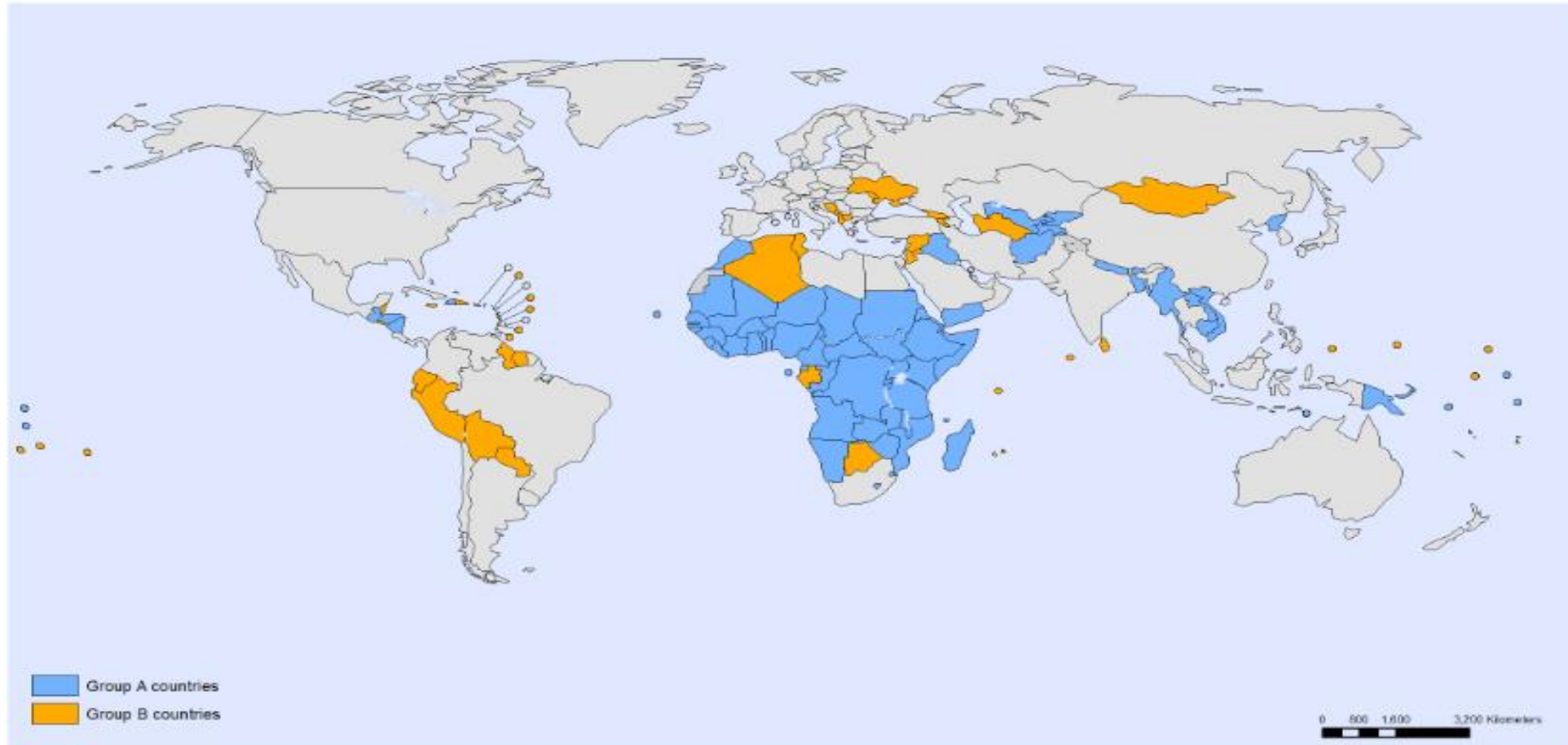
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# Who is Eligible for R4L Programmes?

Countries, areas and territories eligible for Research4Life



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Data Source: World Health Organization  
Map Production: Health Statistics and Information Systems (HSI)  
World Health Organization



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# Eligibility for R4L programmes

- Country eligibility is based on four factors: Total GNI (World Bank figures), GNI per capita (World Bank figures), United Nations Least Developed Country (LDCs) List and Human Development Index (HDI). Detailed information: <http://www.research4life.org/institutions/criteria/>
- If your institution is in a Group A (free access) country, area, or territory, then access is free.
- If your institution is in a Group B (low-cost access) country, area, or territory, access to the Research4Life programmes costs US\$ 1500 per institution per calendar year (from January through December).
- More than 100 countries, areas, and territories are eligible



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Eligible categories of institutions are:

- ❑ national universities
- ❑ research institutes
- ❑ professional schools (medicine, nursing, pharmacy, public health, dentistry)
- ❑ teaching hospitals
- ❑ government: ministries and agencies
- ❑ national medical libraries
- ❑ locally based non-governmental agencies

All permanent staff members, students and visiting faculty are entitled to access and can obtain the institutional User Name and Password.



