**Prospective Study of Dietary Patterns and Hearing Threshold Decline**

Sharon G. Curhan, Christopher Halpin,Molin Wang,Roland D. Eavey,and Gary C. Curhan

Table of Contents

Web Material Page

Web Table 1:Characteristics (2011) of AAA participants who did and did not complete

3-year follow-up…………………………………………………………………………………………...2

Web Table 2: Characteristics (2011) Among Women in the Nurses’ Health Study II

Audiometry Assessment Arm According to Quintile of AMED Score……………………………….4

Web Table 3: Characteristics (2011) Among Women in the Nurses’ Health Study II

Audiometry Assessment Arm According to Quintile of AHEI-2010 Score………………………….6

Web Table 4: Individual Components of DASH Score and Odds Ratios for 3-year

Audiometric Hearing Threshold Decline Among Women in the Nurses’ Health Study II…………8

Web Table 5: Individual Components of AMED Score and Odds Ratios for 3-year

Audiometric Hearing Threshold Decline Among Women in the Nurses’ Health Study II………..12

Web Table 6: Individual Components of AHEI Score and Odds Ratios for 3-year

Audiometric Hearing Threshold Decline Among Women in the Nurses’ Health Study II………..16

**Web Table 1. Characteristics (2011)a of AAA participants who did and did not complete**

**3-year follow-up**

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **Completed Follow-up**  **(n=3135)** | **Did Not Complete**  **Follow-up**  **(n=613)** |
| Age, years | 59.2 (4.5) | 58.7 (4.4) |
| Race, white, % | 96.4 | 95.6 |
| Body mass index, kg/m2 | 26.6 (5.8) | 27.2 (6.0) |
| Waist Circumference, cmb | 85.9 (13.8) | 86.1 (13.9) |
| Physical activity, METs/wk | 26.3 (28.2) | 27.2 (29.6) |
| Cumulative average energy intake (kcal/d) | 1801.8 (432.6) | 1812.2 (446.8) |
| Smoking Status |  |  |
| Never, % | 66.8 | 63.2 |
| Past, % | 31.0 | 32.0 |
| Current, % | 2.1 | 4.6 |
| Hypertension, % | 32.0 | 33.0 |
| Diabetes Mellitus, % | 4.6 | 7.4 |
| Tinnitus, % | 9.8 | 9.5 |
| Ibuprofen use, 2+ days per week, % | 32.2 | 35.7 |
| Acetaminophen use, 2+ days per week, % | 14.2 | 16.1 |
| Very loud noise exposure,c % | 33.5 | 34.8 |
| Impulse noise exposure,d % | 8.5 | 8.0 |
| Baselinee PTA (dB HL) |  |  |
| **Low-frequency** PTA(0.5,1,2 kHz) |  |  |
| Better ear | 8.3 (5.0,13.3) | 10.0 (6.7,13.3) |
| Worse ear | 10.0 (6.7,15.0) | 10.0 (6.7,15.0) |
| **Mid-frequency** PTA(3,4 kHz) |  |  |
| Better ear | 15.0 (7.5,22.5) | 15.0 (7.5,22.5) |
| Worse ear | 15.0 (10.0,25.0) | 15.0 (10.0,25.0) |
| **High-frequency** PTA(6,8 kHz) |  |  |
| Better ear | 22.5 (15.0,37.5) | 25.0 (17.5,37.5) |
| Worse ear | 25.0 (17.5,40.0) | 27.5 (17.5,40.0) |

|  |
| --- |
|  |
|  |

Values are means (SD) for continuous variables except where note as medians (IQR).

Values of polytomous variables may not sum to 100% due to rounding.

dB HL: decibels hearing level; IQR: interquartile range; METs: metabolic equivalents from recreational and leisure-time activities; PTA: Pure-tone-average.

aCovariate information assessed in 2011 unless otherwise noted.

bWaist circumference was assessed in 2005.

cVery loud noise exposure 3 hours per week or more during any decade of life. Information on noise exposure assessed in 2012.

dImpulse noise exposure 3 times per year or more during any decade of life. Information on noise exposure assessed in 2012.

eBaseline audiometry was conducted in 2012-2015.

**Web Table 2** Characteristics (2011) Among Women in the Nurses’ Health Study II Audiometry Assessment Arm According to Quintile of AMED Score

