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# Efficacy of community educational interventions in nutrition and WASH/Malaria in reducing anemia in children under five, in the municipality of Dande - Angola

**Submission date**
11/04/2016

**Recruitment status**
No longer recruiting

**Registration date**
06/09/2016

**Overall study status**
Completed

**Last Edited**
18/11/2021

**Condition category**
Haematological Disorders

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

## Plain English summary of protocol

Background and study aims
The infant death rate in Angola is one of the highest in the world, and anemia is thought to be a major cause. Anemia is a condition in which there are not enough red blood cells or not enough of the component of blood that binds to oxygen (hemoglobin). It is thought that a major cause of anemia is insufficient iron intake from the diet (an essential part of hemoglobin). Eating a diet lacking in vitamins and minerals can lead to nutritional anaemia, however infectious diseases such as malaria (an infectious disease caused by a microscopic parasite which is spread from person to person by mosquitos) or schistosomiasis (an infection caused by a parasitic worm that lives in tropical and subtropical countries). The aim of this study is to find out whether consuming a more nutrient-rich diet by eating a more varied diet can help reduce rates of malaria better than reducing parasitic infections through the use of infection preventive practices.

Who can participate?
All children under 3 years old and the person who looks after them, who live in hamlets within Ucua, Mabubas and Caxito from the Dande municipality (Bengo province, Angola)

What does the study involve?
Hamlets are randomly allocated into one of three groups. Those in the first group take part in an education program about eating a more varied diet so that they have more vitamins and minerals in their diet. Those in the second group take part in an education program about good hygiene practices and how to prevent infections. Those in the third group are tested and treated for infectious diseases (including malaria and schistosomiasis). Participants in all groups receive bednets, soap and lye (used for cleaning). At the start of the study and then after 6 and 12 months, participants in all groups have blood tests to check whether they are suffering from anaemia.

What are the possible benefits and risks of participating?
Participating children benefit from health monitoring and treatment for infectious diseases. Participants found to have sickle cell disease (a type of anaemia involving unusual shaped red blood cells which do not function properly) receive free-of-charge medication. Travel expenses can be provided. Bednets, bleach and soap will be distributed to all children. Additionally, counseling will improve household health. There is a small risk that families may find the tests to be time consuming. In addition, there is a small risk of pain, bruising and infection during blood testing.

Where is the study run from?
The study is run from the Health Research Center of Angola and takes place in Ucua, Mabubas and Caxito from the Dande municipality (Bengo province, Angola)

When is the study starting and how long is it expected to run for?
November 2014 to September 2017

Who is funding the study?
1. Calouste Gulbenkian Foundation (Angola)
2. Banco de Fomento Angola (Angola)
3. Special Program for Research and Training in Tropical Diseases (Angola)
4. José Eduardo dos Santos Foundation (Angola)

Who is the main contact?
1. Miss Cláudia Fançony (public)
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# Additional identifiers

# Study information

**Scientific Title**
Anemia and its preventable etiologic agents in pre-school children from Bengo, Angola

**Study objectives**
Hypotheses
1. Educating mothers for adequate nutritional practices reduce anemia better than only deworming the children
2. Educating mothers for adequate Water, Sanitation and Hygiene practices reduce anemia better than only deworming the children
3. Educating mothers for adequate nutritional practices reduce anemia in children, better than educating mothers for adequate Water, Sanitation and Hygiene

**Ethics approval required**
Old ethics approval format

**Ethics approval(s)**
Ethics Committee of the Ministry of Health of the Republic of Angola, 10/06/2015

**Primary study design**
Interventional

**Study design**
Cluster randomized controlled trial

**Study type(s)**
Prevention

**Health condition(s) or problem(s) studied**
Anemia and its etiologic agents (malnutrition, micro-nutrient deficiency, malaria, schistosomiasis, STH, food security and socioeconomic conditions, etc).

**Interventions**
After the baseline evaluation (for which all eligible children will be invited to participate by a mobilization team in a census approach), the names of the hamlets (clusters) will be written on a

paper and placed in a bag. The papers will then be successively removed from the bag, where the first pair removed will be allocated to the nutrition arm, the following pair to the WASH /malaria arm and the next to the control group, and so on successively until there is only one hamlet to be removed (which will be allocated to the nutrition group).

Group A: Nutrition educational intervention - Personalized (theoretical), home-based counseling of primary caretakers on infant and young children and community cooking practical classes.

Group B: WASH and malaria prevention educational intervention - Personalized (theoretical), home-based counseling of primary caretakers on adequate WASH and malaria preventive behaviors and community washing-hands practical classes

Group C: Control group - In this group, children will be screened and treated for malaria, schistosomiasis and STH at the baseline and in the follow up evaluations.

Children from all arms will be screened and treated for malaria, schistosomiasis and STH at the baseline and in the follow up evaluations (every six months).

### Intervention Type
Behavioural

### Primary outcome(s)
Variation of hemoglobin levels during 12 months, measured in blood collected by venipuncture (by immunochromatography using an Hemocue 301+) at baseline, 6 and 12 months

### Key secondary outcome(s)
1. Variation of anthropometric indices (weight and height, measured using platform/floor scales and infantometer/stadiometer, respectively) at baseline, 6 and 12 months
2. Micro-nutrient deficiency: ferritin, measured by turbidimetric/colorimetric techniques using an automated autoanalizer (BT1500) and folate, vitamin A and B12, measured by HPLC, in samples collected at baseline, 6 and 12 months
3. Food diversity, measured by questionnaire completed by the mothers/caretakers, at baseline, 6 and 12 months

### Completion date
15/09/2017

## Eligibility

### Key inclusion criteria
1. All children under 3 years old (and their primary caretakers)
2. Resident in hamlets with functional health posts within the communes of Ucua, Mabubas and Caxito from the Dande municipality (Bengo province, Angola)

### Participant type(s)
Healthy volunteer

### Healthy volunteers allowed
No

### Age group

Child

**Upper age limit**
3 Years

**Sex**
All

**Key exclusion criteria**
1. Reported adverse reactions to albendazole and praziquantel
2. Failing the assessment and treatment at the baseline

**Date of first enrolment**
15/06/2015

**Date of final enrolment**
15/09/2016

# Locations

**Countries of recruitment**
Angola

**Study participating centre**
**Health Research Center of Angola**
Estação Central Postal de Luanda. Apartado IV - nº 5547. Luanda - Angola
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# Sponsor information

**Organisation**
Health Research Centre of Angola

# Funder(s)

**Funder type**
Charity

**Funder Name**
Calouste Gulbenkian Foundation (Fundação Calouste Gulbenkian)

**Funder Name**
Banco de Fomento Angola (BFA)

**Funder Name**
Special Program for Research and Training in Tropical Diseases (TDR)

**Funder Name**
José Eduardo dos Santos Foundation (Fundação José Eduardo dos Santos)

# Results and Publications

### Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request

### IPD sharing plan summary
Available on request

### Study outputs

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| Results article | | 10/03/2021 | 18/11/2021 | Yes | No |
| Protocol article | protocol | 05/02/2019 | 18/06/2019 | Yes | No |