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# Using PubMed via HINARI



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### HINARI Access to Research in Health Programme

HINARI Programme set up by WHO together with major publishers, enables developing countries to gain access to one of the world's largest collections of biomedical and health literature. More than 8,500 journals and 7000 e-books (in 30 different languages) are now available to health institutions in more than 100 countries, areas and territories benefiting many thousands of health workers and researchers, and in turn, contributing to improve world health.

Map of country breakdown  
 png, 122kb  
 More than 5000 institutions registered in 106 countries in 2012

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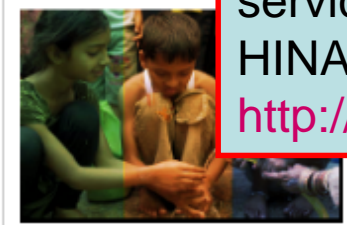
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Making a difference

To celebrate Research4Life's 10th anniversary in 2011, we launched a user experience competition. We asked users to share with us how HINARI, AGORA or OARE has improved their work, life and community. In total



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Access to Research in the Environment

Brief video about OARE

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aura





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Note the useful options in the right column of the PubMed search results:

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New feature

Try the new Display Settings option - Sort by Relevance

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Abstract

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Parasit Vectors. 2015 Jun 11;8(1):314. [Epub ahead of print]

### Epidemiology of coinfection with soil transmitted helminths and Plasmodium falciparum among school children in Bumula District in western Kenya.

Kepha S<sup>1,2</sup>, Nuwaha F<sup>3</sup>, Nikolay B<sup>4</sup>, Gichuki P<sup>5</sup>, Edwards T<sup>6</sup>, Allen E<sup>7</sup>, Njenqa SM<sup>8</sup>, Mwandawiro CS<sup>9</sup>, Brooker SJ<sup>10,11</sup>.

#### Author information

#### Abstract

**BACKGROUND:** Many school children have soil transmitted helminth (STH) and Plasmodium falciparum coinfection. However, the epidemiology of coinfection is not well understood. This study describes the epidemiology of STH and P. falciparum coinfection among school children living in western Kenya and investigate the implications of coinfection for the risk of clinical malaria.

**METHODS:** As part of a randomized trial, 1000 school children in Bumula District. Single stool samples were collected and parasitaemia was determined from a thick smear.

**RESULTS:** Overall, 46.4 % of the children had STH and 4.3 % of the children had STH-Plasmodium coinfection, with hookworm-Plasmodium (9.0 %) coinfection being the most common. Geographical variation in the prevalence of coinfection occurred between schools. In multivariable logistic regression analysis, hookworm was positively associated with P. falciparum infection. In stratified analysis, hookworm infection was associated with increased odds of P. falciparum infection among both boys (P < 0.001) and girls (P = 0.01), whereas there was no association between A. lumbricoides and P. falciparum.

**CONCLUSION:** These findings demonstrate STH infections are still prevalent, despite the ongoing national deworming programme in Kenya, and that malaria parasitaemia is widespread, such that coinfection occurs among a proportion of children. A subsequent trial will allow us to investigate the implications of coinfection for the risk of clinical malaria.

**CONCLUSION:** These findings demonstrate STH infections are still prevalent, despite the ongoing national deworming programme in Kenya, and that malaria parasitaemia is widespread, such that coinfection occurs among a proportion of children. A subsequent trial will allow us to investigate the implications of coinfection for the risk of clinical malaria.

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Interactions and potential implications of Plasmodium falciparum and soil transmitted helminth co-infection [PLoS Negl Trop Dis. 2012]

Malaria and related outcomes in patients with intestinal helminths: a cross-sectional study [BMC Infect Dis. 2012]

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## Epidemiology of coinfection with soil transmitted helminths and *Plasmodium falciparum* among school children in Bumula District in western Kenya

Stella Kepha<sup>1,2\*</sup>, Fred Nuwaha<sup>1</sup>, Birgit Nikolay<sup>3</sup>, Paul Gichuki<sup>2</sup>, Tansy Edwards<sup>3</sup>, Elizabeth Allen<sup>3</sup>, Sammy M. Njenga<sup>2</sup>, Charles S. Mwandawiro<sup>2</sup> and Simon J Brooker<sup>3,4\*</sup>

\* Corresponding authors: Stella Kepha [stellakepha2005@yahoo.com](mailto:stellakepha2005@yahoo.com) - Simon J Brooker [simon.brooker@lshtm.ac.uk](mailto:simon.brooker@lshtm.ac.uk)

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*Parasites & Vectors* 2015, **8**:314 doi:10.1186/s12875-015-0314-1