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **AMED Scorea** | | | | |
| **Characteristic** | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | N=667 | N=524 | N=700 | N=611 | N=633 |
| Median (IQR) AMED score | 2.5  (2.0-2.8) | 3.5  (3.3-3.7) | 4.3  (4.2-4.7) | 5.5  (5.2,5.7) | 6.5  (6.2-7.0) |
| Age, years | 58.5 (4.7) | 58.8 (4.5) | 59.5 (4.3) | 59.4 (4.3) | 59.8 (4.4) |
| Race, white, % | 96.1 | 95.9 | 96.6 | 97.1 | 96.1 |
| Body mass index, kg/m2 | 28.0 (6.7) | 26.8 (5.6) | 26.6 (6.0) | 26.0 (5.4) | 25.3 (5.0) |
| Waist Circumference, cmb | 89.8 (15.5) | 86.3 (14.0) | 85.9 (13.7) | 85.1 (13.2) | 82.4 (11.6) |
| Physical activity, METs/wk | 17.0 | 22.5 | 26.1 | 30.2 | 36.3 |
| Cumulative average energy intake (kcal/d) | 1549 (416) | 1689 (382) | 1757 (380) | 1913 (385) | 2092 (386) |
| Smoking Status |  |  |  |  |  |
| Never, % | 67.3 | 68.2 | 70.9 | 62.5 | 64.0 |
| Past, % | 28.4 | 29.0 | 27.2 | 36.1 | 35.2 |
| Current, % | 4.1 | 2.9 | 1.6 | 1.5 | 0.8 |
| Hypertension, % | 35.7 | 32.4 | 33.0 | 31.0 | 28.2 |
| Diabetes Mellitus, % | 6.3 | 4.6 | 5.5 | 4.0 | 2.2 |
| Tinnitus, % | 9.4 | 10.3 | 9.5 | 10.7 | 9.0 |
| Ibuprofen use, 2+ days per week, % | 33.5 | 32.1 | 32.2 | 31.2 | 31.6 |
| Acetaminophen use, 2+ days per week, % | 14.7 | 13.4 | 16.0 | 13.8 | 12.8 |
| Very loud noise exposure,c % | 32.3 | 34.3 | 33.6 | 33.5 | 34.1 |
| Impulse noise exposure,d % | 7.0 | 9.1 | 7.7 | 10.2 | 8.8 |
|  |  |  |  |  |  |
| Baselinee PTA(dB HL) |  |  |  |  |  |
| **Low-frequency** PTA(0.5,1,2 kHz) |  |  |  |  |  |
| Better ear | 10.9 (7.3) | 10.6 (7.6) | 10.0 (7.1) | 9.7 (6.5) | 10.1 (6.4) |
| Worse ear | 12.8 (8.2) | 12.3 (8.7) | 11.7 (7.8) | 11.5 (6.8) | 12.0 (6.9) |
| **Mid-frequency**  PTA(3,4 kHz) |  |  |  |  |  |
| Better ear | 17.1 (11.1) | 16.4 (10.9) | 16.1 (11.0) | 15.9 (10.7) | 16.7 (10.9) |
| Worse ear | 19.4 (11.9) | 18.8 (11.9) | 18.4 (11.4) | 17.7 (10.9) | 18.9 (11.3) |
| **High-frequency** PTA(6,8 kHz) |  |  |  |  |  |
| Better ear | 28.7 (16.0) | 27.1 (15.3) | 27.5 (16.5) | 26.6 (15.0) | 26.9 (15.9) |
| Worse ear | 31.6 (16.7) | 30.2 (16.3) | 30.6 (16.7) | 29.3 (15.3) | 29.6 (16.6) |

Values are means (SD) for continuous variables except where note as medians (IQR).

Values of polytomous variables may not sum to 100% due to rounding.

Covariate information assessed in 2011 unless otherwise noted.

AMED: Alternate Mediterranean diet; dB HL: decibels hearing level; IQR: interquartile range; METs: metabolic equivalents from recreational and leisure-time activities; PTA: Pure-tone-average.

aPossible range for AMED score = 0 to 9 points. Higher score represents greater adherence to a Mediterranean-style diet.

bWaist circumference was assessed in 2005.

cVery loud noise exposure 3 hours per week or more during any decade of life. Information on noise exposure assessed in 2012.

dImpulse noise exposure 3 times per year or more during any decade of life. Information on noise exposure assessed in 2012.

eBaseline audiometry was conducted in 2012-2015.

**Web Table 3.** Characteristics (2011) Among Women in the Nurses’ Health Study II Audiometry Assessment Arm According to Quintile of AHEI-2010 Score

