

# An evaluation of healthcare provider training on the availability and quality of antenatal and postnatal care in Chad

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<b>Registration date</b> 29/09/2020	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 11/07/2022	<b>Condition category</b> Pregnancy and Childbirth	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Maternal and perinatal (immediately before and after birth) illnesses and death remain a challenge, especially in lower- and middle-income settings including Chad. Antenatal and postnatal care offered in healthcare facilities by trained healthcare providers is an essential platform for addressing the health needs of women and babies at the time of pregnancy and the immediate period after the baby is born. The services are expected to include not only advice and screening, but also testing and treatment for conditions and diseases such as malaria, HIV and tuberculosis (TB) as well as hypertension, anaemia and other complications. The essential beneficial components of care should be offered and provided to each woman and/or her baby at the time of her visit to the clinic, so that the appropriate treatment can be started to help the mother and prevent illness in the baby. If all services are offered as part of what is called integrated care, the woman and her baby receive all the required care during the same clinic visit and probably by the same provider, and they do not have to come back to another clinic or at another time.

In practice, however, although many women spend quite a lot of time at the healthcare facility each time they visit, they often do not receive all the necessary components of care. Both the content and the quality of care are at times insufficient; this may due to a lack of knowledge, skills and/or confidence among healthcare providers in how best to provide all aspects of care, or gaps with how the services are organised.

To improve the quality and availability of care, a common strategy in lower- and middle-income countries is to provide health staff with in-service competency-based practical training workshops. However, commonly used tests for evaluation of training do not assess whether there is behavioural change in clinical practices. A powerful tool to explore it is to directly observe consultations and the provision of care.

The aim of this study is to evaluate the effectiveness of 'skills and drills' competency-based training of healthcare professionals for the improvement of practice in the delivery of essential components during antenatal/postnatal care visits.

#### Who can participate?

Women 18 years of age or older who have received antenatal or postnatal care, and healthcare providers involved in antenatal and postnatal care services in selected facilities

#### What does the study involve?

Participating healthcare facilities are randomly allocated to receive an intervention (training in antenatal and postnatal care) at different times according to a set schedule. Measurements of the availability of antenatal and postnatal care before training of the healthcare providers are compared to measurements after training during each stage lasting 6 or 7 weeks. Compliance to standards is also measured before and after the action is taken for improvement.

#### What are the possible benefits and risks of participating?

In addition to training being provided for healthcare providers, the benefits of the assessment include making data available to the facility on the quality of care provided, including recommendations for improvement. There are no immediate risks to healthcare facilities and healthcare providers in participating, except for the potential increase in workload related to data collection for the study. The assessment will provide data on quality of care and highlight areas of care that may need to improve. However, none of the findings will be linked to individual staff and there will be no negative repercussions for the staff in the facility. There are no direct benefits to patients, but the information provided will help to identify what aspects of care need to improve and the intention is that the facility will then make improvements to the quality of care provided; this means other women and their babies, would benefit in the future. There are no immediate risks to patients from taking part; however, exit interviews may stir up distressing memories of poor care being recalled as part of the assessment.

#### Where is the study run from?

18 healthcare facilities from the N'Djamena region in Chad; all work is coordinated by the Centre for Maternal and Newborn Care at the Liverpool School of Tropical Medicine, in partnership with the Ministry of Health in Chad and the Centre de Support en Santé Internationale (CSSI) in Chad.

#### When is the study starting and how long is it expected to run for?

January 2020 to December 2021

#### Who is funding the study

Global Fund to Fight AIDS, Tuberculosis and Malaria (Switzerland)

#### Who is the main contact?

Dr Marion Ravit

marion.ravit@lstmed.ac.uk

## Contact information

#### Type(s)

Scientific

#### Contact name

Dr Marion Ravit

#### ORCID ID

<http://orcid.org/0000-0003-4440-0260>

**Contact details**

Liverpool School of Tropical Medicine  
Pembroke Place  
Liverpool  
United Kingdom  
L3 5QA  
+44 (0)151 832 1687  
marion.ravit@lstmed.ac.uk

**Type(s)**

Scientific

**Contact name**

Dr Charles Ameh

**ORCID ID**

<http://orcid.org/0000-0002-2341-7605>

**Contact details**

Liverpool School of Tropical Medicine  
Pembroke Place  
Liverpool  
United Kingdom  
L3 5QA  
+44 (0)7714 75 3844  
Charles.Ameh@lstmed.ac.uk

**Additional identifiers****EudraCT/CTIS number**

Nil known

**IRAS number****ClinicalTrials.gov number**

Nil known

**Secondary identifying numbers**

20-033 (LSTM REC)

**Study information****Scientific Title**

Randomized stepped wedge trial to assess the effectiveness of healthcare provider training on the availability and quality of antenatal and postnatal care in Chad

**Study objectives**

Competency-based training of healthcare providers will improve the availability and quality of integrated antenatal (ANC) and postnatal care (PNC).

