**Análisis de un caso práctico en R**

**Tabla normalidad de datos. Test de normalidad de Anderson-Darling.**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Variable** | **AD\_statistic** | **P\_value** |
| **A0** | alimento1 | 831.67780 | 3.7e-24 |
| **A1** | alimento2 | 758.10218 | 3.7e-24 |
| **A2** | alimento3 | 838.96856 | 3.7e-24 |
| **A3** | alimento4 | 1669.05545 | 3.7e-24 |
| **A4** | alimento5 | 1150.45003 | 3.7e-24 |
| **A5** | alimento6 | 1507.74943 | 3.7e-24 |
| **A6** | alimento7 | 568.75134 | 3.7e-24 |
| **A7** | alimento8 | 763.80311 | 3.7e-24 |
| **A8** | alimento9 | 1579.83107 | 3.7e-24 |
| **A9** | alimento10 | 1074.67050 | 3.7e-24 |
| **A10** | alimento11 | 1044.32245 | 3.7e-24 |
| **A11** | alimento12 | 433.08442 | 3.7e-24 |
| **A12** | alimento13 | 767.07361 | 3.7e-24 |
| **A13** | alimento14 | 838.56447 | 3.7e-24 |
| **A14** | alimento15 | 782.37788 | 3.7e-24 |
| **A15** | alimento16 | 455.13827 | 3.7e-24 |
| **A16** | alimento17 | 633.56759 | 3.7e-24 |
| **A17** | alimento18 | 371.36878 | 3.7e-24 |
| **A18** | alimento19 | 345.78157 | 3.7e-24 |
| **A19** | alimento20 | 445.32675 | 3.7e-24 |
| **A20** | alimento21 | 688.38760 | 3.7e-24 |
| **A21** | alimento22 | 850.84295 | 3.7e-24 |
| **A22** | alimento23 | 1218.69799 | 3.7e-24 |
| **A23** | alimento24 | 1534.63292 | 3.7e-24 |
| **A24** | alimento25 | 443.18787 | 3.7e-24 |
| **A25** | alimento26 | 475.17572 | 3.7e-24 |
| **A26** | alimento27 | 472.90343 | 3.7e-24 |
| **A27** | alimento28 | 555.72126 | 3.7e-24 |
| **A28** | alimento29 | 640.56929 | 3.7e-24 |
| **A29** | alimento30 | 663.38687 | 3.7e-24 |
| **A30** | alimento31 | 640.82740 | 3.7e-24 |
| **A31** | alimento32 | 564.30674 | 3.7e-24 |
| **A32** | alimento33 | 682.88395 | 3.7e-24 |
| **A33** | alimento34 | 406.82537 | 3.7e-24 |
| **A34** | alimento35 | 459.90793 | 3.7e-24 |
| **A35** | alimento36 | 572.77774 | 3.7e-24 |
| **A36** | alimento37 | 761.82114 | 3.7e-24 |
| **A37** | alimento38 | 517.96383 | 3.7e-24 |
| **A38** | alimento39 | 680.56426 | 3.7e-24 |
| **A39** | alimento40 | 568.66678 | 3.7e-24 |
| **A40** | alimento41 | 616.83912 | 3.7e-24 |
| **A41** | alimento42 | 657.28589 | 3.7e-24 |
| **A42** | alimento43 | 319.27387 | 3.7e-24 |
| **A43** | alimento44 | 351.91719 | 3.7e-24 |
| **A44** | alimento45 | 478.67637 | 3.7e-24 |
| **A45** | alimento46 | 529.60470 | 3.7e-24 |
| **A46** | alimento47 | 585.53935 | 3.7e-24 |
| **A47** | alimento48 | 528.97146 | 3.7e-24 |