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **AHEI-2010 Scorea** | | | | |
| **Characteristic** | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | N=628 | N=621 | N=619 | N=645 | N=622 |
| Median (IQR) AHEI-2010 score | 44.8  (41.2-46.8) | 51.8  (50.3-53.3) | 57.1  (55.8-58.3) | 62.3  (60.9-63.8) | 69.3  (67.4-72.9) |
| Age, yrs | 57.8 (4.5) | 59.2 (4.5) | 59.2 (4.6) | 59.5 (4.3) | 60.2 (4.2) |
| Race, white, % | 96.2 | 96.1 | 96.5 | 96.5 | 96.6 |
| Body mass index, kg/m2 | 27.8 (6.6) | 27.3 (6.0) | 26.8 (6.1) | 25.9 (5.0) | 24.9 (4.8) |
| Waist Circumference, cmb | 89.7 (15.2) | 88.0 (14.4) | 86.2 (14.4) | 84.1 (11.9) | 81.7 (11.5) |
| Physical activity, METs/wk | 17.4 | 21.6 | 25.1 | 30.8 | 37.8 |
| Cumulative average energy intake (kcal/d) | 1869 (439) | 1802 (438) | 1784 (443) | 1755 (437) | 1795 (396) |
| Smoking Status |  |  |  |  |  |
| Never, % | 73.0 | 68.3 | 69.5 | 64.8 | 58.6 |
| Past, % | 22.4 | 29.3 | 28.3 | 33.9 | 40.5 |
| Current, % | 4.4 | 2.5 | 1.9 | 1.3 | 0.9 |
| Hypertension, % | 36.8 | 34.2 | 34.9 | 28.6 | 26.6 |
| Diabetes Mellitus, % | 4.4 | 7.8 | 5.4 | 3.1 | 2.4 |
| Tinnitus, % | 8.8 | 10.4 | 10.8 | 10.0 | 8.8 |
| Ibuprofen use, 2+ days per week, % | 34.9 | 30.9 | 34.5 | 30.7 | 30.7 |
| Acetaminophen use, 2+ days per week, % | 17.6 | 16.6 | 14.3 | 11.9 | 10.3 |
| Very loud noise exposure,c % | 34.9 | 31.0 | 33.2 | 34.7 | 33.3 |
| Impulse noise  exposure,d % | 9.5 | 8.0 | 8.7 | 8.2 | 8.5 |
| Baselinee PTA (dB HL) |  |  |  |  |  |
| **Low-frequency** PTA(0.5,1,2 kHz) |  |  |  |  |  |
| Better ear | 10.7 (7.6) | 10.3 (7.3) | 10.4 (7.0) | 9.9 (6.9) | 10.0 (6.1) |
| Worse ear | 12.3 (7.6) | 12.4 (8.5) | 12.2 (8.1) | 11.6 (7.4) | 11.7 (6.8) |
| **Mid-frequency**  PTA(3,4 kHz) |  |  |  |  |  |
| Better ear | 16.6 (10.8) | 16.5 (11.0) | 17.1 (11.4) | 15.7 (10.6) | 16.2 (10.6) |
| Worse ear | 18.6 (11.0) | 19.0 (12.3) | 19.2 (11.7) | 18.0 (11.4) | 18.3 (10.9) |
| **High-frequency**  PTA(6,8 kHz) |  |  |  |  |  |
| Better ear | 28.2 (16.0) | 28.3 (15.9) | 28.0 (16.9) | 26.0 (14.9) | 26.5 (15.0) |
| Worse ear | 30.8 (16.3) | 31.5 (16.7) | 30.7 (17.3) | 29.0 (15.7) | 29.3 (15.5) |

Values are means (SD) for continuous variables except where note as medians (IQR).

Values of polytomous variables may not sum to 100% due to rounding.

Covariate information assessed in 2011 unless otherwise noted.

AHEI-2010: Alternate Healthy Eating Index 2010; dB HL: decibels hearing level; IQR: interquartile range; METs: metabolic equivalents from recreational and leisure-time activities; PTA: Pure-tone-average.

aPossible range for AHEI-201 score = 0 (nonadherence) to 110 (perfect adherence) points.

bWaist circumference was assessed in 2005.

cVery loud noise exposure 3 hours per week or more during any decade of life. Information on noise exposure assessed in 2012.

dImpulse noise exposure 3 times per year or more during any decade of life. Information on noise exposure assessed in 2012.

eBaseline audiometry was conducted in 2012-2015.

**Web Table 4.** Individual Components of DASH Score and Odds Ratios for 3-year Audiometric Hearing Threshold Declinea Among Women in the Nurses’ Health Study II

