

Malawi - All Bioimpedance and Hand-grip Data (Karonga and Lilongwe combined data)

Malawi Epidemiology and Intervention Research Unit

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Identification

SURVEY ID NUMBER

MWI-MEIRU-bioimp-handgrip-combined-v01

TITLE

All Bioimpedance and Hand-grip Data (Karonga and Lilongwe combined data)

COUNTRY

Name
Malawi

ABSTRACT

Data on bio-impedance and hand-grip were collected in several studies in Karonga and Lilongwe, and these data are combined into one dataset using the do-file bioimp_handgrip_combine.do

UNIT OF ANALYSIS

Individual

Version

VERSION DATE

2020-06-16

Coverage

GEOGRAPHIC COVERAGE

Karonga and Lilongwe

Data collection

DATES OF DATA COLLECTION

Start	End	Cycle
2016-06-26	2019-06-01	1

DATA COLLECTION MODE

Face-to-face [f2f]

Access policy

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Metadata production

DDI DOCUMENT ID
DDI-MWI-MEIRU-bioimp-handgrip-combined-2020-v01

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DATE OF METADATA PRODUCTION
2020-06-16

DDI DOCUMENT VERSION
version 1 (June 2020)

Data Dictionary

Data file	Cases	Variables
bioimp_handgrip_combined Data on bio-impedance and hand-grip were collected in several studies in Karonga and Lilongwe, and these data are combined into one dataset using the do-file bioimp_handgrip_combine.do. The variables available are slightly different for each study so each dataset are harmonised before being appended together. An attempt is made to have at least one set of fat mass (kg & %) and fat-free mass (kg & %) variables for each record: in some studies one or all of these were produced by the bioimpedance machine and recorded, in others the impedance value from the machine was recorded, in others the impedance value was not recorded but the resistance value was. To account for all these differences 3 different versions of the body mass variable are given: *_M values directly from the machine, or derived from machine values *_I values calculated using the weight/height and the impedance value *_R values calculated using the weight/height and the resistance value Data on bio-impedance and hand-grip were collected in the following studies: - ARK African Research into Kidney Disease Study - GAP Study of growth and stunting in adolescents - KDU Kidney disease of unknown origin study - NUT Development of nutritional strategies for diabetes prevention in Malawian adults at high diabetes risks - PHD Pre-hypertension, pre-diabetes study In the variable labels (S) indicates that the variable is unchanged from the original source and (D) indicates that it is a 'derived' variable, often using more than one source variable. For both types information on where the data come from and how they are processed is found in the 'Recoding and Derivation' section	3427	33

Data file: bioimp_handgrip_combined

Data on bio-impedance and hand-grip were collected in several studies in Karonga and Lilongwe, and these data are combined into one dataset using the do-file bioimp_handgrip_combine.do

The variables available are slightly different for each study so each dataset are harmonised before being appended together. An attempt is made to have at least one set of fat mass (kg & %) and fat-free mass (kg & %) variables for each record: in some studies one or all of these were produced by the bioimpedance machine and recorded, in others the impedance value from the machine was recorded, in others the impedance value was not recorded but the resistance value was. To account for all these differences 3 different versions of the body mass variable are given:

- *_M values directly from the machine, or derived from machine values
- *_I values calculated using the weight/height and the impedance value
- *_R values calculated using the weight/height and the resistance value

Data on bio-impedance and hand-grip were collected in the following studies:

ARK African Research into Kidney Disease Study

GAP Study of growth and stunting in adolescents

KDU Kidney disease of unknown origin study

NUT Development of nutritional strategies for diabetes prevention in Malawian adults at high diabetes risks

PHD Pre-hypertension, pre-diabetes study

In the variable labels (S) indicates that the variable is unchanged from the original source and (D) indicates that it is a 'derived' variable, often using more than one source variable. For both types information on where the data come from and how they are processed is found in the 'Recoding and Derivation' section