| **A48** | alimento49 | 721.03255 | 3.7e-24 |
| **A49** | alimento50 | 886.81589 | 3.7e-24 |
| **A50** | alimento51 | 666.88135 | 3.7e-24 |
| **A51** | alimento52 | 486.29184 | 3.7e-24 |
| **A52** | alimento53 | 433.51534 | 3.7e-24 |
| **A53** | alimento54 | 410.95682 | 3.7e-24 |
| **A54** | alimento55 | 495.55680 | 3.7e-24 |
| **A55** | alimento56 | 429.65667 | 3.7e-24 |
| **A56** | alimento57 | 761.62608 | 3.7e-24 |
| **A57** | alimento58 | 678.34607 | 3.7e-24 |
| **A58** | alimento59 | 783.85748 | 3.7e-24 |
| **A59** | alimento60 | 1127.44821 | 3.7e-24 |
| **A60** | alimento61 | 797.67080 | 3.7e-24 |
| **A61** | alimento62 | 704.72899 | 3.7e-24 |
| **A62** | alimento63 | 747.48816 | 3.7e-24 |
| **A63** | alimento64 | 930.67071 | 3.7e-24 |
| **A64** | alimento65 | 1266.37732 | 3.7e-24 |
| **A65** | alimento66 | 1107.97568 | 3.7e-24 |
| **A66** | alimento67 | 717.61714 | 3.7e-24 |
| **A67** | alimento68 | 688.16934 | 3.7e-24 |
| **A68** | alimento69 | 945.61146 | 3.7e-24 |
| **A69** | alimento70 | 1316.12463 | 3.7e-24 |
| **A70** | alimento71 | 735.93734 | 3.7e-24 |
| **A71** | alimento72 | 691.19620 | 3.7e-24 |
| **A72** | alimento73 | 542.89111 | 3.7e-24 |
| **A73** | alimento74 | 619.58299 | 3.7e-24 |
| **A74** | alimento75 | 972.62772 | 3.7e-24 |
| **A75** | alimento76 | 351.99976 | 3.7e-24 |
| **A76** | alimento77 | 930.40386 | 3.7e-24 |
| **A77** | alimento78 | 983.51997 | 3.7e-24 |
| **A78** | alimento79 | 533.24338 | 3.7e-24 |
| **A79** | alimento80 | 452.22710 | 3.7e-24 |
| **A80** | alimento81 | 678.86486 | 3.7e-24 |
| **A81** | alimento82 | 1045.93006 | 3.7e-24 |
| **A82** | alimento83 | 1101.68434 | 3.7e-24 |
| **A83** | alimento84 | 354.53723 | 3.7e-24 |
| **A84** | alimento85 | 1218.44562 | 3.7e-24 |
| **A85** | alimento86 | 1763.17178 | 3.7e-24 |
| **A86** | alimento87 | 1805.50796 | 3.7e-24 |
| **A87** | alimento88 | 1881.64147 | 3.7e-24 |
| **A88** | alimento89 | 494.73517 | 3.7e-24 |
| **A89** | alimento90 | 798.53606 | 3.7e-24 |
| **A90** | alimento91 | 1608.23541 | 3.7e-24 |
| **A91** | alimento92 | 1368.02974 | 3.7e-24 |
| **A92** | alimento93 | 1881.74964 | 3.7e-24 |
| **A93** | alimento94 | 1880.52448 | 3.7e-24 |
| **A94** | alimento95 | 1880.11202 | 3.7e-24 |
| **A95** | alimento96 | 1889.34808 | 3.7e-24 |
| **A96** | alimento97 | 743.97632 | 3.7e-24 |
| **A97** | alimento98 | 1047.23488 | 3.7e-24 |
| **A98** | alimento99 | 991.17329 | 3.7e-24 |
| **A99** | alimento100 | 1278.70418 | 3.7e-24 |