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Dairy Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 136 | 108 | 111 | 134 | 101 |
| MVORb  (95% CI) | 1.00  (REF) | 0.81 (0.61,1.08) | 0.75 (0.56,0.99) | 0.82 (0.62,1.07) | 0.77 (0.57,1.03) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 239 | 221 | 258 | 273 | 205 |
| MVORb  (95% CI) | 1.00  (REF) | 0.96  (0.76, 1.22) | 1.07  (0.85, 1.35) | 0.97  (0.78, 1.22) | 0.86  (0.68, 1.10) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 312 | 280 | 306 | 363 | 271 |
| MVORb  (95% CI) | 1.00  (REF) | 0.91  (0.73, 1.15) | 0.91  (0.73, 1.14) | 1.02  (0.82, 1.28) | 0.87  (0.69, 1.10) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Fruit Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 108 | 133 | 116 | 137 | 96 |
| MVORb  (95% CI) | 1.00  (REF) | 1.03 (0.78,1.37) | 0.99 (0.74,1.33) | 1.23 (0.92,1.63) | 0.84 (0.62,1.14) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 223 | 270 | 244 | 263 | 196 |
| MVORb  (95% CI) | 1.00  (REF) | 1.01  (0.80, 1.27) | 1.01  (0.80, 1.28) | 1.15  (0.91, 1.45) | 0.76  (0.59, 0.96) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 291 | 353 | 290 | 303 | 295 |
| MVORb  (95% CI) | 1.00  (REF) | 1.04  (0.83, 1.30) | 0.84  (0.67, 1.06) | 0.93  (0.74, 1.17) | 0.99  (0.78, 1.25) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Vegetable Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 132 | 110 | 111 | 121 | 116 |
| MVORb  (95% CI) | 1.00  (REF) | 1.01 (0.76, 1.35) | 0.86 (0.65,1.14) | 1.11 (0.84,1.47) | 0.84 (0.64,1.12) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 261 | 218 | 247 | 222 | 248 |
| MVORb  (95% CI) | 1.00  (REF) | 1.04  (0.83, 1.31) | 1.02  (0.82, 1.28) | 1.04  (0.83, 1.31) | 0.91  (0.73, 1.14) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 333 | 283 | 323 | 275 | 318 |
| MVORb  (95% CI) | 1.00  (REF) | 1.07  (0.85, 1.34) | 1.07  (0.86, 1.34) | 0.97  (0.78, 1.22) | 0.91  (0.73, 1.13) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Nut Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 130 | 114 | 123 | 93 | 130 |
| MVORb  (95% CI) | 1.00  (REF) | 1.03 (0.78,1.37) | 0.96 (0.73,1.27) | 0.90 (0.67,1.21) | 0.94 (0.71,1.23) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 272 | 215 | 260 | 197 | 252 |
| MVORb  (95% CI) | 1.00  (REF) | 0.89  (0.71, 1.12) | 0.96  (0.77, 1.19) | 0.89  (0.70, 1.12) | 0.80  (0.64, 1.00) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 335 | 292 | 306 | 251 | 348 |
| MVORb  (95% CI) | 1.00  (REF) | 1.04  (0.83, 1.30) | 0.86  (0.69, 1.07) | 0.93  (0.74, 1.17) | 0.96  (0.78, 1.19) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Meat Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 124 | 109 | 122 | 117 | 118 |
| MVORb  (95% CI) | 1.00  (REF) | 0.89 (0.67,1.19) | 0.88 (0.67,1.17) | 0.94 (0.70,1.25) | 0.87 (0.65,1.16) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 261 | 215 | 263 | 233 | 224 |
| MVORb  (95% CI) | 1.00  (REF) | 0.77  (0.61, 0.97) | 0.86  (0.69, 1.08) | 0.81  (0.64, 1.03) | 0.68  (0.54, 0.86) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 330 | 304 | 309 | 275 | 314 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93  (0.74, 1.17) | 0.75  (0.60, 0.94) | 0.71  (0.57, 0.90) | 0.81  (0.64, 1.01) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Whole Grain Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 127 | 128 | 100 | 128 | 107 |
| MVORb  (95% CI) | 1.00  (REF) | 0.91 (0.69,1.19) | 0.84 (0.63,1.13) | 0.89 (0.68,1.17) | 0.92 (0.69,1.23) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 252 | 272 | 214 | 252 | 206 |
| MVORb  (95% CI) | 1.00  (REF) | 0.96  (0.76, 1.19) | 0.88  (0.69, 1.11) | 0.83  (0.66, 1.04) | 0.80  (0.63, 1.02) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 313 | 326 | 274 | 344 | 275 |
| MVORb  (95% CI) | 1.00  (REF) | 0.89  (0.71, 1.11) | 0.93  (0.74, 1.18) | 0.99  (0.80, 1.24) | 0.95  (0.75, 1.19) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sugar Sweetened Beverage Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 94 | 114 | 120 | 141 | 121 |
| MVORb  (95% CI) | 1.00  (REF) | 1.19 (0.88,1.61) | 1.26 (0.94,1.71) | 1.31 (0.98,1.75) | 1.16 (0.86,1.57) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 202 | 248 | 247 | 253 | 246 |
| MVORb  (95% CI) | 1.00  (REF) | 1.29  (1.02, 1.63) | 1.29  (1.02, 1.64) | 1.10  (0.87, 1.38) | 1.16  (0.91, 1.47) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 290 | 292 | 318 | 329 | 303 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93  (0.74, 1.18) | 1.10  (0.87, 1.38) | 0.92  (0.73, 1.15) | 0.88  (0.70, 1.11) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Sodium Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 105 | 98 | 149 | 125 | 113 |
| MVORb  (95% CI) | 1.00  (REF) | 1.16 (0.86,1.57) | 1.34 (1.01,1.77) | 1.18 (0.89,1.58) | 1.30 (0.96,1.76) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 264 | 211 | 269 | 265 | 187 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93  (0.73, 1.17) | 0..82  (0.66, 1.02) | 0.91  (0.73, 1.14) | 0.69  (0.54, 0.87) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 324 | 273 | 348 | 313 | 274 |
| MVORb  (95% CI) | 1.00  (REF) | 1.02  (0.81, 1.28) | 0.90  (0.72, 1.11) | 0.86  (0.69, 1.07) | 0.95  (0.75, 1.20) |

DASH: Dietary Approaches to Stop Hypertension; MVOR: Multivariable odds ratio; PTA: Pure-tone-average.

aDefined as ≥5 dB HL worsening of low-frequency (PTA0.5,1,2 kHz), mid-frequency (PTA3,4 kHz) and high-frequency (PTA6,8 kHz) audiometric hearing thresholds.

bMultivariable odds ratio adjusted for age, race, body mass index, smoking, tinnitus, total energy intake, noise exposure, baseline PTA and dietary intakes of the other DASH score components.