Published: 11 June 2015

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### Abstract (provisional)

Background Many school children living in Africa are infected with plasmodia and helminth species and are consequently at risk of coinfection. However, the epidemiology of such coinfection and the implications of coinfection for children's health remain poorly understood. This study describes the epidemiology of *Ascaris lumbricoides*-*Plasmodium* and hookworm-*Plasmodium* coinfection among school children living in western Kenya and investigates the associated risk factors. Methods As part of a randomized trial, a baseline cross-sectional survey was conducted among school children aged 5–18 years in 23 schools in Bumula District. Single stool samples were collected to screen for helminth infections using the Kato-Katz technique and malaria parasitaemia was determined from a finger prick blood sample. Demographic and anthropometric data were also collected. Results Overall, 46.4 %

Parasites & Vectors  
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PLoS One. 2015 Jun 11;10(6):e0128580. doi: 10.1371/journal.pone.0128580.

1. Potential Impact of Co-Infections and Co-morbidities on the Severity of Influenza Infection: A Systematic Review

Cohen AL<sup>1</sup>, McMorrow M<sup>2</sup>, Walaza S<sup>3</sup>, Cohen C<sup>3</sup>, Tenover FC<sup>4</sup>, et al.

Author information

Abstract

Infectious diseases and underlying medical conditions increase the severity of influenza infection. We conducted a systematic review of published studies on the impact of co-infections and co-morbidities that are prevalent in Africa: dengue fever, malaria, HIV/AIDS, tuberculosis, and pneumococcal pneumonia (PCP), hemoglobinopathies, and sickle cell disease (SCD). Very few studies were from Africa. Sick cell disease was found to increase the severity of influenza disease, though this is based on few studies of dengue and measles and the measles study was of low quality. The frequency of influenza was increased among patients with sickle cell disease. Influenza infection increased the frequency of meningococcal disease. Studies on malaria and malnutrition found mixed results. Age-adjusted morbidity and mortality from influenza may be more common in Africa because infections and diseases common in the region lead to more severe outcomes and increase the influenza burden. However, gaps exist in our knowledge about these interactions.

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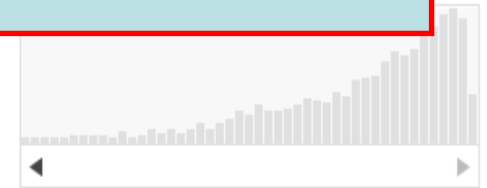


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2. **A multi-center, open-label trial to compare the efficacy and pharmacokinetics of Artemether-Lumefantrine in children with severe acute malnutrition versus children without severe acute malnutrition: study protocol for the MAL-NUT study.**

Deneoed-Ndam L<sup>1</sup>, Dicko A<sup>2</sup>, Baudin E<sup>3</sup>, Guindo O<sup>4</sup>, Grandesso F<sup>5</sup>, Sagara I<sup>6</sup>, Lasry E<sup>7</sup>, Palma PP<sup>8</sup>, Parra AM<sup>9</sup>, Stepniowska K<sup>10,11</sup>, Diimde AA<sup>12</sup>, Barnes KI<sup>13</sup>

Author information

Abstract

**BACKGROUND:** Malnutrition and malaria efficacy of antimalarial treatments usually children are systematically excluded. Few pyrimethamine and quinine in severe acute to be reduced, attributed to lower immunity drug concentrations. However, similar resistance combination therapies (ACTs) and especially The main objective of this study is to assess suffering from severe acute malnutrition (SAM) be attributed to a sub-optimal pharmacokinetic

**METHODS/DESIGN:** In two sites, Ouek microscopically-confirmed *P. falciparum* children will be enrolled after the enrolment of each SAM case. Children with severe manifestations of malaria or complications of acute malnutrition needing intensive treatment will be excluded. Treatment intakes will be supervised and children will be followed-up for 42 days, according to WHO guidance for surveillance of antimalarial drug efficacy. Polymerase Chain Reaction genotyping will be used to distinguish recrudescence from re-infection. SAM children will also benefit from the national nutritional rehabilitation program. Outcomes will be compared between the SAM and non-SAM populations. The primary outcome will be adequate clinical and parasitological response at day 28 after PCR correction, estimated by Kaplan-Meier analysis. To assess the pharmacokinetic profile of lumefantrine, a sparse sampling approach will be used with randomized allocation of sampling times (5 per child). A total of 180 SAM children and 360 non-SAM children will be recruited during the 2013 and 2014 malaria seasons.

**DISCUSSION:** This study will provide important information that is currently lacking on the effect of SAM on therapeutic efficacy and pharmacokinetic profile of artemether-lumefantrine. If it shows lower therapeutic efficacy and decreased lumefantrine concentrations, it would inform dose optimization studies in SAM children.

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