Supplementary file 1

Table 1: Rotated Component Matrix showing Loading Scores for the Food Groups for the Derived Dietary Patterns

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Dietary Patterns** | | | | | | | |
| **Food Group** | **Traditional 2003** | | **Traditional 2014** | **Mixed 2003** | **Mixed 2014** | **Western 2003** | **Western 2014** | **Flatbread & beverage 2003** | **Noodles & Meat 2014** |
| Alcoholic beverages |  | |  |  |  |  |  |  | .630 |
| bread |  | |  | .481 | .401 |  | .385 |  |  |
| Carbonated beverages |  | |  |  |  | .212 | .558 | .753 |  |
| Confectionary | .295 | | .206 | .376 | .247 |  | .470 |  |  |
| Corn |  | |  | .364 | .369 |  |  |  |  |
| Creamer | .287 | |  |  |  |  |  | .243 |  |
| Eggs | .237 | | .360 |  |  | .272 |  |  | .236 |
| Fast\_foods |  | |  |  |  | .602 | .616 |  |  |
| Fish and seafood | .319 | | .489 |  |  |  |  |  |  |
| Fruits |  | |  | .356 | .504 |  | .271 |  |  |
| Indian flat bread |  | |  |  |  |  |  | .300 |  |
| Legumes |  | | .201 | .305 | .551 |  |  |  |  |
| Local\_kuih | .355 | | .261 | .286 |  |  | .413 |  | -.271 |
| Malted chocolate drink |  | |  | .305 | .206 |  |  | .224 |  |
| Meat |  | |  |  |  | .700 |  |  | .742 |
| Milk and products |  | |  | .332 | .557 |  |  |  |  |
| Noodles |  | |  |  |  | .521 |  |  | .501 |
| Other beverages |  | |  |  |  |  | .498 | .747 |  |
| Pasta |  | | -.227 |  | .342 | .332 |  |  |  |
| Ready-to-eat\_cereals |  | |  | .320 | .437 |  |  |  |  |
| Rice |  | | .446 |  |  | .336 |  | -.278 |  |
| Sagu |  | | .262 |  |  |  |  |  |  |
| Soya\_milk |  | |  | .295 | .245 |  |  | .239 |  |
| Spices & condiments | .785 | | .419 |  |  |  | .222 |  |  |
| Spreads |  | |  | .461 | .211 |  | .570 |  |  |
| Sugar & honey | .790 | | .426 |  |  |  |  |  |  |
| Tea & coffee | .488 | | .463 |  |  |  |  |  |  |
| Vegetables |  | | .323 | .491 | .379 |  |  |  |  |

*Footnotes: Extraction Method: Principal Component Analysis with Varimax Rotation . Rotation converged in 6 iterations for 2003 and 7 for 2014.Loadings< 0.2 were suppressed*