Higher quintile represents greater adherence to the Dietary Approaches to Stop Hypertension diet.

The DASH diet score components are: (a) fruit; (b) vegetables; (c) nuts, legumes, soy; (d) red and processed meats\*; (e) whole grains; (f) low-fat dairy products; (g) sugar-sweetened beverages\*; and (h) sodium.\*

\*Inversely scored, thus lower intake more closely adheres to DASH recommended intake (e.g. those in the highest quintile (Q5) had lower intakes of red and processed meats, sugar-sweetened beverages, or sodium).

**Web Table 5.** Individual Components of AMED Score and Odds Ratios for 3-year Audiometric Hearing Threshold Declinea Among Women in the Nurses’ Health Study II

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Fruit Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 136 | 86 | 148 | 102 | 118 |
| MVORb  (95% CI) | 1.00  (REF) | 1.04 (0.77,1.41) | 1.05 (0.81,1.37) | 1.10 (0.83,1.47) | 0.93  (0.71,1.23) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 285 | 178 | 300 | 189 | 244 |
| MVORb  (95% CI) | 1.00  (REF) | 1.02  (0.80, 1.30) | 0.99  (0.80, 1.22) | 0.93  (0.74, 1.18) | 0.86  (0.69, 1.07) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 371 | 221 | 368 | 232 | 340 |
| MVORb  (95% CI) | 1.00  (REF) | 0.91  (0.72, 1.16) | 0.89  (0.72, 1.09) | 0.80  (0.64, 1.01) | 0.99  (0.80, 1.22) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Vegetable Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 112 | 132 | 137 | 87 | 122 |
| MVORb  (95% CI) | 1.00  (REF) | 0.92 (0.69, 1.22) | 0.87 (0.65,1.15) | 0.91 (0.66,1.24) | 0.94 (0.70,1.25) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 221 | 258 | 306 | 167 | 244 |
| MVORb  (95% CI) | 1.00  (REF) | 0.90  (0.72, 1.14) | 1.04  (0.83, 1.30) | 0.86  (0.66, 1.11) | 0.95  (0.75, 1.20) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 268 | 362 | 373 | 232 | 297 |
| MVORb  (95% CI) | 1.00  (REF) | 1.14  (0.91, 1.43) | 1.03  (0.83, 1.29) | 1.06  (0.83, 1.37) | 0.94  (0.75, 1.19) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Nut Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 137 | 103 | 101 | 158 | 91 |
| MVORb  (95% CI) | 1.00  (REF) | 1.00 (0.75,1.33) | 0.99 (0.74,1.31) | 0.83 (0.65,1.08) | 1.05 (0.78,1.41) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 296 | 187 | 205 | 343 | 165 |
| MVORb  (95% CI) | 1.00  (REF) | 0.75  (0.59, 0.94) | 0.88  (0.70, 1.11) | 0.79  (0.65, 0.97) | 0.77  (0.60, 0.98) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 351 | 263 | 262 | 440 | 216 |
| MVORb  (95% CI) | 1.00  (REF) | 0.97  (0.77, 1.22) | 0.98  (0.78, 1.23) | 0.88  (0.72, 1.08) | 0.90  (0.71, 1.14) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Meat Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 121 | 107 | 153 | 85 | 124 |
| MVORb  (95% CI) | 1.00  (REF) | 1.23 (0.92,1.65) | 0.94 (0.72,1.22) | 0.89 (0.65,1.21) | 0.91 (0.68,1.21) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 253 | 184 | 336 | 192 | 231 |
| MVORb  (95% CI) | 1.00  (REF) | 0.95  (0.74, 1.22) | 0.98  (0.79, 1.21) | 0.97  (0.76, 1.24) | 0.72  (0.57, 0.90) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 324 | 261 | 390 | 230 | 327 |
| MVORb  (95% CI) | 1.00  (REF) | 1.17  (0.92, 1.49) | 0.83  (0.67, 1.03) | 0.87  (0.68, 1.10) | 0.85  (0.68, 1.06) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Whole Grain Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 130 | 89 | 174 | 101 | 96 |
| MVORb  (95% CI) | 1.00  (REF) | 0.96 (0.71,1.30) | 0.93 (0.72,1.21) | 0.97 (0.73,1.30) | 0.98 (0.72,1.31) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 258 | 191 | 371 | 179 | 197 |
| MVORb  (95% CI) | 1.00  (REF) | 1.07  (0.84, 1.37) | 1.00  (0.81, 1.23) | 0.79  (0.62, 1.00) | 0.97  (0.76, 1.23) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 319 | 235 | 472 | 266 | 240 |
| MVORb  (95% CI) | 1.00  (REF) | 1.06  (0.84, 1.35) | 1.08  (0.88, 1.32) | 1.09  (0.86, 1.37) | 1.00  (0.79, 1.26) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Legumes and Soy Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 124 | 71 | 156 | 94 | 145 |
| MVORb  (95% CI) | 1.00  (REF) | 0.75 (0.54,1.03) | 1.03 (0.79,1.34) | 0.97 (0.72,1.31) | 0.91 (0.70,1.19) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 255 | 177 | 284 | 179 | 301 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93  (0.73, 1.19) | 0.85  (0.68, 1.06) | 0.84  (0.66, 1.08) | 0.90  (0.72, 1.11) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 310 | 205 | 391 | 234 | 392 |
| MVORb  (95% CI) | 1.00  (REF) | 0.86  (0.67, 1.10) | 1.05  (0.85, 1.30) | 0.94  (0.74, 1.19) | 1.01  (0.82, 1.25) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Fish and Seafood Intake** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 90 | 146 | 84 | 165 | 105 |
| MVORb  (95% CI) | 1.00  (REF) | 1.08 (0.80,1.44) | 0.94 (0.68,1.31) | 1.08 (0.81,1.44) | 1.15 (0.84,1.57) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 188 | 316 | 192 | 302 | 198 |
| MVORb  (95% CI) | 1.00  (REF) | 1.19  (0.95, 1.51) | 1.09  (0.84, 1.41) | 0.91  (0.73, 1.15) | 1.05  (0.81, 1.35) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 244 | 389 | 251 | 409 | 239 |
| MVORb  (95% CI) | 1.00  (REF) | 1.12  (0.89, 1.40) | 1.12  (0.87, 1.44) | 0.98  (0.78, 1.22) | 0.91  (0.71, 1.16) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Monounsaturated:Polyunsaturated Fat Intake Ratio** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 108 | 91 | 113 | 185 | 93 |
| MVORb  (95% CI) | 1.00  (REF) | 0.97 (0.72,1.32) | 1.25 (0.93,1.67) | 1.17 (0.90,1.52) | 1.26  (0.92,1.72) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 251 | 195 | 210 | 364 | 176 |
| MVORb  (95% CI) | 1.00  (REF) | 0.83  (0.65, 1.05) | 0.91  (0.72, 1.15) | 0.93  (0.75, 1.14) | 0.98  (0.76, 1.26) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 300 | 273 | 278 | 465 | 216 |
| MVORb  (95% CI) | 1.00  (REF) | 1.09  (0.87, 1.38) | 1.09  (0.87, 1.38) | 1.03  (0.84, 1.26) | 1.03  (0.81, 1.33) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Alcohol Intakec** | | | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** |  |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 244 | 91 | 96 | 159 |  |
| MVORb  (95% CI) | 1.00  (REF) | 1.52  (1.16, 2.01) | 1.19  (0.91, 1.55) | 1.33  (1.06,1.68) |  |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 539 | 164 | 201 | 292 |  |
| MVORb  (95% CI) | 1.00  (REF) | 1.22  (0.97, 1.54) | 1.13  (0.92, 1.39) | 1.04  (0.87, 1.25) |  |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 738 | 181 | 229 | 384 |  |
| MVORb  (95% CI) | 1.00  (REF) | 0.87  (0.70, 1.10) | 0.83  (0.67, 1.02) | 1.03  (0.86, 1.23) |  |

