

# Food and beverages during a military exercise

<b>Submission date</b> 17/09/2024	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 19/09/2024	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
<b>Last Edited</b> 19/09/2024	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

The study aims to determine how soldiers feed and hydrate themselves before, during and after a military operation. Optimal nutrition and hydration status will support physical performance, while dehydration can lead to a loss of endurance capacity and hyperthermia.

### Who can participate?

Male military paratroopers aged between 20 and 30 years, participating in a military operation of 1 week in rough conditions

### What does the study involve?

1. Assessing body fat mass and body muscle mass with a BodyScan (Tanita MC780) every morning for 7 days
2. Assessing urine density with a refractometer every morning for 7 days
3. Assessing energy expenditure and sleep with an accelerometer for 7 days

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

The results will be used to develop recommendations to optimize the physical performance and living conditions of military personnel during military operations. Individual results will be discussed with the participants.

### Where is the study run from?

Belgian Defence

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

July 2018 to December 2024

### Who is funding the study?

Belgian Defence

### Who is the main contact?

Prof. Dr Patrick Mullie, [Patrick.mullie@mil.be](mailto:Patrick.mullie@mil.be)

## Contact information

**Type(s)**

Public, Scientific, Principal investigator

**Contact name**

Prof Patrick Mullie

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**Additional identifiers****Clinical Trials Information System (CTIS)**

Nil known

**ClinicalTrials.gov (NCT)**

Nil known

**Protocol serial number**

Nil known

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

Energy availability, hydration and nutrition in army men during field training

**Acronym**

ENAV

**Study objectives**

The study aims to determine how soldiers feed and hydrate themselves before, during and after a military operation. Optimal nutrition and hydration status will support physical performance, while dehydration can lead to a loss of endurance capacity and hyperthermia. The selected population consists of military personnel during military operations.

Participants will be required to complete the following steps:

1. Assessing anthropometric data with a BodyScan (Tanita MC780)
2. Assessing urine density with a refractometer
3. Assessing energy expenditure and sleep with an accelerometer

**Ethics approval required**

Ethics approval required

## **Ethics approval(s)**

approved 11/07/2018, Ethics Committee VUB Brussels (Laarbeeklaan 101, Brussels, 1050, Belgium; +32 (0)24775584; commissie.ethiek@uzbrussel.be), ref: B.U.N. 143201836602

## **Study design**

Single-centre observational cross-sectional study

## **Primary study design**

Observational

## **Study type(s)**

Quality of life

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

Nutrition and dehydration during military operations

## **Interventions**

It is an observational study, so there is no intervention. The researchers plan to do three assessments, i.e., BodyScan with a Tanita to assess body composition, assess daily urine density and assess energy expenditure with an accelerometer-type actigraph. This will be done during 1 week, with no further follow-up. This data will help make recommendations for military men during exercises and operations.

## **Intervention Type**

Other

## **Primary outcome(s)**

1. Relative and absolute body fat mass and body muscle mass (kg-percent) measured with impedance, i.e., with an MC780 Tanita Body Scale, every morning for 1 week
2. Density of morning urine measured with an Atago refractometer every morning for 1 week
3. Energy expenditure in kcal.d-1 measured with an accelerometer continuously for 7 days
4. Sleep duration in min.d-1 measured with an accelerometer continuously for 7 days
5. Sleep disruption measured with the sleep fragmentation index (SFI) and an accelerometer continuously for 7 days

## **Key secondary outcome(s)**

There are no secondary outcome measures

## **Completion date**

03/12/2024

## **Eligibility**

### **Key inclusion criteria**

1. Male
2. Aged between 20 and 30 years
3. Military personnel
4. During a military operation in Hungary

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

Healthy volunteer

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

20 years

**Upper age limit**

30 years

**Sex**

Male

**Key exclusion criteria**

1. Female
2. Aged above 30 years

**Date of first enrolment**

23/11/2024

**Date of final enrolment**

23/11/2024

## **Locations**

**Countries of recruitment**

Belgium

**Study participating centre**

**3 Para**

Kaliebaan 30

Tielen

Belgium

2460

## **Sponsor information**

**Organisation**

Belgian Defence

# Funder(s)

## Funder type

Government

## Funder Name

Belgian Defence

# Results and Publications

## Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study will be available upon request from Prof. Patrick Mullie (patrick.mullie@mil.be)

## IPD sharing plan summary

Available on request