Cases: 3427

Variables: 33

Variables

ID	Name	Label	Question
V1	ident	Unique identifier (Karonga) (S)	
V2	stid	Study id (S)	
V3	study	Source of data (coded) (D)	
V4	source	Source of data (text) (D)	
V5	site	Site of data (D)	
V6	birth_date	Date of birth (D)	
V7	sex	Sex (D)	
V8	age	Age at measurements (D)	
V9	intdate	Date of measurements (S)	
V10	weight	Weight in kg (D)	
V11	height	Height in cm (D)	
V12	BMI	Body mass index (D)	
V13	impval	Impedance value (D)	
V14	resval	Resistance value (D)	
V15	reacval	Reactance value (D)	
V16	fatmass_M	Fat mass in KG (machine value) (D)	
V17	fatmass_I	Fat mass in KG (value calculated using impedance) (D)	
V18	fatmass_R	Fat mass in KG (value calculated using resistance) (D)	
V19	fatmasspc_M	Fat mass % (machine value) (D)	
V20	fatmasspc_I	Fat mass % (value calculated using impedance) (D)	
V21	fatmasspc_R	Fat mass % (value calculated using resistance) (D)	
V22	ffmass_M	Fat-free mass in KG (machine value) (D)	

ID	Name	Label	Question
V23	ffmass_I	Fat-free mass in KG (value calculated using impedance) (D)	
V24	ffmass_R	Fat-free mass in KG (value calculated using resistance) (D)	
V25	ffmasspc_M	Fat-free mass % (machine value) (D)	
V26	ffmasspc_I	Fat-free mass % (value calculated using impedance) (D)	
V27	ffmasspc_R	Fat-free mass % (value calculated using resistance) (D)	
V28	dropped_M	Values from machine dropped due to inconsistency (D)	
V29	dropped_I	Values calculated using impedance dropped due to inconsistency (D)	
V30	dropped_R	Values calculated using resistance dropped due to inconsistency (D)	
V31	hg_left	Hand grip (left) (D)	
V32	hg_right	Hand grip (right) (D)	
V33	hgs	Hand grip (average of left and right) (D)	

Total: 33

IDENT: Unique identifier (Karonga) (S)

Data file: bioimp_handgrip_combined

Overview

Valid: 1772 Invalid: 0
Type: Discrete Width: 7 Range: - Format: character

Description

DEFINITION

Unique identifier (Karonga)

Imputation and derivation

DERIVATION

variable: ident (table[s]: arkk_fieldlog, kduk_fieldlog, phdk_fieldlog, gap_combined)
variable: ident_manual (table[s]: NUTdata_KAR)

Others

NOTES

Automatically filled by program
valid check digit

WEIGHT: Weight in kg (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3427 Invalid: 0
Type: Continuous Decimal: 0 Width: 3 Range: 21 - 135 Format: Numeric

Description

DEFINITION

Weight in kg

Imputation and derivation

DERIVATION

variable: weight (table[s]: arkk_arkq, arkl_arkq, phdk_hsbcb, phdl_hsbcb)
variable: weightf (table[s]: kduk_kduq, kdul_kduq, phdk_phdq, phdl_phdq)
variable: weights (table[s]: kduk_kduq, kdul_kduq, phdk_phdq, phdl_phdq)
variable: weight_kg_hw (table[s]: NUTdata_KAR, NUTdata_LLW)
variable: a_wt (table[s]: gap_combined)

<KDU data:>

egen weight=rowmean(weightf weights)

<PHD data:>

egen weight2=rowmean(weightf weights weight)

drop weight
rename weight2 weight

Others

NOTES

Available in versions -, 2
range 30 : 150
Available in versions -, 1, 2

STID: Study id (S)

Data file: bioimp_handgrip_combined

Overview

Valid: 3203 Invalid: 0
Type: Discrete Width: 10 Range: - Format: character

Imputation and derivation

DERIVATION

variable: stid (table[s]: arkk_fieldlog, arkl_fieldlog, kduk_fieldlog, kdul_fieldlog, phdk_fieldlog, phdl_fieldlog, NUTdata_KAR,

Others

NOTES

Available in versions -, 2
range 1590000 :9999999
Please scan correct STID barcode
Must be blank if visit <> 1 - 3 or B
Available in versions -, 1, 2
Available in versions -, 1
> 1590000 and < 9999999
Valid STID or blank

STUDY: Source of data (coded) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3427 Invalid: 0
Type: Discrete Decimal: 0 Width: 1 Range: 1 - 5 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	ARK	1024	29.9%

2	GAP	897	26.2%
3	KDU	1145	33.4%
4	NUT	101	2.9%
5	PHD	260	7.6%

Description

DEFINITION

Source of data (coded)

