**Appendix 1A: Overall Prevalence in Impairments by FNIH Definition of Weakness**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Physical Limitations** | | | | | |  |
|  | **GS Definition (n=503)** | | | **GS:BMI Definition (n=719)** | | | **GS vs GS:BMI** |
| **Limitations** | Present | Absent | p | Present | Absent | p | p |
| **Overall** | 395  (78.5) | 108  (21.5) | <.001 | 573 (79.7) | 146 (20.3) | <.001 | .67 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 347  (79.2) | 91  (20.8) | <.001 | 483 (80.4) | 118 (19.6) | <.001 | .70 |
| **Black** | 35  (78.9) | 13  (27.1) | <.01 | 67  (77.0) | 20  (23.0) | <.001 | .68 |
| **Other** | 13  (76.5) | 4  (23.5) | .03\* | 23  (74.2) | 8  (25.8) | <.01 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 64  (80.0) | 16  (20.0) | <.001 | 153 (76.1) | 48  (23.9) | <.001 | .59 |
| **70-79** | 123  (71.1) | 50  (28.9) | <.001 | 226 (77.7) | 65  (22.3) | <.001 | .14 |
| **80+** | 208  (83.2) | 42  (16.8) | <.001 | 194 (85.5) | 33  (14.5) | <.001 | .58 |
|  |  |  |  |  |  |  |  |
| **Basic ADL** | | | | | | | |
|  | **GS Definition (n=370)** | | | **GS:BMI Definition (n=548)** | | | **GS vs GS:BMI** |
|  | Present | Absent | P | Present | Absent | P | p |
| **Overall** | 157 (42.3) | 213 (57.6) | <.01 | 223 (40.7) | 325 (59.3) | <.001 | .65 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 130 (40.5) | 191 (59.5) | .001 | 177 (38.5) | 283 (61.5) | <.001 | .62 |
| **Black** | 20  (57.1) | 15  (42.9) | .40 | 35 (53.0) | 31 (47.0) | .62 | .85 |
| **Other** | 7  (50.0) | 7  (50.0) | 1.0 | 11 (50.0) | 11 (50.0) | 1.0 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 23  (39.7) | 35  (60.3) | .12 | 57 (38.3) | 92 (61.7) | <.01 | .98 |
| **70-79** | 49  (38.3) | 79  (61.7) | <.01 | 88 (38.4) | 141 (61.6) | .001 | .98 |
| **80+** | 85  (46.2) | 99  (53.8) | .30 | 78 (45.9) | 92 (54.1) | .28 | .95 |
| **Instrumental Activities of Daily Living** | | | | | | | |
|  | **GS Definition (n=370)** | | | **GS:BMI Definition (n=548)** | | | **GS vs GS:BMI** |
|  | Present | Absent | P | Present | Absent | P | p |
| **Overall** | 303 (65.3) | 161 (34.7) | <.001 | 395 (58.8) | 277 (41.2) | <.001 | .03 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 261 (65.1) | 140 (34.9) | <.001 | 332 (59.4) | 227 (40.6) | <.001 | .08 |
| **Black** | 34 (73.9) | 12 (26.1) | <.001 | 47 (56.0) | 37 (44.1) | .28 | .07 |
| **Other** | 8 (47.1) | 9 (52.9) | .81 | 16 (55.2) | 13 (44.8) | .58 | .82 |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 45 (58.4) | 32 (41.6) | .14 | 94 (48.7) | 99 (51.3) | .72 | .19 |
| **70-79** | 81 (49.7) | 82 (50.3) | .94 | 150 (55.2) | 122 (44.9 | .09 | .32 |
| **80+** | 177 (79.0) | 47 (21.0) | <.001 | 151 (73.0) | 56 (27.1) | <.001 | .17 |

All values are represented as counts (weighted percentages). p-value compares the prevalence of limitations in subjects with and without sarcopenia.

FNIH – Foundation for the National Institutes of Health; GS - Grip Strength; GS/BMI – Grip Strength divided by BMI.   
Grip Strength cutoffs are <16kg in females and < 26kg in males, and GS/BMI men <1.0; women <0.56. GS/BMI represents grip strength (in kilograms) divided by body mass index.

\* at least 25% of cells have less than expected values, thus Chi-Square is not considered reliable.

Physical Limitations were defined by inability *or* difficulty in performing two or more of the following tasks: walking several blocks, walking 1 block, sitting 2 hours, getting up from chair, climbing stairs climbing one flight of stairs, stooping, reaching arms, pulling/pushing large objects, lifting weights and picking up a dime

Basic ADL impairments are defined as difficulty or inability with at least 1: bathing, dressing, eating, toileting or getting out of bed

Instrumental ADL impairments are defined as difficulty or inability with at least 1: preparing meals, managing money or needing help with house or yard work, using the phone or taking medication.