Table 2: Association between Age and Dietary Patterns

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Age Group | Dietary Pattern Quartiles (2003) | | | | | | | | | | Dietary Pattern Quartiles (2014) | | | | | | | | | | | | | |
| Quartile 1 | | Quartile 2 | | Quartile 3 | | Quartile 4 | | |  | Quartille1 | | Quartile 2 | | Quartile 3 | | | Quartile 4 | | | | | |  |
| n | % | n | % | n | % | n | % | | P value | n | % | n | % | n | | % | | n | | % | | P value | |
| Traditional (2003) | | | | | | | | | | | *Traditional (2014)* | | | | | | | | | | | | | |
| 18 -19 | 124 | 29 | 98 | 23.0 | 101 | 23.7 | 104 | 24.4 | 0.267 | | 32 | 24.2 | 37 | 28.0 | 29 | 22.0 | | 34 | | 25.8 | | 0.917 | | |
| 20 - 29 | 480 | 24 | 524 | 25.7 | 502 | 24.6 | 533 | 26.1 | 187 | 27.1 | 163 | 23.7 | 173 | 25.1 | | 166 | | 24.1 | |
| 30 - 39 | 475 | 24 | 503 | 25.5 | 510 | 25.8 | 486 | 24.6 | 197 | 23.7 | 217 | 26.1 | 214 | 25.7 | | 204 | | 24.5 | |
| 40 - 49 | 385 | 25 | 374 | 24.3 | 392 | 25.5 | 386 | 25.1 | 180 | 23.8 | 185 | 24.4 | 194 | 25.6 | | 198 | | 26.2 | |
| 50 - 60 | 257 | 28 | 224 | 24.6 | 215 | 23.6 | 214 | 23.5 | 154 | 26.1 | 148 | 25.1 | 140 | 23.7 | | 148 | | 25.1 | |
| Mixed (2003) | | | | | | | | | | | *Mixed (2014)* | | | | | | | | | | | | | |
| 18 -19 | 98 | 23.0 | 98 | 23.0 | 110 | 25.8 | 121 | 28.3 | 0.015 | | 45 | 34.1 | 32 | 24.2 | 22 | 16.7 | | 33 | | 25.0 | | 0.086 | | |
| 20 - 29 | 503 | 24.7 | 510 | 25.0 | 498 | 24.4 | 528 | 25.9 | 161 | 23.4 | 189 | 27.4 | 169 | 24.5 | | 170 | | 24.7 | |
| 30 - 39 | 483 | 24.5 | 502 | 25.4 | 489 | 24.8 | 500 | 25.3 | 211 | 25.4 | 189 | 22.7 | 214 | 25.7 | | 218 | | 26.2 | |
| 40 - 49 | 365 | 23.7 | 374 | 24.3 | 416 | 27.1 | 382 | 24.9 | 192 | 25.4 | 188 | 24.8 | 178 | 23.5 | | 199 | | 26.3 | |
| 50 - 60 | 272 | 29.9 | 237 | 26.0 | 209 | 23.0 | 192 | 21.1 | 140 | 23.7 | 152 | 25.8 | 167 | 28.3 | | 131 | | 22.2 | |
| Western (2003) | | | | | | | | | | | *Western (2014)* | | | | | | | | | | | | | |
| 18 -19 | 90 | 21.1 | 93 | 21.8 | 91 | 21.3 | 153 | 35.8 | <0.001 | | 20 | 15.2 | 20 | 15.2 | 30 | 22.7 | | 62 | | 47.0 | | <0.001 | | |
| 20 - 29 | 387 | 19.0 | 475 | 23.3 | 546 | 26.8 | 631 | 30.9 | 112 | 16.3 | 151 | 21.9 | 181 | 26.3 | | 245 | | 35.6 | |
| 30 - 39 | 464 | 23.5 | 499 | 25.3 | 512 | 25.9 | 499 | 25.3 | 194 | 23.3 | 198 | 23.8 | 214 | 25.7 | | 226 | | 27.2 | |
| 40 - 49 | 460 | 29.9 | 394 | 25.6 | 378 | 24.6 | 305 | 19.8 | 214 | 28.3 | 204 | 26.9 | 194 | 25.6 | | 145 | | 19.2 | |
| 50 - 60 | 322 | 35.4 | 258 | 28.4 | 192 | 21.1 | 138 | 15.2 | 210 | 35.6 | 177 | 30.0 | 131 | 22.2 | | 72 | | 12.2 | |
| Flatbread and Beverage 2003 | | | | | | | | | | | *Noodles and Meat 2014* | | | | | | | | | | | | | |
| 18 -19 | 78 | 18.3 | 73 | 17.1 | 89 | 20.8 | 187 | 43.8 | <0.001 | | 33 | 25.0 | 33 | 25.0 | 33 | 25.0 | | 33 | | 25.0 | | 0.663 | | |
| 20 - 29 | 356 | 17.5 | 430 | 21.1 | 556 | 27.3 | 697 | 34.2 | 168 | 24.4 | 177 | 25.7 | 171 | 24.8 | | 173 | | 25.1 | |
| 30 - 39 | 500 | 25.3 | 521 | 26.4 | 518 | 26.2 | 435 | 22.0 | 200 | 24.0 | 199 | 23.9 | 203 | 24.4 | | 230 | | 27.6 | |
| 40 - 49 | 462 | 30.1 | 426 | 27.7 | 365 | 23.7 | 284 | 18.5 | 182 | 24.0 | 204 | 26.9 | 192 | 25.4 | | 179 | | 23.6 | |
| 50 - 60 | 326 | 35.8 | 266 | 29.2 | 199 | 21.9 | 119 | 13.1 | 166 | 28.1 | 137 | 23.2 | 151 | 25.6 | | 136 | | 23.1 | |