| **A100** | alimento101 | 960.59895 | 3.7e-24 |
| **A101** | alimento102 | 912.79444 | 3.7e-24 |
| **A102** | alimento103 | 627.84293 | 3.7e-24 |
| **A103** | alimento104 | 1075.11492 | 3.7e-24 |
| **A104** | alimento105 | 775.22945 | 3.7e-24 |
| **A105** | alimento106 | 806.75388 | 3.7e-24 |
| **A106** | alimento107 | 890.20116 | 3.7e-24 |
| **A107** | alimento108 | 749.86069 | 3.7e-24 |
| **A108** | alimento109 | 1315.17293 | 3.7e-24 |
| **A109** | alimento110 | 680.30655 | 3.7e-24 |
| **A110** | alimento111 | 731.13448 | 3.7e-24 |
| **A111** | alimento112 | 1170.60140 | 3.7e-24 |
| **A112** | alimento113 | 931.94519 | 3.7e-24 |
| **A113** | alimento114 | 1281.91968 | 3.7e-24 |
| **A114** | alimento115 | 626.69640 | 3.7e-24 |
| **A115** | alimento116 | 1285.68451 | 3.7e-24 |
| **A116** | alimento117 | 1195.57676 | 3.7e-24 |
| **A117** | alimento118 | 879.81957 | 3.7e-24 |
| **A118** | alimento119 | 295.72774 | 3.7e-24 |
| **A119** | alimento120 | 285.78880 | 3.7e-24 |
| **A120** | alimento121 | 656.65747 | 3.7e-24 |
| **A121** | alimento122 | 683.59750 | 3.7e-24 |
| **A122** | alimento123 | 949.59582 | 3.7e-24 |
| **A123** | alimento124 | 677.74529 | 3.7e-24 |
| **A124** | alimento125 | 731.68881 | 3.7e-24 |
| **A125** | alimento126 | 1236.84975 | 3.7e-24 |
| **A126** | alimento127 | 321.39901 | 3.7e-24 |
| **A127** | alimento128 | 429.63510 | 3.7e-24 |
| **A128** | alimento129 | 1092.94052 | 3.7e-24 |
| **A129** | alimento130 | 792.90567 | 3.7e-24 |
| **A130** | alimento131 | 1061.00100 | 3.7e-24 |
| **A131** | nutriente1 | 111.43954 | 3.7e-24 |
| **A132** | nutriente2 | 135.95744 | 3.7e-24 |
| **A133** | nutriente3 | 181.25962 | 3.7e-24 |
| **A134** | nutriente4 | 119.88542 | 3.7e-24 |
| **A135** | nutriente5 | 337.53955 | 3.7e-24 |
| **A136** | nutriente6 | 430.30319 | 3.7e-24 |
| **A137** | nutriente7 | 133.03461 | 3.7e-24 |
| **A138** | nutriente8 | 110.62419 | 3.7e-24 |
| **A139** | nutriente9 | 113.56765 | 3.7e-24 |
| **A140** | nutriente10 | 106.76912 | 3.7e-24 |
| **A141** | nutriente11 | 96.86597 | 3.7e-24 |
| **A142** | nutriente12 | 115.26980 | 3.7e-24 |
| **A143** | nutriente13 | 127.10508 | 3.7e-24 |
| **A144** | nutriente14 | 185.80030 | 3.7e-24 |
| **A145** | nutriente15 | 206.53964 | 3.7e-24 |
| **A146** | nutriente16 | 288.05896 | 3.7e-24 |
| **A147** | nutriente17 | 311.22545 | 3.7e-24 |
| **A148** | nutriente18 | 242.93487 | 3.7e-24 |
| **A149** | nutriente19 | 164.67793 | 3.7e-24 |