Imputation and derivation

DERIVATION

```
gen study=1 if source=="ARK"
replace study=2 if source=="GAP"
replace study=3 if source=="KDU"
replace study=4 if source=="NUT"
replace study=5 if source=="PHD"
la def study 1 "ARK" 2 "GAP" 3 "KDU" 4 "NUT" 5 "PHD"
la val study study
```

SOURCE: Source of data (text) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3427 Invalid: 0

Type: Discrete Width: 3 Range: - Format: character

Questions and instructions

CATEGORIES

Value	Category	Cases	
ARK		1024	29.9%
GAP		897	26.2%
KDU		1145	33.4%
NUT		101	2.9%
PHD		260	7.6%

Description

DEFINITION

Source of data (text)

Imputation and derivation

DERIVATION

Source variable is created when data are processed prior to appending.

SITE: Site of data (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3427 Invalid: 0

Type: Discrete Decimal: 0 Width: 1 Range: 1 - 3 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1	Karonga	1721	50.2%
2	Lilongwe	1706	49.8%
3	Other	0	0%

Description

DEFINITION

Site of data

Imputation and derivation

DERIVATION

Site variable is created when data are processed prior to appending. Site variable is created when data are processed prior to appending.

BIRTH_DATE: Date of birth (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3412 Minimum: 1915-06-15 Maximum: 2005-01-13

Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

Date of birth

Imputation and derivation

DERIVATION

variable: birth_date (table[s]: gen_identity [derived table], genl_identity [derived table])

SEX: Sex (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3421 Invalid: 6

Type: Discrete Decimal: 0 Width: 1 Range: 0 - 9 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
0	Male	1475	43.1%
1	Female	1946	56.9%
8	Unknown	0	0%
9	Missing	0	
Sysmiss		6	

Description

DEFINITION

Sex

Imputation and derivation

DERIVATION

variable: sex (table[s]: gen_identity [derived table], genl_identity [derived table])

Others

NOTES

Available in versions -, 1, 2

Available in versions -, 1

Must be entered if stdypl = 2

1=male 2= female: Lilongwe only

AGE: Age at measurements (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3412 Invalid: 15

Type: Continuous Decimal: 0 Width: 3 Range: 12 - 103 Format: Numeric

Description

DEFINITION

Age at measurements

Imputation and derivation

DERIVATION

variable: birth_date (table[s]: gen_identity [derived table], genl_identity [derived table])

variable: intdate (table[s]: this dataset)

gen age=int((intdate-birth_date)/365.25) if birth_date~=. .

INTDATE: Date of measurements (S)

Data file: bioimp_handgrip_combined

Overview

Valid: 3427

Type: Discrete Width: 10 Range: - Format: character

Description

DEFINITION

Date of measurements

Imputation and derivation

DERIVATION

variable: intdate (table[s]: arkk_arkq, arkl_arkq, kduk_kduq, kdul_kduq, phdk_hsbcb, phdl_hsbcb)

variable: int_date (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: a_intdt (table[s]: gap_combined)

Others

NOTES

Available in versions -, 2

Date of interview should not be in the future

Available in versions -, 1, 2

Available in versions -, 1

HEIGHT: Height in cm (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3415 Invalid: 12

Type: Continuous Decimal: 0 Width: 16 Range: 112.599998474121 - 197.949996948242 Format: Numeric

Description

DEFINITION

Height in cm

Imputation and derivation

DERIVATION

variable: height (table[s]: arkk_arkq, arkl_arkq)

variable: heightf (table[s]: kduk_kduq, kdul_kduq, phdk_phdq, phdl_phdq)

variable: heights (table[s]: kduk_kduq, kdul_kduq, phdk_phdq, phdl_phdq)

variable: height_cm_hw (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: height_final (table[s]: gap_combined)

<KDU & PHD data:>

egen height=rowmean(heightf heights)

Others

NOTES

Available in versions -, 2

range 120 : 190

State in the height coment, if hairdo prevents sliding part of measuring rod from pressing flat against head:

Available in versions -, 1, 2

BMI: Body mass index (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 3415 Invalid: 12

Type: Continuous Decimal: 0 Width: 16 Range: 11.8999996185303 - 50.5 Format: Numeric