Table 3 Association between Sex and Dietary Patterns

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Gender | Dietary Pattern Quartiles (2003) | | | | | | | | | | | | | | | | Dietary Pattern Quartiles (2014) | | | | | | | | | | | |
| Quartile 1 | | | | Quartile 2 | | | | Quartile 3 | | | | Quartile 4 | | |  | Quartille1 | | | Quartile 2 | | | Quartile 3 | | Quartile 4 | | |  |
| n | | % | | n | | % | | n | | % | | n | | % | P value | n | % | n | | % | n | | % | n | % | P value | |
| Traditional (2003) | | | | | | | | | | | | | | | | | *Traditional (2014)* | | | | | | | | | | | |
| Male | 296 | 23 | | 347 | | 26.7 | | 319 | | 24.5 | | 340 | | 26.1 | | <0.001 | 265 | 19.1 | 332 | | 23.9 | 365 | | 26.3 | 426 | 30.7 | <0.001 | |
| Female | 341 | 33% | | 275 | | 26.5 | | 228 | | 22.0 | | 193 | | 18.6 | | 485 | 30.1 | 418 | | 25.9 | 385 | | 23.9 | 324 | 20.1 |
| Mixed (2003) | | | | | | | | | | | | | | | | | *Mixed (2014)* | | | | | | | | | | | |
| Male | 372 | 28.6 | | 335 | | 25.7 | | 300 | | 23.0 | | 295 | | 22.7 | | <0.001 | 455 | 32.8 | 361 | | 26.0 | 276 | | 19.9 | 296 | 21.3 | <0.001 | |
| Female | 179 | 17.3 | | 297 | | 28.6 | | 277 | | 26.7 | | 284 | | 27.4 | | 294 | 18.2 | 389 | | 24.1 | 474 | | 29.4 | 455 | 28.2 |
| Western (2003) | | | | | | | | | | | | | | | | | *Western (2014)* | | | | | | | | | | | |
| Male | 315 | 24.2 | | 301 | | 23.1 | | 317 | | 24.3 | | 369 | | 28.3 | | 0.076 | 318 | 22.9 | 315 | | 22.7 | 352 | | 25.4 | 403 | 29.0 | <0.001 | |
| Female | 239 | 23.0 | | 278 | | 26.8 | | 263 | | 25.4 | | 257 | | 24.8 | | 432 | 26.8 | 435 | | 27.0 | 398 | | 24.7 | 347 | 21.5 |
| Flatbread and Beverage 2003 | | | | | | | | | | | | | | | | | *Noodles and Meat 2014* | | | | | | | | | | | |
| Male | 244 | 18.7 | | 320 | | 24.6 | | 333 | | 25.6 | | 405 | | 31.1 | | <0.001 | 329 | 23.7 | 285 | | 20.5 | 333 | | 24.0 | 441 | 31.8 | <0.001 | |
| Female | 277 | 26.7 | | 289 | | 27.9 | | 242 | | 23.3 | | 229 | | 22.1 | | 420 | 26.1 | 465 | | 28.8 | 417 | | 25.9 | 310 | 19.2 |