**Tablas descriptivas.** Media y IQR (rango intercuartílico) por cada variable sociodemográfica según el tercil a que pertenecen sus scores de cada componente del PCA y p-values obtenidos mediante Kruskal wallis para variables numéricas y Fisher test para variables categóricas.

Tabla descriptiva para el componente 1:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **1**, N = 1,445*1* | **2**, N = 1,445*1* | **3**, N = 1,444*1* | **p-value** |
| altura | 170 (163, 176) | 168 (162, 175) | 167 (160, 173) | 2.5193576756475e-11 |
| peso | 72 (60, 81) | 70 (59, 80) | 68 (59, 78) | 1.68200182345611e-06 |
| IMC | 24.6 (22.3, 26.8) | 24.5 (22.2, 26.8) | 24.2 (22.1, 26.6) | 0.105065423546636 |
| sexo |  |  |  | 0.0004997501 |
| 1 | 855 / 1,445 (59%) | 725 / 1,445 (50%) | 620 / 1,444 (43%) |  |
| 2 | 590 / 1,445 (41%) | 720 / 1,445 (50%) | 824 / 1,444 (57%) |  |
| edad | 47 (41, 53) | 47 (41, 53) | 48 (41, 54) | 0.0113051420132945 |
| estado\_civil |  |  |  | 0.2153923038 |
| 0 | 250 / 1,445 (17%) | 224 / 1,445 (16%) | 241 / 1,444 (17%) |  |
| 1 | 1,066 / 1,445 (74%) | 1,108 / 1,445 (77%) | 1,086 / 1,444 (75%) |  |
| 2 | 26 / 1,445 (1.8%) | 19 / 1,445 (1.3%) | 34 / 1,444 (2.4%) |  |
| 3 | 77 / 1,445 (5.3%) | 76 / 1,445 (5.3%) | 60 / 1,444 (4.2%) |  |
| 4 | 26 / 1,445 (1.8%) | 18 / 1,445 (1.2%) | 23 / 1,444 (1.6%) |  |
| tabaco |  |  |  | 0.0039980010 |
| 0 | 498 / 1,445 (34%) | 540 / 1,445 (37%) | 575 / 1,444 (40%) |  |
| 1 | 308 / 1,445 (21%) | 303 / 1,445 (21%) | 246 / 1,444 (17%) |  |
| 2 | 633 / 1,445 (44%) | 588 / 1,445 (41%) | 614 / 1,444 (43%) |  |
| 3 | 6 / 1,445 (0.4%) | 14 / 1,445 (1.0%) | 9 / 1,444 (0.6%) |  |
| colesterol |  |  |  | 0.0004997501 |
| 0 | 171 / 1,445 (12%) | 119 / 1,445 (8.2%) | 98 / 1,444 (6.8%) |  |
| 1 | 128 / 1,445 (8.9%) | 111 / 1,445 (7.7%) | 88 / 1,444 (6.1%) |  |
| 2 | 248 / 1,445 (17%) | 317 / 1,445 (22%) | 337 / 1,444 (23%) |  |
| 3 | 441 / 1,445 (31%) | 489 / 1,445 (34%) | 496 / 1,444 (34%) |  |
| 4 | 357 / 1,445 (25%) | 312 / 1,445 (22%) | 328 / 1,444 (23%) |  |
| 5 | 97 / 1,445 (6.7%) | 92 / 1,445 (6.4%) | 88 / 1,444 (6.1%) |  |
| 6 | 3 / 1,445 (0.2%) | 5 / 1,445 (0.3%) | 9 / 1,444 (0.6%) |  |
| hdl |  |  |  | 0.0004997501 |
| 0 | 256 / 1,445 (18%) | 202 / 1,445 (14%) | 161 / 1,444 (11%) |  |
| 1 | 442 / 1,445 (31%) | 387 / 1,445 (27%) | 332 / 1,444 (23%) |  |
| 2 | 67 / 1,445 (4.6%) | 105 / 1,445 (7.3%) | 101 / 1,444 (7.0%) |  |
| 3 | 575 / 1,445 (40%) | 612 / 1,445 (42%) | 684 / 1,444 (47%) |  |
| 4 | 105 / 1,445 (7.3%) | 139 / 1,445 (9.6%) | 166 / 1,444 (11%) |  |
| HTA |  |  |  | 0.1624187906 |
| 0 | 1,236 / 1,445 (86%) | 1,246 / 1,445 (86%) | 1,216 / 1,444 (84%) |  |
| 1 | 9 / 1,445 (0.6%) | 16 / 1,445 (1.1%) | 10 / 1,444 (0.7%) |  |
| 2 | 74 / 1,445 (5.1%) | 65 / 1,445 (4.5%) | 93 / 1,444 (6.4%) |  |
| 3 | 116 / 1,445 (8.0%) | 113 / 1,445 (7.8%) | 112 / 1,444 (7.8%) |  |
| 4 | 10 / 1,445 (0.7%) | 5 / 1,445 (0.3%) | 13 / 1,444 (0.9%) |  |
| hipercolesterolemia |  |  |  | 0.0974512744 |
| 0 | 1,047 / 1,445 (72%) | 1,066 / 1,445 (74%) | 1,080 / 1,444 (75%) |  |
| 1 | 17 / 1,445 (1.2%) | 25 / 1,445 (1.7%) | 27 / 1,444 (1.9%) |  |
| 2 | 211 / 1,445 (15%) | 189 / 1,445 (13%) | 183 / 1,444 (13%) |  |
| 3 | 161 / 1,445 (11%) | 160 / 1,445 (11%) | 138 / 1,444 (9.6%) |  |
| 4 | 9 / 1,445 (0.6%) | 5 / 1,445 (0.3%) | 16 / 1,444 (1.1%) |  |
| hipertrigliceridemia |  |  |  | 0.2253873063 |
| 1 | 371 / 1,445 (26%) | 463 / 1,445 (32%) | 611 / 1,444 (42%) |  |
| 2 | 593 / 1,445 (41%) | 500 / 1,445 (35%) | 352 / 1,444 (24%) |  |
| 3 | 481 / 1,445 (33%) | 482 / 1,445 (33%) | 481 / 1,444 (33%) |  |
| *1* Median (IQR); n / N (%) |  |

Tabla descriptiva para el componente 2:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **1**, N = 1,445*1* | **2**, N = 1,445*1* | **3**, N = 1,444*1* | **p-value** |
| altura | 165 (160, 172) | 168 (162, 175) | 170 (164, 177) | 9.26083892554001e-34 |
| peso | 66 (58, 77) | 70 (59, 80) | 73 (62, 82) | 1.09999661068174e-18 |
| IMC | 24.2 (22.0, 26.5) | 24.3 (22.2, 26.7) | 24.7 (22.5, 27.0) | 0.000594497916900361 |
| sexo |  |  |  | 0.0004997501 |
| 1 | 524 / 1,445 (36%) | 747 / 1,445 (52%) | 929 / 1,444 (64%) |  |
| 2 | 921 / 1,445 (64%) | 698 / 1,445 (48%) | 515 / 1,444 (36%) |  |
| edad | 49 (43, 55) | 47 (41, 53) | 45 (40, 52) | 7.98634341097242e-23 |
| estado\_civil |  |  |  | 0.0074962519 |
| 0 | 231 / 1,445 (16%) | 227 / 1,445 (16%) | 257 / 1,444 (18%) |  |
| 1 | 1,058 / 1,445 (73%) | 1,111 / 1,445 (77%) | 1,091 / 1,444 (76%) |  |
| 2 | 36 / 1,445 (2.5%) | 24 / 1,445 (1.7%) | 19 / 1,444 (1.3%) |  |
| 3 | 93 / 1,445 (6.4%) | 64 / 1,445 (4.4%) | 56 / 1,444 (3.9%) |  |
| 4 | 27 / 1,445 (1.9%) | 19 / 1,445 (1.3%) | 21 / 1,444 (1.5%) |  |
| tabaco |  |  |  | 0.0004997501 |
| 0 | 563 / 1,445 (39%) | 508 / 1,445 (35%) | 542 / 1,444 (38%) |  |
| 1 | 218 / 1,445 (15%) | 304 / 1,445 (21%) | 335 / 1,444 (23%) |  |
| 2 | 657 / 1,445 (45%) | 621 / 1,445 (43%) | 557 / 1,444 (39%) |  |
| 3 | 7 / 1,445 (0.5%) | 12 / 1,445 (0.8%) | 10 / 1,444 (0.7%) |  |
| colesterol |  |  |  | 0.0004997501 |
| 0 | 86 / 1,445 (6.0%) | 138 / 1,445 (9.6%) | 164 / 1,444 (11%) |  |
| 1 | 85 / 1,445 (5.9%) | 111 / 1,445 (7.7%) | 131 / 1,444 (9.1%) |  |
| 2 | 331 / 1,445 (23%) | 294 / 1,445 (20%) | 277 / 1,444 (19%) |  |
| 3 | 514 / 1,445 (36%) | 468 / 1,445 (32%) | 444 / 1,444 (31%) |  |
| 4 | 322 / 1,445 (22%) | 335 / 1,445 (23%) | 340 / 1,444 (24%) |  |
| 5 | 97 / 1,445 (6.7%) | 95 / 1,445 (6.6%) | 85 / 1,444 (5.9%) |  |
| 6 | 10 / 1,445 (0.7%) | 4 / 1,445 (0.3%) | 3 / 1,444 (0.2%) |  |
| hdl |  |  |  | 0.0004997501 |
| 0 | 156 / 1,445 (11%) | 212 / 1,445 (15%) | 251 / 1,444 (17%) |  |
| 1 | 332 / 1,445 (23%) | 395 / 1,445 (27%) | 434 / 1,444 (30%) |  |
| 2 | 100 / 1,445 (6.9%) | 90 / 1,445 (6.2%) | 83 / 1,444 (5.7%) |  |
| 3 | 678 / 1,445 (47%) | 629 / 1,445 (44%) | 564 / 1,444 (39%) |  |
| 4 | 179 / 1,445 (12%) | 119 / 1,445 (8.2%) | 112 / 1,444 (7.8%) |  |
| HTA |  |  |  | 0.0009995002 |
| 0 | 1,191 / 1,445 (82%) | 1,232 / 1,445 (85%) | 1,275 / 1,444 (88%) |  |
| 1 | 12 / 1,445 (0.8%) | 7 / 1,445 (0.5%) | 16 / 1,444 (1.1%) |  |
| 2 | 94 / 1,445 (6.5%) | 78 / 1,445 (5.4%) | 60 / 1,444 (4.2%) |  |
| 3 | 135 / 1,445 (9.3%) | 120 / 1,445 (8.3%) | 86 / 1,444 (6.0%) |  |
| 4 | 13 / 1,445 (0.9%) | 8 / 1,445 (0.6%) | 7 / 1,444 (0.5%) |  |
| hipercolesterolemia |  |  |  | 0.0004997501 |
| 0 | 1,010 / 1,445 (70%) | 1,068 / 1,445 (74%) | 1,115 / 1,444 (77%) |  |
| 1 | 24 / 1,445 (1.7%) | 25 / 1,445 (1.7%) | 20 / 1,444 (1.4%) |  |
| 2 | 203 / 1,445 (14%) | 191 / 1,445 (13%) | 189 / 1,444 (13%) |  |
| 3 | 192 / 1,445 (13%) | 156 / 1,445 (11%) | 111 / 1,444 (7.7%) |  |
| 4 | 16 / 1,445 (1.1%) | 5 / 1,445 (0.3%) | 9 / 1,444 (0.6%) |  |
| hipertrigliceridemia |  |  |  | 0.1214392804 |
| 0 | 1,264 / 1,445 (87%) | 1,270 / 1,445 (88%) | 1,279 / 1,444 (89%) |  |
| 1 | 8 / 1,445 (0.6%) | 13 / 1,445 (0.9%) | 13 / 1,444 (0.9%) |  |
| 2 | 87 / 1,445 (6.0%) | 85 / 1,445 (5.9%) | 98 / 1,444 (6.8%) |  |
| 3 | 79 / 1,445 (5.5%) | 75 / 1,445 (5.2%) | 51 / 1,444 (3.5%) |  |
| 4 | 7 / 1,445 (0.5%) | 2 / 1,445 (0.1%) | 3 / 1,444 (0.2%) |  |
| *1* Median (IQR); n / N (%) |  |

Tabla descriptiva 3 componente:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **1**, N = 1,445*1* | **2**, N = 1,445*1* | **3**, N = 1,444*1* | **p-value** |
| altura | 169 (162, 175) | 168 (162, 175) | 168 (162, 175) | 0.956206852484921 |
| peso | 67 (58, 78) | 70 (59, 80) | 72 (62, 82) | 4.37797041902635e-11 |
| IMC | 23.8 (21.8, 26.1) | 24.4 (22.0, 26.7) | 25.0 (23.0, 27.5) | 3.24152147228627e-19 |
| sexo |  |  |  | 0.0024987506 |
| 1 | 685 / 1,445 (47%) | 745 / 1,445 (52%) | 770 / 1,444 (53%) |  |
| 2 | 760 / 1,445 (53%) | 700 / 1,445 (48%) | 674 / 1,444 (47%) |  |
| edad | 46 (40, 52) | 47 (41, 53) | 49 (42, 55) | 2.19948548101169e-11 |
| estado\_civil |  |  |  | 0.0009995002 |
| 0 | 296 / 1,445 (20%) | 213 / 1,445 (15%) | 206 / 1,444 (14%) |  |
| 1 | 1,041 / 1,445 (72%) | 1,122 / 1,445 (78%) | 1,097 / 1,444 (76%) |  |
| 2 | 27 / 1,445 (1.9%) | 20 / 1,445 (1.4%) | 32 / 1,444 (2.2%) |  |
| 3 | 58 / 1,445 (4.0%) | 69 / 1,445 (4.8%) | 86 / 1,444 (6.0%) |  |
| 4 | 23 / 1,445 (1.6%) | 21 / 1,445 (1.5%) | 23 / 1,444 (1.6%) |  |
| tabaco |  |  |  | 0.0039980010 |
| 0 | 588 / 1,445 (41%) | 532 / 1,445 (37%) | 493 / 1,444 (34%) |  |
| 1 | 285 / 1,445 (20%) | 299 / 1,445 (21%) | 273 / 1,444 (19%) |  |
| 2 | 562 / 1,445 (39%) | 604 / 1,445 (42%) | 669 / 1,444 (46%) |  |
| 3 | 10 / 1,445 (0.7%) | 10 / 1,445 (0.7%) | 9 / 1,444 (0.6%) |  |
| colesterol |  |  |  | 0.0004997501 |
| 0 | 179 / 1,445 (12%) | 131 / 1,445 (9.1%) | 78 / 1,444 (5.4%) |  |
| 1 | 129 / 1,445 (8.9%) | 110 / 1,445 (7.6%) | 88 / 1,444 (6.1%) |  |
| 2 | 289 / 1,445 (20%) | 300 / 1,445 (21%) | 313 / 1,444 (22%) |  |
| 3 | 473 / 1,445 (33%) | 479 / 1,445 (33%) | 474 / 1,444 (33%) |  |
| 4 | 294 / 1,445 (20%) | 332 / 1,445 (23%) | 371 / 1,444 (26%) |  |
| 5 | 74 / 1,445 (5.1%) | 89 / 1,445 (6.2%) | 114 / 1,444 (7.9%) |  |
| 6 | 7 / 1,445 (0.5%) | 4 / 1,445 (0.3%) | 6 / 1,444 (0.4%) |  |
| hdl |  |  |  | 0.0004997501 |
| 0 | 270 / 1,445 (19%) | 223 / 1,445 (15%) | 126 / 1,444 (8.7%) |  |
| 1 | 410 / 1,445 (28%) | 391 / 1,445 (27%) | 360 / 1,444 (25%) |  |
| 2 | 85 / 1,445 (5.9%) | 71 / 1,445 (4.9%) | 117 / 1,444 (8.1%) |  |
| 3 | 551 / 1,445 (38%) | 626 / 1,445 (43%) | 694 / 1,444 (48%) |  |
| 4 | 129 / 1,445 (8.9%) | 134 / 1,445 (9.3%) | 147 / 1,444 (10%) |  |
| HTA |  |  |  | 0.0004997501 |
| 0 | 1,272 / 1,445 (88%) | 1,242 / 1,445 (86%) | 1,184 / 1,444 (82%) |  |
| 1 | 16 / 1,445 (1.1%) | 8 / 1,445 (0.6%) | 11 / 1,444 (0.8%) |  |
| 2 | 69 / 1,445 (4.8%) | 78 / 1,445 (5.4%) | 85 / 1,444 (5.9%) |  |
| 3 | 84 / 1,445 (5.8%) | 106 / 1,445 (7.3%) | 151 / 1,444 (10%) |  |
| 4 | 4 / 1,445 (0.3%) | 11 / 1,445 (0.8%) | 13 / 1,444 (0.9%) |  |
| hipercolesterolemia |  |  |  | 0.0004997501 |
| 0 | 1,152 / 1,445 (80%) | 1,090 / 1,445 (75%) | 951 / 1,444 (66%) |  |
| 1 | 17 / 1,445 (1.2%) | 21 / 1,445 (1.5%) | 31 / 1,444 (2.1%) |  |
| 2 | 170 / 1,445 (12%) | 177 / 1,445 (12%) | 236 / 1,444 (16%) |  |
| 3 | 97 / 1,445 (6.7%) | 148 / 1,445 (10%) | 214 / 1,444 (15%) |  |
| 4 | 9 / 1,445 (0.6%) | 9 / 1,445 (0.6%) | 12 / 1,444 (0.8%) |  |
| hipertrigliceridemia |  |  |  | 0.0004997501 |
| 0 | 1,319 / 1,445 (91%) | 1,274 / 1,445 (88%) | 1,220 / 1,444 (84%) |  |
| 1 | 10 / 1,445 (0.7%) | 9 / 1,445 (0.6%) | 15 / 1,444 (1.0%) |  |
| 2 | 73 / 1,445 (5.1%) | 90 / 1,445 (6.2%) | 107 / 1,444 (7.4%) |  |
| 3 | 42 / 1,445 (2.9%) | 67 / 1,445 (4.6%) | 96 / 1,444 (6.6%) |  |
| 4 | 1 / 1,445 (<0.1%) | 5 / 1,445 (0.3%) | 6 / 1,444 (0.4%) |  |
| *1* Median (IQR); n / N (%) |  |