Description

DEFINITION

Body mass index

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)

variable: height (table[s]: this dataset)

IMPVAL: Impedance value (D)**Data file:** bioimp_handgrip_combined**Overview**

Valid: 2711 Invalid: 716

Type: Continuous Decimal: 0 Width: 3 Range: 50 - 899 Format: Numeric

Description

DEFINITION

Impedance value

Imputation and derivation

DERIVATION

variable: biovalf (table[s]: arkk_arkq, arkl_arkq, kduk_kduq, kdul_kduq)

variable: biovals (table[s]: arkk_arkq, arkl_arkq, kduk_kduq, kdul_kduq)

variable: imp_final (table[s]: gap_combined)

<ARK & KDU data:>

egen impval=rowmean(biovalf biovals)

<NUT data:>

egen impval=rowmean(imp_ohms_bs imp_ohms_bs_2)

RESVAL: Resistance value (D)**Data file:** bioimp_handgrip_combined**Overview**

Valid: 551 Invalid: 2876

Type: Continuous Decimal: 0 Width: 3 Range: 416 - 846 Format: Numeric

Description

DEFINITION

Resistance value

Imputation and derivation

DERIVATION

variable: resistance_ohms_bs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: resistance_ohms_bs_2 (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: res_final (table[s]: gap_combined)

<NUT data:>

egen resval=rowmean(resistance_ohms_bs resistance_ohms_bs_2)

REACVAL: Reactance value (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 561 Invalid: 2866

Type: Continuous Decimal: 0 Width: 16 Range: 34.2999992370606 - 91.9000015258789 Format: Numeric

Description

DEFINITION

Reactance value

Imputation and derivation

DERIVATION

variable: reactance (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: reactance_2 (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: reac_final (table[s]: gap_combined)

FATMASS_M: Fat mass in KG (machine value) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2294 Invalid: 1133

Type: Continuous Decimal: 0 Width: 16 Range: 2 - 83.8499984741211 Format: Numeric

Description

DEFINITION

Fat mass in KG (machine value)

Imputation and derivation

DERIVATION

variable: biofmassf (table[s]: arkk_arkq, arkl_arkq, kduk_kduq, kdul_kduq)

variable: biofmasss (table[s]: arkk_arkq, arkl_arkq, kduk_kduq, kdul_kduq)

variable: bodyf (table[s]: phdk_hsbcb, phdl_hsbcb)

variable: weight (table[s]: this dataset)

variable: fat_mass_kg_bs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: fat_mass_kg_bs_2 (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: dropped_M (table[s]: this dataset)

<ARK &KDU data:>

```
egen fatmass_M=rowmean(biofmassf biofmasss)
```

<PHD data:>

```
gen fatmass_M=weight*(fatmasspc_M/100)
```

<NUT data:>

```
egen fatmass_M=rowmean(fat_mass_kg_bs fat_mass_kg_bs_2)
```

<remove inconsistent data from combined data:>

```
foreach var in fatmass_M fatmasspc_M fmass_M fmasspc_M {
```

```
replace `var`= . if dropped_M==1
}
```

FATMASS_I: Fat mass in KG (value calculated using impedance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2351 Invalid: 1076

Type: Continuous Decimal: 0 Width: 16 Range: 2.00786447525024 - 75.6596832275391 Format: Numeric

Description

DEFINITION

Fat mass in KG (value calculated using impedance)

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)

variable: ffmass_I (table[s]: this dataset)

variable: dropped_I (table[s]: this dataset)

```
gen fatmass_I=weight-ffmass_I if ffmass_I~=. & weight~=.
```

```
<remove inconsistent data from combined data:>
```

```
foreach var in fatmass_I fatmasspc_I ffmass_I ffmasspc_I {
```

```
replace `var`= . if dropped_I==1
```

```
}
```

FATMASS_R: Fat mass in KG (value calculated using resistance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 363 Invalid: 3064

Type: Continuous Decimal: 0 Width: 16 Range: 2.0269935131073 - 49.1197624206543 Format: Numeric

Description

DEFINITION

Fat mass in KG (value calculated using resistance)