Table 4: Association between Ethnicity and Dietary Patterns

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ethnicity | Dietary Pattern Quartiles (2003) | | | | | | | | | | Dietary Pattern Quartiles (2014) | | | | | | | | | | | | | | | |
| Quartile 1 | | Quartile 2 | | Quartile 3 | | Quartile 4 | |  | | Quartille1 | | | | Quartile 2 | | | Quartile 3 | | | | | Quartile 4 | | |  |
| n | % | n | % | n | % | n | % | P value | | n | | % | n | | | % | | n | % | | n | | | % | P value |
| Traditional (2003) | | | | | | | | | | | *Traditional (2014)* | | | | | | | | | | | | | | | |
| Malay | 556 | 14.9 | 807 | 21.6 | 1080 | 29.0 | 1285 | 34.5 | | <0.001 | 328 | 22.2 | | | 347 | 23.5 | | 392 | | | 26.5 | | 410 | 27.8 | | <0.001 |
| Chinese | 720 | 45.2 | 490 | 30.8 | 251 | 15.8 | 131 | 8.2 | | 205 | 39.5 | | | 153 | 29.5 | | 101 | | | 19.5 | | 60 | 11.6 | |
| Indian | 200 | 31.6 | 178 | 28.2 | 155 | 24.5 | 99 | 15.7 | | 54 | 40.6 | | | 43 | 32.3 | | 20 | | | 15.0 | | 16 | 12.0 | |
| Other Bumiputeras | 102 | 31.7 | 102 | 31.7 | 75 | 23.3 | 43 | 13.4 | |  | 5 | 29.4 | | | 5 | 29.4 | | 5 | | | 29.4 | | 2 | 11.8 | |  |
| Bumiputera Sabah | 83 | 27.0 | 81 | 26.4 | 67 | 21.8 | 76 | 24.8 | |  | 68 | 18.0 | | | 91 | 24.1 | | 93 | | | 24.7 | | 125 | 33.2 | |  |
| Bumiputera Sarawak | 68 | 20.9 | 69 | 21.2 | 96 | 29.5 | 92 | 28.3 | |  | 51 | 17.3 | | | 66 | 22.4 | | 83 | | | 28.1 | | 95 | 32.2 | |  |
| Others | 3 | 13.6 | 5 | 22.7 | 8 | 36.4 | 6 | 27.3 | |  | 39 | 21.4 | | | 45 | 24.7 | | 56 | | | 30.8 | | 42 | 23.1 | |  |
| Mixed (2003) | | | | | | | | | | | *Mixed (2014)* | | | | | | | | | | | | | | | |
| Malay | 988 | 26.5 | 922 | 24.7 | 887 | 23.8 | 931 | 25.0 | | <0.001 | 353 | 23.9 | | | 385 | 26.1 | | 385 | | | 26.1 | | 354 | 24.0 | | <0.001 |
| Chinese | 375 | 23.6 | 419 | 26.3 | 436 | 27.4 | 362 | 22.7 | | 78 | 15.0 | | | 121 | 23.3 | | 157 | | | 30.3 | | 163 | 31.4 | |
| Indian | 124 | 19.6 | 183 | 29.0 | 179 | 28.3 | 146 | 23.1 | | 13 | 9.8 | | | 33 | 24.8 | | 37 | | | 27.8 | | 50 | 37.6 | |
| Other Bumiputeras | 86 | 26.7 | 70 | 21.7 | 72 | 22.4 | 94 | 29.2 | |  | 5 | 29.4 | | | 4 | 23.5 | | 1 | | | 5.9 | | 7 | 41.2 | |  |
| Bumiputera Sabah | 70 | 22.8 | 67 | 21.8 | 83 | 27.0 | 87 | 28.3 | |  | 120 | 31.8 | | | 96 | 25.5 | | 70 | | | 18.6 | | 91 | 24.1 | |  |
| Bumiputera Sarawak | 86 | 26.5 | 62 | 19.1 | 70 | 21.5 | 107 | 32.9 | |  | 123 | 41.7 | | | 71 | 24.1 | | 58 | | | 19.7 | | 43 | 14.6 | |  |
| Others | 3 | 13.6 | 9 | 40.9 | 5 | 22.7 | 5 | 22.7 | |  | 57 | 31.3 | | | 40 | 22.0 | | 42 | | | 23.1 | | 43 | 23.6 | |  |
| Western (2003) | | | | | | | | | | | *Western (2014)* | | | | | | | | | | | | | | | |
| Malay | 1056 | 28.3 | 1039 | 27.9 | 915 | 24.5 | 718 | 19.3 | | <0.001 | 274 | 18.6 | | | 375 | 25.4 | | 418 | | | 28.3 | | 410 | 27.8 | | <0.001 |
| Chinese | 143 | 9.0 | 312 | 19.6 | 466 | 29.3 | 671 | 42.1 | | 200 | 38.5 | | | 135 | 26.0 | | 113 | | | 21.8 | | 71 | 13.7 | |
| Indian | 320 | 50.6 | 168 | 26.6 | 79 | 12.5 | 65 | 10.3 | | 23 | 17.3 | | | 33 | 24.8 | | 39 | | | 29.3 | | 38 | 28.6 | |
| Other Bumiputeras | 98 | 30.4 | 67 | 20.8 | 69 | 21.4 | 88 | 27.3 | |  | 5 | 29.4 | | | 6 | 35.3 | | 1 | | | 5.9 | | 5 | 29.4 | |  |
| Bumiputera Sabah | 56 | 18.2 | 85 | 27.7 | 87 | 28.3 | 79 | 25.7 | |  | 91 | 24.1 | | | 84 | 22.3 | | 87 | | | 23.1 | | 115 | 30.5 | |  |
| Bumiputera Sarawak | 54 | 16.6 | 57 | 17.5 | 109 | 33.5 | 105 | 32.3 | |  | 102 | 34.6 | | | 73 | 24.7 | | 54 | | | 18.3 | | 66 | 22.4 | |  |
| Others | 6 | 27.3 | 4 | 18.2 | 6 | 27.3 | 6 | 27.3 | |  | 55 | 30.2 | | | 44 | 24.2 | | 38 | | | 20.9 | | 45 | 24.7 | |  |
| Flatbread and Beverage (2003) | | | | | | | | | | | *Noodles and Meat 2014* | | | | | | | | | | | | | | | |
| Malay | 730 | 19.6 | 910 | 24.4 | 1043 | 28.0 | 1045 | 28.0 | | <0.001 | 593 | 40.1 | | | 500 | 33.9 | | 296 | | | 20.0 | | 88 | 6.0 | | 0.017 |
| Chinese | 636 | 39.9 | 439 | 27.6 | 277 | 17.4 | 240 | 15.1 | | 10 | 1.9 | | | 45 | 8.7 | | 143 | | | 27.6 | | 321 | 61.8 | |
| Indian | 57 | 9.0 | 130 | 20.6 | 219 | 34.7 | 226 | 35.8 | | 32 | 24.1 | | | 40 | 30.1 | | 35 | | | 26.3 | | 26 | 19.5 | |
| Other Bumiputeras | 99 | 30.7 | 84 | 26.1 | 68 | 21.1 | 71 | 22.0 | |  | 4 | 23.5 | | | 7 | 41.2 | | 3 | | | 17.6 | | 3 | 17.6 | |  |
| Bumiputera Sabah | 98 | 31.9 | 76 | 24.8 | 63 | 20.5 | 70 | 22.8 | |  | 70 | 18.6 | | | 83 | 22.0 | | 106 | | | 28.1 | | 118 | 31.3 | |  |
| Bumiputera Sarawak | 103 | 31.7 | 86 | 26.5 | 60 | 18.5 | 76 | 23.4 | |  | 13 | 4.4 | | | 30 | 10.2 | | 109 | | | 36.9 | | 143 | 48.5 | |  |
| Others | 9 | 40.9 | 6 | 27.3 | 3 | 13.6 | 4 | 18.2 | |  | 27 | 14.8 | | | 45 | 24.7 | | 58 | | | 31.9 | | 52 | 28.6 | |  |

