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Food and beverages during a military exercise

Submission date	Recruitment status	[X] Prospectively registered
17/09/2024	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
19/09/2024	Completed	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
19/09/2024	Nutritional, Metabolic, Endocrine	[_] 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

Contact information

Type(s)
Public, Scientific, Principal investigator

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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

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes