

# A retrospective study of socio-demographic and lifestyle factors associated with macronutrient intake

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<b>Registration date</b> 19/08/2019	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 10/10/2022	<b>Condition category</b> Nutritional, Metabolic, Endocrine	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

The optimal macronutrient (e.g. fat, protein, carbohydrate) composition of the diet is a controversial topic and many adults attempt to regulate their intake of specific macronutrients. Popular dietary trends with radical shifts in macronutrient intake emerge from time to time for various perceived health-specific reasons. However, they often lack adequate scientific evidence for their efficacy and do not appear to be successful on a long-term basis due to a variety of factors, including compliance. Additionally, consciously selecting a diet consisting of a specific macronutrient mix is a complex task, since diets usually consist of a variety of foods in which nutrients are present in complex matrices. The aim of this study is to evaluate the relative proportions of macronutrient intake in US adults and how dietary composition is affected by various lifestyle and socio-demographic factors using the National Health Examination Survey (NHANES) data.

### Who can participate?

Data is extracted from a pre-existing public database – a nationally representative survey of the US population, the National Health and Nutrition Examination Survey (NHANES).

### What does the study involve?

Information on the relationship between macronutrient intake and various socio-demographic and lifestyle factors is extracted from the NHANES. The results of this study are compared to previously published research and will provide information on which to base future comparisons. When appropriate, data from the general population will be compared to data from military populations.

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

This study will provide data related to macronutrient intake and help to better understand the biological constraints on dietary constituents. This information may improve formulation of practical guidance regarding optimal macronutrient intake in both civilian and military populations. There are no risks associated with this study.

Where is the study run from?

US Army Research Institute of Environmental Medicine (USA)

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

December 2016 to December 2018

Who is funding the study?

Medical Research and Development Command (USA)

Who is the main contact?

Dr Harris Lieberman

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## Contact information

### Type(s)

Public

### Contact name

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## Additional identifiers

### Clinical Trials Information System (CTIS)

Nil known

### Protocol serial number

17-07-R

## Study information

### Scientific Title

Use of NHANES data to assess nutrition issues related to the health of DoD personnel

### Study objectives

Since macronutrients are acquired from a variety of foods and are typically present in complex food matrices, consciously selecting a diet consisting of a specific macronutrient mix is a complex task. However, with adequate availability of varied foods, the macronutrient composition of diets may be unconsciously but effectively regulated. The objective of this study is to evaluate relative proportions of macronutrients consumed by US adults and ascertain the impact of various lifestyle and socio-demographic factors on dietary habits using the National

Health Examination Survey (NHANES). When applicable, this information will provide reference population data for interpreting findings on the dietary intake of military personnel.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

All participants or proxies provided written informed consent and the Research Ethics Review Board at the National Center for Health Statistics approved the survey protocol. Additional information regarding the National Center for Health Statistics Ethics Review Board Approval for NHANES can be found at: <https://www.cdc.gov/nchs/nhanes/irba98.htm>

The US Army Research Institute of Environmental Medicine (USARIEM) Scientific Review Board approved the research plan on 29/12/2016; the USARIEM Human Use Review Committee determined obtaining unidentifiable information did not constitute human subjects research and therefore did not require full human use review on 29/12/2016; final approval to implement the research protocol was granted by the USARIEM Commander on 29/12/2016.

USARIEM Office of Research Quality and Compliance (US Army Research Institute of Environmental Medicine, 10 General Greene Ave., Building 42, Natick, MA 0760-5007, USA; Tel: +1 (0)508 233 5319; Email: [usarmy.natick.medcom-usariem.list.usariem-rqc@mail.mil](mailto:usarmy.natick.medcom-usariem.list.usariem-rqc@mail.mil)), ref: USARIEM 17-07-R

### **Study design**

Epidemiological retrospective investigation using an existing publicly-available database of anonymized survey data

### **Primary study design**

Observational

### **Study type(s)**

Other

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

Macronutrient intake and various demographic and lifestyle data

### **Interventions**

There will be no controlled experimental intervention in this research. Instead, data will be extracted from a preexisting public database – a nationally representative survey of the US population, the National Health and Nutrition Examination Survey (NHANES) – to obtain information on the relationship between macronutrient intake and various socio-demographic and lifestyle factors. All data to be used in this research will be obtained from previously-established databases. The database is accessible to the public through the Centers for Disease Control website on the World Wide Web (NHANES; <http://cdc.gov/NCHS/nhanes.htm>) and does not contain any personal identifiers. Standard statistical methods for the analysis of weighted population NHANES datasets will be employed, including multiple regression modeling and other multivariate techniques. United States data will be compared to publically-available data from other countries.

### **Intervention Type**

Other

**Primary outcome(s)**

Protein, carbohydrate and fat intake ranges by the civilian population subgroups, extracted from the National Health and Nutrition Examination Survey for years 2009 to 2014

**Key secondary outcome(s)**

Reference population data for interpreting findings on protein, carbohydrate and fat intake ranges by military personnel, extracted from the National Health and Nutrition Examination Survey for years 2009 to 2014

**Completion date**

31/12/2018

**Eligibility****Key inclusion criteria**

All data to be used reside in an existing national database (NHANES) accessible to the public through the Centers for Disease Control website on the World Wide Web (NHANES; <http://cdc.gov/NCHS/nhanes.htm>). This data does not contain any personal identifiers.

**Participant type(s)**

All

**Healthy volunteers allowed**

No

**Age group**

Adult

**Sex**

All

**Key exclusion criteria**

This is an epidemiological retrospective investigation in which select survey data may be excluded based on the sociodemographic and lifestyle strata of interest at different stages of the investigation. Data will be extracted from a pre-existing public database – a nationally representative survey of the US population.

**Date of first enrolment**

29/12/2016

**Date of final enrolment**

31/12/2018

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

United States of America

**Study participating centre**  
US Army Research Institute of Environmental Medicine  
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## Sponsor information

**Organisation**  
US Army Research Institute of Environmental Medicine

**ROR**  
<https://ror.org/00rg6zq05>

## Funder(s)

**Funder type**  
Government

**Funder Name**  
Medical Research and Development Command

## Results and Publications

**Individual participant data (IPD) sharing plan**  
All data used for this study are publicly available at the NHANES website: <https://wwwn.cdc.gov/nchs/nhanes/Default.aspx>

**IPD sharing plan summary**  
Stored in repository

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/07/2020	17/04/2020	Yes	No
<a href="#">Protocol file</a>	version 2016	02/11/2016	10/10/2022	No	No