Table 5: Association between Household Income and Dietary Patterns

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Household Income | Dietary Pattern Quartiles (2003) | | | | | | | | | | Dietary Pattern Quartiles (2014) | | | | | | | | | | | | | | | |
| Quartile 1 | | Quartile 2 | | Quartile 3 | | Quartile 4 | |  | | Quartille1 | | | | Quartile 2 | | | Quartile 3 | | | | | Quartile 4 | | |  |
| n |  | n |  | n |  | n |  | P value | | n | |  | n | | |  | | n |  | | n | | |  | P value |
| Traditional (2003) | | | | | | | | | | | *Traditional (2014)* | | | | | | | | | | | | | | | |
| < RM 1500 | 822 | 21 | 935 | 23.7 | 1038 | 26.4 | 1142 | 29.0 | | <0.001 | 281 | 20.0 | | | 321 | 22.8 | | 382 | | | 27.1 | | 424 | 30.1 | | <0.001 |
| 1500 - 3500 | 549 | 27 | 535 | 26.2 | 499 | 24.5 | 456 | 22.4 | | 216 | 24.2 | | | 258 | 29.0 | | 212 | | | 23.8 | | 205 | 23.0 | |
| > 3500 | 361 | 38 | 262 | 27.5 | 195 | 20.5 | 134 | 14.1 | | 238 | 35.5 | | | 165 | 24.6 | | 149 | | | 22.2 | | 119 | 17.7 | |
| Mixed (2003) | | | | | | | | | | | *Mixed (2014)* | | | | | | | | | | | | | | | |
| < RM 1500 | 1101 | 28.0 | 989 | 25.1 | 935 | 23.7 | 912 | 23.2 | | <0.001 | 463 | 32.9 | | | 369 | 26.2 | | 306 | | | 21.7 | | 270 | 19.2 | | <0.001 |
| 1500 - 3500 | 451 | 22.1 | 523 | 25.6 | 524 | 25.7 | 541 | 26.5 | | 187 | 21.0 | | | 228 | 25.6 | | 251 | | | 28.2 | | 225 | 25.3 | |
| > 3500 | 180 | 18.9 | 220 | 23.1 | 273 | 28.7 | 279 | 29.3 | | 96 | 14.3 | | | 145 | 21.6 | | 185 | | | 27.6 | | 245 | 36.5 | |
| Western (2003) | | | | | | | | | | | *Western n (2014)* | | | | | | | | | | | | | | | |
| < RM 1500 | 1109 | 28.2 | 1032 | 26.2 | 988 | 25.1 | 808 | 20.5 | | <0.001 | 420 | 29.8 | | | 345 | 24.5 | | 321 | | | 22.8 | | 322 | 22.9 | | <0.001 |
| 1500 - 3500 | 438 | 21.5 | 483 | 23.7 | 517 | 25.4 | 601 | 29.5 | | 191 | 21.4 | | | 236 | 26.5 | | 234 | | | 26.3 | | 230 | 25.8 | |
| > 3500 | 185 | 19.4 | 217 | 22.8 | 226 | 23.7 | 324 | 34.0 | | 128 | 19.1 | | | 160 | 23.8 | | 188 | | | 28.0 | | 195 | 29.1 | |
| Flatbread and Beverage 2003 | | | | | | | | | | | *Noodles and Meat 2014* | | | | | | | | | | | | | | | |
| < RM 1500 | 1012 | 25.7 | 1005 | 25.5 | 977 | 24.8 | 943 | 24.0 | | <0.001 | 370 | 26.3 | | | 353 | 25.1 | | 366 | | | 26.0 | | 319 | 22.7 | | 0.017 |
| 1500 - 3500 | 482 | 23.6 | 492 | 24.1 | 507 | 24.9 | 558 | 27.4 | | 224 | 25.1 | | | 212 | 23.8 | | 228 | | | 25.6 | | 227 | 25.5 | |
| > 3500 | 239 | 25.1 | 233 | 24.5 | 249 | 26.2 | 231 | 24.3 | | 149 | 22.2 | | | 179 | 26.7 | | 147 | | | 21.9 | | 196 | 29.2 | |