**Appendix 1B: Prevalence in Impairments by FNIH Definition of Weakness - MALES**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **MEN** | **Physical Limitations** | | | | | |  |
| **Definition** | **GS Definition (n=172)a** | | | **GS:BMI Definition (n=334)a** | | | **GS vs GS:BMI** |
| **Limitations** | Present | Absent | p | Present | Absent | p | p |
| **Overall** | 124 (72.1) | 48 (27.9) | <.001 | 240 (71.9) | 94 (28.1) | <.001 | .96 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 112 (76.2) | 35 (23.8) | <.001 | 212 (74.1) | 74 (25.9) | <.001 | .73 |
| **Black** | 7  (41.2) | 10 (58.8) | <.47 | 20 (58.8) | 14 (41.2) | .30 | \* |
| **Other** | 5  (62.5) | 3  (37.5) | \* | 8  (57.1) | 6  (42.9) | .59 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 19 (67.9) | 9  (32.1) | .06 | 58 65.2 | 31  (34.8) | <.01 | .79 |
| **70-79** | 41 (68.3) | 19 (31.7) | <.001 | 99 69.7 | 43  (30.3) | <.001 | .85 |
| **80+** | 64 (76.2) | 20 (23.8) | <.001 | 83 80.6 | 20  (19.4) | <.001 | .47 |
|  |  |  |  |  |  |  |  |
| **Basic ADL** | | | | | | | |
|  | **GS Definition (n=112)a** | | | **GS:BMI Definition (n=223)a** | | | **GS vs GS:BMI** |
|  | Present | Absent | p | Present | Absent | p | p |
| **Overall** | 56  (50.0) | 56 (50.0) | 1.0 | 100 (44.8) | 123 (55.2) | <.001 | .37 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 53 (53.5) | 46  46.5 | .48 | 88 (44.9) | 108 (55.1) | .15 | .16 |
| **Black** | 3 (42.9) | 4  42.9 | \* | 11 (55.0) | 9  (45.0) | .65 | \* |
| **Other** | 0  (0.0) | 6  100.0 | \* | 1  (14.3) | 6  (85.7) | \* | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 6 (42.9) | 8  (57.1) | .59 | 16 (29.6) | 38  (70.4) | <.01 | .53 |
| **70-79** | 18 (47.4) | 20  (52.6) | .75 | 40 (42.1) | 55  (57.9) | <.001 | .72 |
| **80+** | 32 (53.3) | 28  (46.7) | .61 | 44 (59.5) | 30  (40.5) | .36 | .59 |
| **Instrumental Activities of Daily Living** | | | | | | | |
|  | **GS Definition (n=157)a** | | | **GS:BMI Definition (n=307)a** | | |  |
|  | Absent | p | Present | Absent | p |  |  |
| **Overall** | 103 (65.6) | 54 (34.4) | <.001 | 164 (53.4) | 143 (46.6) | <.001 | .02 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 89  (66.9) | 44  (33.1) | <.001 | 141 (53.6) | 122 (46.4) | <.24 | .02 |
| **Black** | 11  (68.8) | 5  (31.3) | .13 | 18 (56.3) | 14 (43.8) | <.48 | .60 |
| **Other** | 3  (37.5) | 5  (62.5) | \* | 5  (41.7) | 7  (58.3) | .56 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 16 (64.0) | 9 (36.0) | .16 | 37 (44.1) | 47 (55.9) | .28 | .13 |
| **70-79** | 28 (50.0) | 28 (50.0) | 1.0 | 63 (49.2) | 65 (50.8) | .86 | .92 |
| **80+** | 59 (77.6) | 17 (22.4) | <.001 | 64 (67.4) | 31 (32.6) | <.001 | .19 |

All values are represented as counts (weighted percentages). \_p-value compares the prevalence of limitations in subjects with and without sarcopenia.

FNIH – Foundation for the National Institutes of Health; GS - Grip Strength; GS/BMI – Grip Strength divided by BMI.   
Grip Strength cutoffs are <16kg in females and < 26kg in males, and GS/BMI men <1.0; women <0.56. GS/BMI represents grip strength (in kilograms) divided by body mass index.

\* at least 25% of cells have less than expected values, thus Chi-Square is not considered reliable.

Physical Limitations were defined by inability *or* difficulty in performing two or more of the following tasks: walking several blocks, walking 1 block, sitting 2 hours, getting up from chair, climbing stairs climbing one flight of stairs, stooping, reaching arms, pulling/pushing large objects, lifting weights and picking up a dime

Basic ADL impairments are defined as difficulty or inability with at least 1: bathing, dressing, eating, toileting or getting out of bed

Instrumental ADL impairments are defined as difficulty or inability with at least 1: preparing meals, managing money or needing help with house or yard work, using the phone or taking medication.