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)

variable: ffmass_R (table[s]: this dataset)

variable: dropped_R (table[s]: this dataset)

```
gen fatmass_R=weight-ffmass_R if ffmass_R~=. & weight~=.
```

```
<remove inconsistent data from combined data:>
foreach var in fatmass_R fatmasspc_R fmass_R fmasspc_R {
  replace `var'=. if dropped_R==1
}
```

FATMASSPC_M: Fat mass % (machine value) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2294 Invalid: 1133

Type: Continuous Decimal: 0 Width: 16 Range: 3.15384608048659 - 66.1676658127836 Format: Numeric

Description

DEFINITION

Fat mass % (machine value)

Imputation and derivation

DERIVATION

```
variable: bodyf (table[s]: phdk_hsb, phdl_hsb)
variable: fat_mass_percent_bs (table[s]: NUTdata_KAR, NUTdata_LLW)
variable: fat_mass_percent_bs_2 (table[s]: NUTdata_KAR, NUTdata_LLW)
variable: dropped_M (table[s]: this dataset)
<NUT data:>
egen fatmasspc_M=rowmean(fat_mass_percent_bs fat_mass_percent_bs_2)
<combined data:>
replace fatmasspc_M=100*(fatmass_M/weight) if weight~=. & fatmass_M~=. & fatmasspc_M==.
<remove inconsistent data from combined data:>
foreach var in fatmass_M fatmasspc_M fmass_M fmasspc_M {
  replace `var'=. if dropped_M==1
}
```

Others

NOTES

Available in versions -, 1

FATMASSPC_I: Fat mass % (value calculated using impedance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2351 Invalid: 1076

Type: Continuous Decimal: 0 Width: 16 Range: 3.42815566062927 - 56.0442085266113 Format: Numeric

Description

DEFINITION

Fat mass % (value calculated using impedance)

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)

variable: fatmass_I (table[s]: this dataset)

variable: dropped_I (table[s]: this dataset)

```
gen fatmasspc_I=100*(fatmass_I/weight) if weight~=. & fatmass_I~=.
```

```
<remove inconsistent data from combined data:>
```

```
foreach var in fatmass_I fatmasspc_I fmass_I fmasspc_I {
```

```
  replace `var'= . if dropped_I==1
```

```
}
```

FATMASSPC_R: Fat mass % (value calculated using resistance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 363 Invalid: 3064

Type: Continuous Decimal: 0 Width: 16 Range: 4.71616315841675 - 49.2181968688965 Format: Numeric

Description

DEFINITION

Fat mass % (value calculated using resistance)

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)

variable: fatmass_R (table[s]: this dataset)

variable: dropped_R (table[s]: this dataset)

```
gen fatmasspc_R=100*(fatmass_R/weight) if weight~=. & fatmass_R~=.
```

```
<remove inconsistent data from combined data:>
```

```
foreach var in fatmass_R fatmasspc_R fmass_R fmasspc_R {
```

```
  replace `var'= . if dropped_R==1
```

```
}
```

FFMASST_M: Fat-free mass in KG (machine value) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2294 Invalid: 1133

Type: Continuous Decimal: 0 Width: 16 Range: 11.8000001907349 - 80.3000030517578 Format: Numeric

Description

DEFINITION

Fat-free mass in KG (machine value)

Imputation and derivation

DERIVATION

```
variable: bioffmassf (table[s]: arkk_arkq, arkl_arkq)
variable: bioffmasss (table[s]: arkk_arkq, arkl_arkq)
variable: bioffreef (table[s]: kduk_kduq, kdul_kduq)
variable: bioffrees (table[s]: kduk_kduq, kdul_kduq)
variable: weight (table[s]: this dataset)
variable: fatmass_M (table[s]: this dataset)
variable: lean_kg_bs (table[s]: NUTdata_KAR, NUTdata_LLW)
variable: lean_kg_bs_2 (table[s]: NUTdata_KAR, NUTdata_LLW)
variable: dropped_M (table[s]: this dataset)
```

```
<ARK data:>
egen fmass_M=rowmean(bioffmassf bioffmasss)
<KDU data:>
egen fmass_M=rowmean(bioffreef bioffrees)
<PHD data:>
gen fmass_M=weight-fatmass_M
<NUT data:>
egen fmass_M=rowmean(lean_kg_bs lean_kg_bs_2)
<remove inconsistent data from combined data:>
foreach var in fatmass_M fatmasspc_M fmass_M fmasspc_M {
  replace `var'=. if dropped_M==1
}
```

FFMASS_I: Fat-free mass in KG (value calculated using impedance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2351 Invalid: 1076

Type: Continuous Decimal: 0 Width: 16 Range: 28.7454299926758 - 84.9832229614258 Format: Numeric

Description

DEFINITION

Fat-free mass in KG (value calculated using impedance)

Imputation and derivation

DERIVATION

```
variable: height (table[s]: this dataset)
variable: weight (table[s]: this dataset)
variable: impval (table[s]: this dataset)
variable: sex (table[s]: this dataset)
variable: dropped_I (table[s]: this dataset)
```

```

gen fmass_I=-10.68+(0.65*(height^2/impval))+(0.26*weight)+(0.02*impval) if sex==0 & height~= . & weight~= . &
impval~= . //male
replace fmass_I=-9.53+(0.69*(height^2/impval))+(0.17*weight)+(0.02*impval) if sex==1 & height~= . & weight~= . &
impval~= . //female
<remove inconsistent data from combined data:>
foreach var in fatmass_I fatmasspc_I fmass_I fmasspc_I {
  replace `var'=. if dropped_I==1
}

```

FFMASS_R: Fat-free mass in KG (value calculated using resistance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 363 Invalid: 3064

Type: Continuous Decimal: 0 Width: 16 Range: 28.7804069519043 - 76.4474945068359 Format: Numeric

Description

DEFINITION

Fat-free mass in KG (value calculated using resistance)

Imputation and derivation

DERIVATION

variable: height (table[s]: this dataset)
 variable: weight (table[s]: this dataset)
 variable: resval (table[s]: this dataset)
 variable: sex (table[s]: this dataset)
 variable: dropped_R (table[s]: this dataset)

```

gen fmass_R=-10.68+(0.65*(height^2/resval))+(0.26*weight)+(0.02*resval) if sex==0 & height~= . & weight~= . &
resval~= . //male
replace fmass_R=-9.53+(0.69*(height^2/resval))+(0.17*weight)+(0.02*resval) if sex==1 & height~= . & weight~= . &
resval~= . //female
<remove inconsistent data from combined data:>
foreach var in fatmass_R fatmasspc_R fmass_R fmasspc_R {
  replace `var'=. if dropped_R==1
}

```

FFMASSPC_M: Fat-free mass % (machine value) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2294 Invalid: 1133

Type: Continuous Decimal: 0 Width: 16 Range: 35.3293418884277 - 96.8461532592774 Format: Numeric

Description

DEFINITION

Fat-free mass % (machine value)

Imputation and derivation

DERIVATION

```
variable: weight (table[s]: this dataset)
variable: fmass_M (table[s]: this dataset)
variable: dropped_M (table[s]: this dataset)
gen fmasspc_M=100*(ffmass_M/weight) if weight~= . & fmass_M~= .
<remove inconsistent data from combined data:>
foreach var in fatmass_M fatmasspc_M fmass_M fmasspc_M {
  replace `var'= . if dropped_M==1
}
```

FFMASSPC_I: Fat-free mass % (value calculated using impedance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 2351 Invalid: 1076
 Type: Continuous Decimal: 0 Width: 16 Range: 43.9557914733887 - 96.5718460083008 Format: Numeric

Description

DEFINITION

Fat-free mass % (value calculated using impedance)

Imputation and derivation

DERIVATION

```
variable: weight (table[s]: this dataset)
variable: fmass_I (table[s]: this dataset)
variable: dropped_I (table[s]: this dataset)

gen fmasspc_I=100*(ffmass_I/weight) if weight~= . & fmass_I~= .
<remove inconsistent data from combined data:>
foreach var in fatmass_I fatmasspc_I fmass_I fmasspc_I {
  replace `var'= . if dropped_I==1
}
```

FFMASSPC_R: Fat-free mass % (value calculated using resistance) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 363 Invalid: 3064
 Type: Continuous Decimal: 0 Width: 16 Range: 50.7818031311035 - 95.2838363647461 Format: Numeric

Description

DEFINITION

Fat-free mass % (value calculated using resistance)