Table 6: *Association between Location of Household Residence and Dietary Patterns*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Location | Dietary Pattern Quartiles (2003) | | | | | | | | | | | | | | | | | Dietary Pattern Quartiles (2014) | | | | | | | | | | | |
| Quartile 1 | | | | Quartile 2 | | | | Quartile 3 | | | | Quartile 4 | | |  | | Quartille1 | | | Quartile 2 | | | Quartile 3 | | Quartile 4 | | |  |
| n | |  | | n | |  | | n | |  | | n | |  | P value | | n |  | n | |  | n | |  | n |  | P value | |
|  | Traditional 2003 | | | | | | | | | | | | | | | | | *Traditional 2014* | | | | | | | | | | | |
| Urban | 1155 | 31 | | 1026 | | 27.7 | | 873 | | 23.6 | | 647 | | 17.5 | | | <0.001 | 517 | 32.5 | 413 | | 26.0 | 351 | | 22.1 | 310 | 19.5 | <0.001 | |
| Rural | 577 | 18 | | 706 | | 21.9 | | 859 | | 26.6 | | 1085 | | 33.6 | | | 233 | 16.5 | 337 | | 23.9 | 399 | | 28.3 | 440 | 31.2 |
|  | Mixed (2003) | | | | | | | | | | | | | | | | | Mixed (2014) | | | | | | | | | | | |
| Urban | 826 | 22.3 | | 960 | | 25.9 | | 964 | | 26.0 | | 951 | | 25.7 | | | <0.001 | 269 | 16.9 | 398 | | 25.0 | 431 | | 27.1 | 493 | 31.0 | <0.001 | |
| Rural | 906 | 28.1 | | 772 | | 23.9 | | 768 | | 23.8 | | 781 | | 24.2 | | | 480 | 34.1 | 352 | | 25.0 | 319 | | 22.6 | 258 | 18.3 |
| Western (2003) | | | | | | | | | | | | | | | | | | *Western (2014)* | | | | | | | | | | | |
| Urban | 807 | 21.8 | | 879 | | 23.8 | | 909 | | 24.6 | | 1106 | | 29.9 | | | <0.001 | 386 | 24.3 | 372 | | 23.4 | 414 | | 26.0 | 419 | 26.3 | 0.044 | |
| Rural | 926 | 28.7 | | 853 | | 26.4 | | 822 | | 25.5 | | 626 | | 19.4 | | | 364 | 25.8 | 378 | | 26.8 | 336 | | 23.8 | 331 | 23.5 |
| Flatbread and Beverage 2003 | | | | | | | | | | | | | | | | | | *Noodles and Meat 2014* | | | | | | | | | | | |
| Urban | 858 | 23.2 | | 928 | | 25.1 | | 935 | | 25.3 | | 980 | | 26.5 | | | 0.001 | 306 | 19.2 | 386 | | 24.3 | 401 | | 25.2 | 498 | 31.3 | <0.001 | |
| Rural | 874 | 27.1 | | 803 | | 24.9 | | 798 | | 24.7 | | 752 | | 23.3 | | | 443 | 31.4 | 364 | | 25.8 | 349 | | 24.8 | 253 | 18.0 |