**Appendix 1C: Prevalence in Impairments by FNIH Definition of Weakness- FEMALES**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **WOMEN** | **Physical Limitationsa** | | | | | |  |
| **Definition** | **GS Definition (n=331)** | | | **GS:BMI Definition (n=385)** | | | **GS vs GS:BMI** |
| **Limitations** | Present | Absent | p | Present | Absent | p | p |
| **Overall** | 271 (81.9) | 60 (18.1) | <.001 | 333 (86.5) | 52 (13.5) | <.001 | .11 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 235 (80.8) | 56 (19.2) | <.001 | 271 (86.0) | 44  (14.0) | <.001 | .10 |
| **Black** | 28  (90.3) | 3  (9.7) | <.001 | 47  (88.7) | 6  (11.3) | <.001 | .81 |
| **Other** | 8  (88.9) | 1  (11.1) | \* | 15  (88.2) | 2  (11.8) | <.001 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 45  (86.5) | 7  (13.5) | <.001 | 95 (84.8) | 17  (84.8) | <.001 | .96 |
| **70-79** | 82  (72.6) | 31 (27.4) | <.001 | 127 (85.3) | 22  (14.8) | <.001 | .02 |
| **80+** | 144 (86.8) | 22 (13.3) | <.001 | 111 (89.5) | 13  (10.5) | <.001 | .59 |
|  |  |  |  |  |  |  |  |
| **Basic ADL** | | | | | | | |
|  | **GS Definition (n=258)** | | | **GS:BMI Definition (n=325)** | | |  |
|  | Absent | p | Present | Absent | p |  |  |
| **Overall** | 101 (39.2) | 157 (60.9) | <.001 | 123 (37.9) | 202 (62.2) | <.001 | .81 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 77  (34.7) | 145 (65.3) | <.001 | 89 (33.7) | 175 (66.3) | <.001 | .91 |
| **Black** | 17  (60.7) | 11 (39.3) | <.001 | 24 (52.2) | 22 (47.8) | <.001 | .63 |
| **Other** | 7  (87.5) | 1  (12.5) | \* | 10 (66.7) | 5  (33.3) | <.001 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 17 (38.6) | 27  (61.6) | .13 | 41 (43.2) | 54  (56.8) | .18 | .75 |
| **70-79** | 31 (34.4) | 59  (65.6) | <.01 | 48 (35.8) | 86  (64.2) | .001 | .95 |
| **80+** | 53 (42.7) | 71  (42.7) | <.11 | 34 (35.4) | 62  (64.6) | <.01 | .34 |
| **Instrumental Activities of Daily Living** | | | | | | | |
|  |  |  |  |  |  |  |  |
| **Overall** | 200 (65.2) | 107 (34.9) | <.001 | 231 (63.3) | 134 (36.7) | <.001 | .67 |
| **Ethnicity** |  |  |  |  |  |  |  |
| **White** | 172 (64.2) | 96  (35.8) | <.001 | 191 (64.5) | 105 (35.5) | <.001 | .93 |
| **Black** | 23 (  76.7) | 7  (23.3) | <.001 | 29 (55.8) | 23 (44.2) | <.001 | .11 |
| **Other** | 5  (55.6) | 4  (44.4) | \* | 11 (64.7) | 6  (35.3) | .04 | \* |
| **Age Group** |  |  |  |  |  |  |  |
| **60-69** | 29  (55.8) | 23  (44.2) | .41 | 57 (52.3) | 52  (47.7) | .63 | .81 |
| **70-79** | 53  (49.5) | 54  (50.5) | .92 | 87 (60.4) | 57  (39.6) | .01 | .11 |
| **80+** | 118 (79.7) | 30  (20.3) | <.001 | 87 (77.7) | 25  (22.3) | <.001 | .80 |

All values are represented as counts (weighted percentages). \_p-value compares the prevalence of limitations in subjects with and without sarcopenia.

FNIH – Foundation for the National Institutes of Health; GS - Grip Strength; GS/BMI – Grip Strength divided by BMI.   
Grip Strength cutoffs are <16kg in females and < 26kg in males, and GS/BMI men <1.0; women <0.56. GS/BMI represents grip strength (in kilograms) divided by body mass index.

\* at least 25% of cells have less than expected values, thus Chi-Square is not considered reliable.

Physical Limitations were defined by inability *or* difficulty in performing two or more of the following tasks: walking several blocks, walking 1 block, sitting 2 hours, getting up from chair, climbing stairs climbing one flight of stairs, stooping, reaching arms, pulling/pushing large objects, lifting weights and picking up a dime

Basic ADL impairments are defined as difficulty or inability with at least 1: bathing, dressing, eating, toileting or getting out of bed

Instrumental ADL impairments are defined as difficulty or inability with at least 1: preparing meals, managing money or needing help with house or yard work, using the phone or taking medication.