## **Ethics approval required**

Old ethics approval format

## **Ethics approval(s)**

1. Approved 21/09/2020, National Bioethics Committee (Comité National de Bioéthique – CNBT, Tchad (CNBT Secretary General); +235 (0)662 38583; fayizalhilou@gmail.com), ref: 0197/PR /MESRI/DGM/CNBT/2020
2. Approved 04/06/2020, Research Governance and Ethics Office (Room 221, 2nd Floor LLSA, Daulby Street, Liverpool, UK; +44 (0)151 705 9396; lstmrec@lstmed.ac.uk); ref: 20-033

## **Study design**

Interventional multi-centre crossed randomized stepped-wedge clustered controlled study

## **Primary study design**

Interventional

## **Secondary study design**

Cluster randomised trial

## **Study setting(s)**

Hospital

## **Study type(s)**

Treatment

## **Participant information sheet**

Not available in web format, please use contact details to request a participant information sheet

## **Health condition(s) or problem(s) studied**

Maternal and neonatal health and quality of care

## **Interventions**

A multi-dimensional incomplete stepped wedge trial design (SW-RCT) will be used to assess the effects of the intervention (competency-based Training in ANC and PNC). Each healthcare facility will receive the intervention.

To assess the impact of training in ANC and PNC, an incomplete closed cohort stepped wedge design trial will be used. This means that the participants are the same healthcare facilities, for which assessments are obtained during 6-7-week cycles. Availability of each essential component of care will be assessed in each calendar month.

## **Method of randomisation**

The study has eight assessment periods. Each healthcare facility will be randomised to a Group (A, B, C, D, E, F) which determines the periods (2 to 7) in which the ANC-PNC training workshop will take place. Additionally, in all periods from 1 to 8, healthcare facilities will be assessed by observation of consultations. Each period lasts 6-7 weeks. All randomisations will be done using the runiform() function in Stata.

## **Competency-based training**

In line with an adult-learning participatory approach the workshop content and mode of delivery

includes didactic lectures (15%), competency-based active learning (65%) consisting of hands-on demonstration of skills, scenarios, discussions and workshops; mentoring (10%) and self-evaluation and assessment (10%).

Total duration: 1 year; total follow-up: 1 year (this is a stepped-wedge RCT, observation happens from the beginning to the end of the trial).

### **Intervention Type**

Behavioural

### **Primary outcome measure**

Proportion of essential components delivered during antenatal or postnatal visits measured using a standardised tool for observation of antenatal and postnatal care at every step, each step lasts 6-7 weeks, and there are 8 steps in total

### **Secondary outcome measures**

There are no secondary outcome measures

### **Overall study start date**

02/01/2020

### **Completion date**

01/12/2021

## **Eligibility**

### **Key inclusion criteria**

(Note: This is a clustered trial where healthcare facilities represent one cluster)

#### **Healthcare facilities:**

In consultation with the Ministry of Health public or private HCFs in N'Djamena will be identified that are:

1. Designated to provide ANC and PNC
2. In a state of readiness to provide ANC and PNC (i.e. equipment and consumables in principle in place) will be eligible for inclusion

#### **Healthcare providers:**

All healthcare providers providing antenatal or postnatal services in the selected facilities

#### **Women (clients):**

Those attending antenatal or postnatal care services in the selected facilities over the age of 18

### **Participant type(s)**

Mixed

### **Age group**

Adult

### **Lower age limit**

18 Years

**Sex**

Both

**Target number of participants**

Healthcare facilities: 18; healthcare providers: 54; clients (women): between 576 and a maximum of 864 (up to 12 women per healthcare facility over 4 evaluation periods)