**Tabla 5.** Valores de proporción de probabilidad (OR) e intervalos de confianza (CI) 95% de prevalencia de diabetes en una populación estudiada.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **T1**  n=1445 | | | | | | **T2**  n=1445 | | | | **T3**  n=1444 | | | | | |
|  | **OR (IC 95%)** | | **P value** | | | | **OR (IC 95%)** | | **P value** | | **OR (IC 95%)** | | | | **P value** | |
| Terciles comp. 1 | 1 (Ref.) | | NA | | | | 1.22 (0.88 a 1.68) | | 0.232 | | 1.40 (1.01 a 1.94) | | | | 0.046 | |
| Terciles comp. 2 | 1 (Ref.) | | NA | | | | 0.90 (0.67 a 1.22) | | 0.496 | | 0.57 (0.40 a 0.80) | | | | 0.002 | |
| Terciles comp. 3 | 1 (Ref.) | | NA | | | | 1.60 (1.09 a 2.36) | | 0.017 | | 2.40 (1.70 a 3.44) | | | | < 0.001 | |
|  | | | | | | | | | | | | | | | | |
|  | **S1**  n=2200 | | | | | | | | **S2**  n=2134 | | | | | | | |
|  | **OR (IC 95%)** | | | | **P value** | | | | **OR (IC 95%)** | | | | **P value** | | | |
| Sexo | 1 (Ref.) | | | | NA | | | | 0.54 (0.36 a 0.81) | | | | 0.003 | | | |
|  | | | | | | | | | | | | | | | | |
|  | **HTA0**  n=3698 | | | **HTA1**  n=35 | | | | **HTA2**  n=232 | | **HTA3**  n=341 | | | | **HTA4**  n=28 | | |
|  | **OR** | **P val** | | **OR** | | **P val** | | **OR** | **P val** | **OR** | | **P val** | | **OR** | | **P val** |
| HTA | 1 (Ref.) | NA | | 1.52 (0.34 a 4.70) | | 0.516 | | 3.22 (2.15 a 4.74) | < 0.001 | 2.28 (1.62 a 3.20) | | < 0.001 | | 3.49 (1.48 a 8.17) | | 0.004 |
|  | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
|  | **OR (IC 95%)** | | | | | | | | **P value** | | | | | | | |
| Edad | 1.06 (1.04 a 1.07) | | | | | | | | < 0.001 | | | | | | | |
| Peso | 0.98 (0.96 a 1.01) | | | | | | | | 0.171 | | | | | | | |
| IMC | 1.16 (1.08 a 1.25) | | | | | | | | < 0.001 | | | | | | | |

Modelo 1: El conjunto de datos fue redimensionado mediante un análisis de componentes principales (PCA), de los cuales se utilizaron las tres primeras componentes que brindaban la mayoría de información de nuestros datos. Terciles fueron calculados para la población (n), para cada componente. La proporción de probabilidad fue calculada con un intervalo de confianza del 95% además de los valores p. El primer tercil de cada componente fue tomado como referencia.

Modelo 2: La variable sexo contiene los niveles S1 y S2, representando en la población (n) hombres y mujeres, respectivamente. La proporción de probabilidad fue calculada con el intervalo de confianza del 95% además de los valores p, en donde S1 fue tomado como referencia.

