

Malnutrition and diabetes in tuberculosis treatment programs in the Philippines

Submission date 15/05/2017	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 19/05/2017	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 23/03/2021	Condition category Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Tuberculosis (TB) is a bacterial infection that affects mainly the lungs and is spread through tiny droplets from coughs or sneezes. Wasting and malnutrition are common in patients infected with TB and are associated with mortality (death) and adverse outcomes. Under-nutrition is a risk factor and complication of active TB disease. Diabetes mellitus (a lifelong condition that causes a person's blood sugar level to become too high) is another risk factor for TB. Patients with diabetes are three times more likely to develop TB, while TB causes glucose (sugar) intolerance and can worsen glycemic (blood sugar) control among diabetics. However, there is little known about the prevalence of wasting and diabetes among TB outpatients in the Philippines. It is likely that nutritional programmes may improve TB outcomes for malnourished patients however there are no international or Filipino guidelines for nutritional support during TB treatment. There is a need for data on the prevalence of malnutrition, TB treatment outcome related to wasting and on malnutrition and diabetes prevalence in order to inform more research. The aim of this study is to evaluate the prevalence of wasting and diabetes among TB outpatients in the Philippines in order to improve the nutrition outcomes for malnourished patients and create guidelines for nutritional support during TB treatment.

Who can participate?

Adults aged 18 and older who are registered TB DOTS patients at certain clinics.

What does the study involve?

Participants are randomly invited to join the study while they attend a health clinic for treatment for their TB or other co-morbidities (illnesses). During this visit, participants complete questionnaires on health and social factors including TB diagnosis, treatment, compliance to medications, side effects of medications, quality of life, cost of treatment, food security and appetite. Participants are also measured for their weight, height, handgrip strength, mid upper arm circumference, waist/hip circumference. Participants also provide blood samples from fingerpricks to determine if they have diabetes or HIV.

What are the possible benefits and risks of participating?

Participants may benefit from being screened for diabetes. There are no notable risks with participating however participants may experience discomfort when they provide blood samples through the fingerprick test.

Where is the study run from?

This study is being run from three health centres in Manila and two health centres in Negros Occidental (Philippines).

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

September 2016 to October 2017

Who is funding the study?

Nagasaki University (Japan)

Who is the main contact?

Dr Sharon Cox

sharon.cox@lshtm.ac.uk

Contact information

Type(s)

Scientific

Contact name

Prof Sharon Cox

ORCID ID

<https://orcid.org/0000-0002-9908-2936>

Contact details

Nagasaki University

Graduate School of Tropical Medicine and Global Health

1-12-4 Sakamoto

Nagasaki

Japan

852-8523

+81 95 819 8583

sharon.cox@lshtm.ac.uk

Type(s)

Public

Contact name

Ms Laura White

Contact details

San Lazaro Hospital

Quiricada Street

Santa Cruz

Manila

Philippines
1003
+63 921 301 1934
laurawhite@nagasaki-u.ac.jp

Additional identifiers

Protocol serial number

N/A

Study information

Scientific Title

Malnutrition and Tuberculosis in the Philippines: prevalence of undernutrition and diabetes in TB control programmes

Acronym

Mal-TB DOTS

Study objectives

The aim of this study is to evaluate the prevalence of wasting and diabetes among TB outpatients in the Philippines in order to improve the nutrition outcomes for malnourished patients and create guidelines for nutritional support during TB treatment

Ethics approval required

Old ethics approval format

Ethics approval(s)

1. National Ethics Committee - Philippine Council for Health Research and Development, 17/01/2017, ref: NEC code 2016-021-Cox-MalnutritionandTuberculosis
2. London School of Hygiene and Tropical Medicine, 20/03/2017, ref 11995
3. San Lazaro Hospital Research Ethics and Review Unit, 23/02/2017

Study design

Observational cross sectional study

Primary study design

Observational

Study type(s)

Other

Health condition(s) or problem(s) studied

Tuberculosis, malnutrition, diabetes

Interventions

In this cross-sectional study, participants are randomly sampled as to when they are surveyed for data collection. This could be during their first week of TB treatment or their final week of treatment depending on when they are identified through the random sampling approach. The participants is invited to the study during presentation to the TBDOTS clinical or their local

Barangay Health Station to obtain their medicine (or once tracked for those patients not regularly visiting the clinics) and once consent is obtained all study investigations and questionnaires are completed during that visit. There is no follow-up of patients.