Table 7: *Association between Dietary Patterns and Prevalence of Overweight*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2003 | Percentage of subjects (n= 6766) | | | | | | | | | | | | | | | |
|  | Traditional Diet | | | | Mixed Diet | | | | Western Diet | | | | Flatbread and Beverage Diet | | | |
|  | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 |
| BMI<25 kg/m2 | 59.05 | 57.81 | 58.25 | 59.02 | 59.05 | 57.81 | 58.25 | 59.02 | 54.83 | 57.74 | 59.48 | 59.02 | 59.33 | 57.96 | 57.72 | 59.02 |
| BMI>=25 kg/m2 | 40.95 | 42.19 | 41.75 | 40.98 | 40.95 | 42.19 | 41.75 | 40.98 | 45.17 | 42.26 | 40.52 | 40.98 | 40.67 | 42.04 | 42.28 | 40.98 |
| Chi-square Value | 3.483 | | | | 4.146 | | | | 31.041 | | | | 4.917 | | | |
| P value | 0.323 | | | | 0.246 | | | | <0.001 | | | | 0.178 | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2014 | percentage of subjects (n= 2811) | | | | | | | | | | | | | | | |
|  | Traditional Diet | | | | Mixed Diet | | | | Western Diet | | | | Noodle and Meat Diet | | | |
|  | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 | Quartile 1 | Quartile 2 | Quartile 3 | Quartile 4 |
| BMI<25 kg/m2 | 48.88 | 48.17 | 46.07 | 51.09 | 51.58 | 47.22 | 46.57 | 48.81 | 46.69 | 45.22 | 48.82 | 53.46 | 47.16 | 45.11 | 47.84 | 54.07 |
| BMI≥=25 kg/m2 | 51.12 | 51.83 | 53.93 | 48.91 | 48.42 | 52.78 | 53.43 | 51.19 | 53.31 | 54.78 | 51.18 | 46.54 | 52.84 | 54.89 | 52.16 | 45.93 |
| Chi-square Value | 3.754 | | | | 4.321 | | | | 11.157 | | | | 12.933 | | | |
| P value | 0.289 | | | | 0.229 | | | | 0.011 | | | | 0.005 | | | |