aDefined as ≥5 dB HL worsening of low-frequency (PTA0.5,1,2 kHz), mid-frequency (PTA3,4 kHz) and high-frequency (PTA6,8 kHz) pure-tone average audiometric hearing thresholds.

bMultivariable odds ratio (MVOR) adjusted for age, race, body mass index, smoking, tinnitus, total energy intake, noise exposure, baseline PTA and dietary intakes of the other AMED score components.

c Alcohol intake categorized in quartiles in calculation of AMED score.

Higher quintile represents greater adherence to the Alternate Mediterranean diet (AMED). Possible range for AMED score = 0 to 9 points. Higher score represents greater adherence to a Mediterranean-style diet. The AMED diet score components were scored with 1 point for above the median intake are: (a) fruit; (b) vegetables; (c) nuts; (d) legumes/soy; (e) fish/seafood; (f) whole grains; and (g) ratio of monounsaturated fat to saturated fat intake. Intake of red and processed meats was scored with 1 point for below the median intake. Alcohol intake was scored with 1 point for intake between 5 and 15 grams per day.

AMED: Alternate Mediterranean diet; MVOR: Multivariable odds ratio; PTA: Pure-tone-average.

**Web Table 6.** Individual Components of AHEI Score and Odds Ratios for 3-year Audiometric Hearing Threshold Declinea Among Women in the Nurses’ Health Study II