Modelo 3: La variable HTA contiene cuatro niveles, de los cuales HTA0 fue tomado como referencia. Para cada nivel se ha calculado proporción de probabilidad (IC 95%) y el valor p.

Modelo 4: La variable edad no cuenta con categorías determinadas y se han calculado OR y valores p.

Modelo 5: La variable peso no cuenta con categorías determinadas y se han calculado OR y valores p.

Modelo 6: La variable IMC no cuenta con categorías determinadas y se han calculado OR y valores p.

Tras la realización de la regresión logística para los tres modelos indicados anteriormente, con la variable dependiente "Prevalencia de la enfermedad Diabetes", obtenemos los siguientes resultados:

El primer modelo utiliza las tres primeras componentes principales obtenidas mediante PCA. Cada componente principal se divide en terciles, y la probabilidad de prevalencia de diabetes se calcula para cada tercil usando el primer tercil como referencia. Observamos que en el caso del tercer tercil, muestra una aumento considerable en la probabilidad de poseer diabetes en T1 (OR = 1.60 (IC 95%: 1.09 a 2.36), P value = 0.017), T2 (OR = 1.60 (IC 95%: 1.09 a 2.36), P value = 0.017) y T3 (OR = 2.40 (IC 95%: 1.70 a 4.36), P value < 0.001), por lo que se deben considerar realizar intervenciones dietéticas y de estilo de vida a los individuos de este tercil. En los demás terciles no se observan diferencias significativas, excepto en la comparación del Tercil dos de T3 (OR = 0.57 (IC 95%: 0.40 a 0.80), P value = 0.001), lo que indica que hay una reducción significativa en la probabilidad de poseer diabetes.

En el Modelo 2, utilizamos la variable sexo para analizar la prevalencia de diabetes en función del sexo, usando S1 (hombres) como referencia. El p-value en S2 es significativo, lo que nos indica que hay una diferencia estadísticamente significativa en la prevalencia de diabetes entre hombres y mujeres. S2: OR = 0.54 (IC 95%: 0.36 a 0.81), P value = 0.003. Es significativo (P > 0.05) e indica que hay una reducción en la probabilidad de padecer diabetes en comparación con los hombres.

El tercer modelo examina la relación entre diferentes niveles de Hipertensión Arterial y la prevalencia de diabetes, tomando HTA0 como referencia. En este caso, únicamente no es significativo HTA1 (OR = 1.52 (IC 95%: 0.34 a 4.70), P value = 0.516), mientras que HTA2 (OR = 3.22 (IC 95%: 2.15 a 4.74), P value < 0.001), HTA3 (OR = 2.28 (IC 95%: 1.62 a 3.20), P value < 0.001) y HTA4 (OR = 3.49 (IC 95%: 1.48 a 8.27), P value = 0.004), poseen un mayor probabilidad de padecer diabetes estadísticamente significativa, es decir, muestran una asociación significativa con una mayor prevalencia de diabetes.

Para el modelo 4, usamos la variable edad, los resultados (OR = 1.06 (IC 95%: 1.04 a 1.07), P value < 0.001) sugieren que hay un relación significativa entre el aumento de la edad con la probabilidad de padecer diabetes, al igual que en el modelo 6, el Índice de Masa Corporal (IMC) (OR = 1.16 (IC 95%: 1.08 a 1.25), P value < 0.001) nos indica un aumento en la prevalencia de la diabetes con un mayor IMC. Sin embargo, en el modelo 5, utilizando el paso, el resultado obtenido (OR = 0.98 (IC 95%: 0.96 a 1.01), P value = 0.171) nos indica que no hay una asociación significativa entre el peso y la probabilidad de padecer diabetes..

Con las variables utilizadas, obtenemos un R2 de McFadden de 0.18, lo que indica que nuestro modelo tiene un ajuste razonable, pero hay margen para mejorar el modelo. Podríamos explorar agregar más variables predictoras, transformar las variables existentes, o probar con diferentes tipos de modelos para ver si podemos mejorar R2.

Para mejorar el análisis de la relación entre estos factores, podríamos utilizar otras variables independientes, incluyendo todas las variables relevantes que puedan actuar como confusoras en el modelo, como los factores de estilo de vida (actividad física, dieta), y otros factores clínicos (historial familiar de diabetes, uso de medicamentos. También podríamos realizar un análisis estratificado para entender cómo se comportan las variables dentro de diferentes grupos o utilizar modelos multivariables, para poder investigar la posible interacción entre variables.

Una posible vía de investigación es explorar las razones detrás de la alta asociación entre el tercer tercil de las componentes principales y la prevalencia de diabetes e investigar más a fondo los componentes específicos que conforman los terciles de las componentes principales para entender mejor los factores subyacentes.