Table 8 Dietary patterns and presence of overweight (BMI>=25 kg/m2) among MANS respondents in 2003 and 2014 (Excluding Underweight)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Dietary Pattern* | *DP Quartile§* | *OR (95% CI)* † | | | | | | | | | | | |  |
| *Unadjusted* | | | *Adj. for age* | | | *Adj. for age and sex* | | | *Adj. for age, sex and ethnicity* | | *Adj. for age, sex, ethnicity and household income* | |
| *Traditional Diet 2003* | Q1 | 1.035 (0.897 – 1.194) | | 1.020 (0.882-1.179) | | | 0.990(0.856-1.146) | | | 1.203 (1.029-1.407)\* | | 1.179 (1.007-1.380)\* | | |
| Q2 | 1.107 (0.960-1.276) | | 1.111 (0.961-1.283) | | | 1.091(0.944-1.261) | | | 1.233 (1.061-1.433)\*\* | | 1.216(1.046-1.413)\* | | |
| Q3 | 1.076 (0.932-1.241) | | 1.069 (0.925-1.236) | | | 1.056(0.913-1.220) | | | 1.105 (0.955-1.280) | | 1.094(0.945-1.267) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Mixed diet 2003* | Q1 | 1.073 (0.930-1.239) | | 1.052 (0.910-1.216) | | | 1.084( 0.936- 1.255) | | | 1.073(0.926-1.243) | | 1.100 (0.948-1.276) | | |
| Q2 | 1.110 (0.954-1.268) | | 1.089(0.943-1.259) | | | 1.098(0.950-1.269) | | | 1.099(0.950-1.272) | | 1.113( 0.961-1.288) | | |
| Q3 | 1.093 (0.947-1.261) | | 1.077(0.931-1.245) | | | 1.082(0.935-1.251) | | | 1.092(0.943-1.264) | | 1.100 (0.950-1.274) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1.000 | | |
| *Western 2003* | Q1 | 1.433 (1.241- 1.654)\*\*\* | | 1.227 (1.059-1.422)\*\* | | | 1.210 (1.044-1.402)\* | | | 0.985(0.842-1.152) | | 1.004(0.858-1.175) | | |
| Q2 | 1.246 (1.079- 1.438)\*\* | | 1.134 (0.980-1.312) | | | 1.112 (0.961-1.288) | | | 0.969(0.834-1.128) | | 0.983(0.845-1.144) | | |
| Q3 | 1.160 (1.005 – 1.344)\* | | 1.094 (0.945-1.265) | | | 1.077(0.931-1.247) | | | 1.009(0.870-1.170) | | 1.022(0.881-1.186) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Flatbread & Beverages diet 2003* | Q1 | 1.017 (0.882- 1.174) | | 0.824(0.710-0.956)\* | | | 0.789( 0.679-0.917)\*\* | | | 0.912(0.781-1.066) | | 0.921 (0.788-1.076) | | |
| Q2 | 1.054 (0.914- 1.215) | | 0.895(0.772-1.036) | | | 0.866(0.747-1.004) | | | 0.930( 0.801-1.080) | | 0.935(0.805-1.087) | | |
| Q3 | 1.110 (0.962- 1.280)\* | | 1.002(0.866-1.159) | | | 0.979 (0.846-1.134) | | | 0.986(0.851-1.143) | | 0.986(0.851-1.143) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Traditional Diet 2014* | Q1 | 1.085 (0.877-1.342) | | 1.100 (0.888-1.364) | | | 1.018 (0.819-1.267) | | | 1.136 (0.906-1.424) | | 1.055 (0.838-1.329) | | |
| Q2 | 1.119 (0.904-1.385) | | 1.130 (0.911-1.402) | | | 1.077 (0.867-1.339) | | | 1.171(0.938-1.461) | | 1.124(0.899-1.406) | | |
| Q3 | 1.238 (1.001-1.532)\* | | 1.255(1.012-1.556)\* | | | 1.216 (0.979-1.509) | | | 1.277 (1.026-1.589)\* | | 1.250 (1.003-1.558)\* | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Mixed diet 2014* | Q1 | .953 (0.770-1.179) | | 0.943 (0.760-1.169) | | | 1.012 (0.814-1.259) | | | 0.968 (0.774-1.210) | | 1.051(0.837-1.320) | | |
| Q2 | 1.123 (0.907- 1.391) | | 1.114(0.897-1.382) | | | 1.149 (0.925-1.427) | | | 1.115 (0.895-1.388) | | 1.161(0.929-1.450) | | |
| Q3 | 1.110 (0.897-1.374) | | 1.081(0.872-1.341) | | | 1.071 (0.863-1.329) | | | 1.066 (0.858-1.326) | | 1.095(0.878-1.364) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Western 2014* | Q1 | 1.293 (1.045-1.600)\* | | 1.076 (0.863-1.342) | | | 1.034 (0.828-1.292) | | | 1.156 (0.921-1.451) | | 1.218 (0.967-1.533) | | |
| Q2 | 1.355 (1.095-1.679)\*\* | | 1.175(0.943-1.463) | | | 1.130 (0.906-1.409) | | | 1.185 (0.948-1.481) | | 1.213 (0.969-1.519) | | |
| Q3 | 1.243 ( 1.004- 1.540)\* | | 1.120 (0.900-1.392) | | | 1.095(0.880-1.363) | | | 1.122 (0.900-1.400) | | 1.143 (0.915-1.428) | | |
| Q4 | 1 | | 1 | | | 1 | | | 1 | | 1 | | |
| *Noodles and meat 2014* | Q1 | 1.408 (1.138-1.744)\*\* | | 1.375 (1.108-1.706)\*\* | | | 1.309 (1.053-1.627)\* | | | 0.976 (0.751-1.267) | | 1.029 (0.790-1.340) | | |
| Q2 | 1.532 (1.236- 1.899)\*\*\* | | 1.521 (1.225-1.889)\*\*\* | | | 1.421 (1.141-1.770)\*\* | | | 1.166 (0.868-1.436) | | 1.158(0.898-1.493) | | |
| Q3 | 1.272 (1.030 -1.572)\* | | 1.262(1.020-1.563)\* | | | 1.200 (0.968-1.489) | | | 1.037(0.826-1.302) | | 1.082 (0.859-1.362) | | |
| Q4 | 1 | 1 | | | 1 | | | 1 | | | | 1 | |

*Footnotes:*

Abbreviations: DP- dietary Pattern, OR- Odds ratio, Adj.- adjusted

*§*DP quartile refers to the quartile of adherence. Q1 and Q4 are the lowest and highest quartiles of adherence, respectively.

† Odds ratios are calculated with the highest quartile as the reference.

Asterisks indicate statistical significance (\* indicates P<0.05; \*\*P< 0.01 and \*\*\*P< 0.001)