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | | **Fruit Intake** | | | |
|  | **Quintile 1** | **Quintile 2** | | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  | |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  | |  |  |  |
| Cases | 119 | 120 | | 110 | 133 | 108 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93 (0.70,1.24) | | 1.06 (0.79,1.42) | 1.05 (0.79,1.40) | 0.88  (0.64,1.21) |
|  |  |  | |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  | |  |  |  |
| Cases | 253 | 259 | | 220 | 258 | 206 |
| MVORb  (95% CI) | 1.00  (REF) | 0.93  (0.74, 1.17) | | 0.98  (0.77, 1.24) | 0.94  (0.75, 1.19) | 0.73  (0.57, 0.94) |
|  |  |  | |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  | |  |  |  |
| Cases | 310 | 332 | | 280 | 310 | 300 |
| MVORb  (95% CI) | 1.00  (REF) | 0.98  (0.78, 1.22) | | 1.05  (0.83, 1.33) | 0.87  (0.70, 1.10) | 0.95  (0.74, 1.21) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | **Vegetable Intake** | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 127 | 119 | 99 | 137 | 108 |
| MVORb  (95% CI) | 1.00  (REF) | 1.06 (0.80, 1.41) | 0.78 (0.58,1.05) | 0.98 (0.73,1.30) | 0.84  (0.61,1.16) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 253 | 229 | 226 | 263 | 225 |
| MVORb  (95% CI) | 1.00  (REF) | 1.07  (0.85, 1.35) | 0.97  (0.77, 1.23) | 1.01  (0.80, 1.27) | 0.97  (0.75, 1.25) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 315 | 290 | 318 | 319 | 290 |
| MVORb  (95% CI) | 1.00  (REF) | 1.07  (0.85, 1.35) | 1.17  (0.93, 1.47) | 0.89  (0.71, 1.12) | 0.93  (0.72, 1.19) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Nut Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 113 | 127 | 119 | 117 | 114 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.06 (0.80,1.42) | 0.94 (0.70,1.26) | 1.00 (0.74,1.36) | 0.91  (0.66,1.26) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 256 | 236 | 261 | 221 | 222 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.79  (0.62, 0.99) | 0.90  (0.71, 1.13) | 0.75  (0.59, 0.96) | 0.71  (0.55, 0.92) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 309 | 313 | 314 | 290 | 306 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.86  (0.68, 1.08) | 0.83  (0.66, 1.05) | 0.80  (0.63, 1.02) | 0.82  (0.64, 1.05) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Meat Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 121 | 114 | 121 | 119 | 115 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.91 (0.68,1.22) | 0.97 (0.73,1.31) | 0.99 (0.73,1.35) | 0.95 (0.69,1.30) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 257 | 236 | 248 | 237 | 218 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.78  (0.61, 0.98) | 0.81  (0.64, 1.03) | 0.76  (0.59, 0.97) | 0.65  (0.51, 0.84) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 331 | 314 | 297 | 291 | 299 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.83  (0.66, 1.04) | 0.75  (0.59, 0.94) | 0.74  (0.58, 0.95) | 0.78  (0.61, 1.00) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Whole Grain Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 122 | 106 | 127 | 116 | 119 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.87 (0.65,1.17) | 1.16 (0.88,1.53) | 0.91 (0.69,1.21) | 0.92  (0.69,1.23) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 236 | 252 | 238 | 224 | 246 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.15  (0.91, 1.44) | 1.12  (0.89, 1.41) | 0.85  (0.67, 1.07) | 0.93  (0.74, 1.18) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 297 | 303 | 292 | 318 | 322 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.08  (0.86, 1.35) | 1.11  (0.89, 1.40) | 1.11  (0.89, 1.39) | 1.09  (0.87, 1.37) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Sugar Sweetened Beverage Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 96 | 120 | 133 | 123 | 118 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.32 (0.98,1.77) | 1.55 (1.15,2.08) | 1.39 (1.03,1.90) | 1.34  (0.98,1.84) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 237 | 224 | 261 | 247 | 227 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.90  (0.71, 1.13) | 1.17  (0.92, 1.47) | 1.03  (0.81, 1.31) | 0.90  (0.70, 1.15) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 302 | 300 | 314 | 317 | 299 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.95  (0.76, 1.19) | 1.07  (0.85, 1.34) | 1.09  (0.86, 1.38) | 1.00  (0.79, 1.27) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Sodium Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 115 | 121 | 102 | 132 | 120 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.15 (0.84,1.58) | 1.16 (0.80,1.68) | 1.46 (0.98,2.18) | 1.50  (0.92,2.44) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 245 | 252 | 203 | 259 | 237 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.88  (0.68, 1.13) | 0.70  (0.52, 0.94) | 0.81  (0.59, 1.11) | 0.70  (0.47, 1.03) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 309 | 327 | 270 | 342 | 284 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.10  (0.86, 1.40) | 0.94  (0.71, 1.25) | 1.21  (0.88, 1.66) | 0.95  (0.65, 1.39) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Polyunsaturated Fat Intake** | | | | | |