Study investigations to be completed during the visit include questionnaires on health and social factors including TB diagnosis, treatment, compliance to medications, side effects of medications, quality of life, economic impact of TB on the participant, food security status, and appetite/intake data. Anthropometric data (weight, height, handgrip strength, mid upper arm circumference, waist/hip circumference) are measured at time of enrollment to the study. Fingerprick bloods samples are used to determine diabetes status (HbA1c), anemia (Hb), inflammation (CRP) and HIV status (if additional consent provided) at the time of enrollment.

Intervention Type

Other

Primary outcome(s)

1. Prevalence of clinical wasting (BMI <17.0 kg/m²) is measured using the participants' weight and height at time of study enrollment
2. Prevalence of diabetes is measured using the Alere Afinion point of care test for HbA1c (diabetes defined as >6.5%) through a blood prick test or previous diagnosis at time of study enrollment

Key secondary outcome(s)

1. Factors associated with malnutrition (age, sex, region, duration of treatment, programme compliance, household food security and appetite) are measured using patient treatment cards at time of study enrollment
2. Prevalence of drug related side effects are measured using patient interview at time of study enrollment and one month
3. Handgrip strength measured using a strain-gauge based isometric Jamar Hand Dynamometer at time of study enrollment
4. BMI is measured using participants weight and height at time of study enrollment
5. Mid-upper arm circumference is measured using SECA measuring tape at time of study enrollment
6. Diabetes management is measured using patient interview at time of study enrollment
7. Anaemia is measured using hemoglobin value (obtained using Hemocue 301+ point of care test) at time of study enrollment
8. Quality of life is measured using the WHO Quality of Life BREF survey at time of study enrollment
9. Patient related compliance (in the last week) is measured using interviews and document compliance through patient treatment cards at time of study enrollment

Completion date

31/10/2017

Eligibility

Key inclusion criteria

1. All registered TB DOTS patients at preselected clinics. This includes those with MDR TB, co-infection with HIV, and those with pre-existing diabetes or other co-morbidities.
2. Aged 18 and older

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Total final enrolment

637

Key exclusion criteria

Pregnant women.

Date of first enrolment

01/05/2017

Date of final enrolment

01/09/2017

Locations**Countries of recruitment**

Philippines

Study participating centre

San Lazaro Hospital

Manila

Philippines

1003

Study participating centre

Pedro Gil Health Center

Manila

Philippines

1017

Study participating centre
San Nicolas Health Center
Manila
Philippines
1002

Study participating centre
Bago City Health Center
Negros Occidental
Philippines
6101

Study participating centre
Valladolid Health Center
Negros Occidental
Philippines
6103

Sponsor information

Organisation
Nagasaki University

ROR
<https://ror.org/058h74p94>

Funder(s)

Funder type
University/education

Funder Name
Nagasaki University

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be stored in a non-publically available repository London School of Hygiene and Tropical Medicine server at <https://maltbdots.odk.lshtm.ac.uk> with only investigators having access to the data. Anonymized data will be stored in a repository after study completion and will be shared with interested parties upon reasonable request to Dr. Sharon Cox. Participant consent was obtained to store anonymized data in repository for period of 10 years after study completion.

IPD sharing plan summary

Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	Participant information sheet	01/07/2020	23/03/2021	Yes	No
Results article		05/03/2020	23/03/2021	Yes	No
Participant information sheet		11/11/2025	11/11/2025	No	Yes