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)
 variable: fffmass_R (table[s]: this dataset)
 variable: dropped_R (table[s]: this dataset)

```
gen fffmasspc_R=100*(ffmass_R/weight) if weight~= . & fffmass_R~= .
<remove inconsistent data from combined data:>
foreach var in fatmass_R fatmasspc_R fffmass_R fffmasspc_R {
  replace `var'= . if dropped_R==1
}
```

DROPPED_M: Values from machine dropped due to inconsistency (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 57 Invalid: 3370
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 1 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1		57	100%
Sysmiss		3370	

Description

DEFINITION

Values from machine dropped due to inconsistency

Imputation and derivation

DERIVATION

variable: weight (table[s]: this dataset)
 variable: fatmass_M (table[s]: this dataset)
 variable: fffmass_M (table[s]: this dataset)
 gen dropped_M=1 if abs(weight-(fatmass_M+ fffmass_M))>2 & weight~= . & fatmass_M~= . & fffmass_M~= .

DROPPED_I: Values calculated using impedance dropped due to inconsistency (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 356 Invalid: 3071
 Type: Discrete Decimal: 0 Width: 1 Range: 1 - 1 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1		356	100%
Sysmiss		3071	

Description

DEFINITION

Values calculated using impedance dropped due to inconsistency

Imputation and derivation

DERIVATION

variable: sex (table[s]: this dataset)

variable: fatmass_I (table[s]: this dataset)

gen dropped_I=1 if (fatmass_I<2 & sex==0) | (fatmass_I<10 & sex==1)

DROPPED_R: Values calculated using resistance dropped due to inconsistency (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 184 Invalid: 3243

Type: Discrete Decimal: 0 Width: 1 Range: 1 - 1 Format: Numeric

Questions and instructions

CATEGORIES

Value	Category	Cases	
1		184	100%
Sysmiss		3243	

Description

DEFINITION

Values calculated using resistance dropped due to inconsistency

Imputation and derivation

DERIVATION

variable: sex (table[s]: this dataset)

variable: fatmass_R (table[s]: this dataset)

gen dropped_R=1 if (fatmass_R<2 & sex==0) | (fatmass_R<10 & sex==1)

HG_LEFT: Hand grip (left) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 996 Invalid: 2431

Type: Continuous Decimal: 0 Width: 16 Range: 7.26666688919067 - 72.6666641235352 Format: Numeric

Description

DEFINITION

Hand grip (left)

Imputation and derivation

DERIVATION

variable: grip_left_1_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_left_2_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_left_3_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_left1 (table[s]: gap_combined)

variable: grip_left2 (table[s]: gap_combined)

variable: grip_left3 (table[s]: gap_combined)

<NUT data:>

egen hg_left=rowmean(grip_left_1_gs grip_left_2_gs grip_left_3_gs)

<GAP data:>

egen hg_left=rowmean(grip_left1 grip_left2 grip_left3)

HG_RIGHT: Hand grip (right) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 997 Invalid: 2430

Type: Continuous Decimal: 0 Width: 16 Range: 6.13333320617676 - 70 Format: Numeric

Description

DEFINITION

Hand grip (right)

Imputation and derivation

DERIVATION

variable: grip_right_1_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_right_2_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_right_3_gs (table[s]: NUTdata_KAR, NUTdata_LLW)

variable: grip_right1 (table[s]: gap_combined)

variable: grip_right2 (table[s]: gap_combined)
 variable: grip_right3 (table[s]: gap_combined)

<NUT data:>
 egen hg_right=rowmean(grip_right_1_gs grip_right_2_gs grip_right_3_gs)
 <GAP data:>
 egen hg_right=rowmean(grip_right1 grip_right2 grip_right3)

HGS: Hand grip (average of left and right) (D)

Data file: bioimp_handgrip_combined

Overview

Valid: 1258 Invalid: 2169
 Type: Continuous Decimal: 0 Width: 16 Range: 6.13333320617676 - 71.3333282470703 Format: Numeric

Description

DEFINITION

Hand grip (average of left and right)

Imputation and derivation

DERIVATION

variable: hgs (table[s]: phdk_hsbcb, phdl_hsbcb)
 variable: hg_left (table[s]: this dataset)
 variable: hg_right (table[s]: this dataset)

<NUT & GAP data:>
 egen hgs=rowmean(hg_left hg_right)

Others

NOTES

Available in versions -, 1