|  | | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  | |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  |  |  |  |  |
| Cases | | 124 | 108 | 107 | 127 | 124 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.91 (0.69,1.21) | 1.14 (0.86,1.53) | 1.00 (0.76,1.33) | 1.04  (0.79,1.38) |
|  | |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** | |  |  |  |  |  |
| Cases | | 271 | 238 | 185 | 258 | 244 |
| MVORb  (95% CI) | | 1.00  (REF) | 0.89  (0.71, 1.12) | 0.82  (0.64, 1.04) | 0.91  (0.73, 1.14) | 0.91  (0.73, 1.14) |
|  | |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** | |  |  |  |  |  |
| Cases | | 310 | 299 | 259 | 356 | 308 |
| MVORb  (95% CI) | | 1.00  (REF) | 1.04  (0.84, 1.30) | 1.13  (0.90, 1.43) | 1.26  (1.01, 1.57) | 1.06  (0.85, 1.33) |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | **Trans-fat Intake** | | | | |
|  | | **Quintile 1** | | **Quintile 2** | | **Quintile 3** | | **Quintile 4** | | **Quintile 5** |
|  |  | |  | |  | |  | |  | |
| **Low-frequency PTA(0.5,1,2 kHz)** | |  | |  | |  | |  | |  |
| Cases | | 116 | | 125 | | 123 | | 117 | | 109 |
| MVORb  (95% CI) | | 1.00  (REF) | | 0.77 (0.58,1.03) | | 0.85 (0.64,1.13) | | 0.86 (0.65,1.16) | | 0.87  (0.64,1.17) |
|  |  | |  | |  | |  | |  | |
| **Mid-frequency PTA(3,4 kHz)** | |  | |  | |  | |  | |  |
| Cases | | 257 | | 236 | | 248 | | 237 | | 218 |
| MVORb  (95% CI) | | 1.00  (REF) | | 0.78  (0.61, 0.98) | | 0.81  (0.64, 1.03) | | 0.76  (0.59, 0.97) | | 0.65  (0.51, 0.84) |
|  | |  | |  | |  | |  | |  |
| **High-frequency PTA(6,8 kHz)** | |  | |  | |  | |  | |  |
| Cases | | 331 | | 314 | | 297 | | 291 | | 299 |
| MVORb  (95% CI) | | 1.00  (REF) | | 0.83  (0.66, 1.04) | | 0.75  (0.59, 0.94) | | 0.74  (0.58, 0.95) | | 0.78  (0.61, 1.00) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | **Alcohol Intake** | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 122 | 98 | 124 | 110 | 136 |
| MVORb  (95% CI) | 1.00  (REF) | 0.86  (0.64, 1.16) | 1.01  (0.76, 1.33) | 1.07  (0.80, 1.43) | 1.05  (0.79, 1.39) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 264 | 208 | 233 | 228 | 263 |
| MVORb  (95% CI) | 1.00  (REF) | 0.80  (0.63, 1.01) | 0.80  (0.63, 1.00) | 1.01  (0.79, 1.27) | 0.87  (0.69, 1.09) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 336 | 287 | 306 | 261 | 342 |
| MVORb  (95% CI) | 1.00  (REF) | 0.91  (0.72, 1.14) | 0.83  (0.66, 1.03) | 0.84  (0.66, 1.06) | 0.94  (0.76, 1.18) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | **Long Chain Omega-3 Fat Intake** | | |
|  | **Quintile 1** | **Quintile 2** | **Quintile 3** | **Quintile 4** | **Quintile 5** |
|  |  |  |  |  |  |
| **Low-frequency PTA(0.5,1,2 kHz)** |  |  |  |  |  |
| Cases | 116 | 118 | 108 | 125 | 123 |
| MVORb  (95% CI) | 1.00  (REF) | 1.05 (0.79,1.40) | 0.87 (0.65,1.16) | 1.06 (0.79,1.41) | 1.03  (0.77,1.38) |
|  |  |  |  |  |  |
| **Mid-frequency PTA(3,4 kHz)** |  |  |  |  |  |
| Cases | 245 | 247 | 248 | 213 | 243 |
| MVORb  (95% CI) | 1.00  (REF) | 1.06  (0.85, 1.34) | 0.96  (0.76, 1.20) | 0.79  (0.62, 1.00) | 0.96  (0.76, 1.22) |
|  |  |  |  |  |  |
| **High-frequency PTA(6,8 kHz)** |  |  |  |  |  |
| Cases | 307 | 319 | 301 | 319 | 286 |
| MVORb  (95% CI) | 1.00  (REF) | 1.16  (0.92, 1.45) | 0.89  (0.71, 1.11) | 1.03  (0.82, 1.29) | 0.82  (0.65, 1.04) |

aDefined as ≥5 dB HL worsening of low-frequency (PTA0.5,1,2 kHz), mid-frequency (PTA3,4 kHz) and high-frequency (PTA6,8 kHz) audiometric hearing thresholds.

bMultivariable odds ratio adjusted for age, race, body mass index, smoking, tinnitus, total energy intake, noise exposure, baseline PTA and dietary intakes of the other AHEI score components.

Higher quintile represents greater adherence to the AHEI-2010. The AHEI-2010 diet score components are: (a) fruit; (b) vegetables; (c) nuts; (d) red meat\*; (e) whole grains; (f) alcohol; (g) sugar-sweetened beverages and fruit juice\*; (h) polyunsaturated fatty acids; (i) *trans*-fat\*; (j) long-chain omega-3 fatty acids; and (k) sodium.\*

\*Inversely scored, thus lower intake more closely adheres to AHEI-2010 recommended intake (e.g. those in the highest quintile (Q5) had lower intakes of red meat, sugar-sweetened beverages, fruit juices, *trans*-fat, or sodium).