**Total final enrolment**

496

**Key exclusion criteria**

1. Healthcare facilities: those not identified as eligible by the MOH
2. Healthcare providers:
  - 2.1. Not providing antenatal or postnatal care in the selected facilities
  - 2.2. Not consenting to be observed as part of the study
3. Clients (women):
  - 3.1. Under 18 years old
  - 3.2. Not attending antenatal or postnatal services in selected facilities
  - 3.3. Not consenting to be observed as part of the study
  - 3.4. Respondents expressing physical or psychological distress at the idea of being observed during a consultation

**Date of first enrolment**

28/09/2020

**Date of final enrolment**

04/10/2021

**Locations****Countries of recruitment**

Chad

**Study participating centre**

Hôpital Mère Enfant

N'Djamena

Chad

-

**Study participating centre**

CHU le Bon Samaritain

N'Djamena

Chad

-

**Study participating centre**  
**Hôpital Amitié Tchad Chine**  
N'Djamena  
N'Djamena  
Chad

-

**Study participating centre**  
**Centre National de traitement des fistules**  
N'Djamena  
Chad

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**Study participating centre**  
**N'Djamena Sud Hôpital de l'Union**  
N'Djamena  
Chad

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**Study participating centre**  
**N'Djamena Nord Hôpital de la Paix**  
N'Djamena  
Chad

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**Study participating centre**  
**N'Djamena Centre Hôpital Sultan Kasser**  
N'Djamena  
Chad

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**Study participating centre**  
**N'Djamena Est Hôpital de Gozator**  
N'Djamena  
Chad

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**Study participating centre**

**Notre Dame des Apôtres**

N'Djamena

Chad

-

**Study participating centre**

**Atrone health centre**

N'Djamena

Chad

-

**Study participating centre**

**Toukra health centre**

N'Djamena

Chad

-

**Study participating centre**

**Abena Atetip**

N'Djamena

Chad

-

**Study participating centre**

**Ardep-Timan health centre**

N'Djamena

Chad

-

**Study participating centre**

**Bololo health centre**

N'Djamena

Chad

-

**Study participating centre**



**Diguel Est health centre**

N'Djamena

Chad

-

**Study participating centre****Hilé-Houdjadj health centre**

N'Djamena

Chad

-

**Study participating centre****Gaoui health centre**

N'Djamena

Chad

-

**Study participating centre****Goudji health centre**

N'Djamena

Chad

-

## **Sponsor information**

**Organisation**

Liverpool School of Tropical Medicine

**Sponsor details**

Pembroke Place

Liverpool

England

United Kingdom

L3 5QA

+44 (0)151 705 3100

info@lstmed.ac.uk

**Sponsor type**

University/education

**Website**

<https://www.lstmed.ac.uk/>

**ROR**

<https://ror.org/03svjbs84>

## Funder(s)

### Funder type

Research organisation

### Funder Name

Global Fund to Fight AIDS, Tuberculosis and Malaria

### Alternative Name(s)

Global Fund, Fonds mondial, The Global Fund to Fight AIDS, Tuberculosis and Malaria, Fonds mondial de lutte contre le sida, la tuberculose et le paludisme, The Global Fund, Le Fonds mondial, GFATM

### Funding Body Type

Private sector organisation

### Funding Body Subtype

International organizations

### Location

Switzerland

## Results and Publications

### Publication and dissemination plan

Planned publication in a high-impact peer-reviewed journal

Added 08/06/2022:

Results disseminated in N'Djamena on 13/12/2021

### Intention to publish date

01/01/2023

### Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from Dr Barbara Madaj ([Barbara.Madaj@lstmed.ac.uk](mailto:Barbara.Madaj@lstmed.ac.uk)) or via the Centre's email address ([cmnh@lstmed.ac.uk](mailto:cmnh@lstmed.ac.uk)). Data will be accessible once the trial publication is published. The data dictionary with information on data available (variables and characteristics of variables) can be reviewed by interested parties. Use of data would need to be agreed in advance, following legal and ethical guidelines. Data in this trial relate to health facilities, not individual people, but

the information on healthcare facilities will be suitably anonymised to protect the individual facilities. LSTM require data to be preserved for a minimum of 5 years, but there is no cap for how long the data would be stored.

## IPD sharing plan summary

Available on request

## Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol file</a>	version V2	22/05/2020	08/10/2020	No	No