**Supplemental Data**

“Determinant of factors associated with water requirement measured using the doubly labelled water method among older Japanese adults”

**SUPPLEMENTARY TABLES**

**Supplementary Table 1.** Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to sex stratified model

**Supplementary Table 2.** Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to age stratified model

**Supplementary Table 3.** Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to body mass index stratified model

**Table S1**. Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to sex stratified model

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | All | | Developing cohort | | Validation cohort | |
| Median (IQR) | | Median (IQR) | | Median (IQR) | |
| **Total, *n*** | 141 | | 71 | | 70 | |
| Water turnover (L/day) | 2.81 | (2.39 to 3.31) | 2.91 | (2.43 to 3.42) | 2.72 | (2.35 to 3.16) |
| Metabolic water (L/day) | 0.29 | (0.25 to 0.33) | 0.30 | (0.26 to 0.35) | 0.28 | (0.24 to 0.31) |
| Respiratory water (L/day) | 0.13 | (0.11 to 0.15) | 0.14 | (0.12 to 0.16) | 0.12 | (0.11 to 0.14) |
| Transcutaneous water (L/day) | 0.09 | (0.09 to 0.10) | 0.09 | (0.09 to 0.10) | 0.09 | (0.09 to 0.10) |
| Pre-formed water (L/day) | 2.28 | (1.92 to 2.77) | 2.37 | (1.89 to 2.90) | 2.19 | (1.93 to 2.62) |
| **Women, *n*** | 64 | | 28 | | 36 | |
| Water turnover (L/day) | 2.51 | (2.21 to 2.80) | 2.55 | (2.22 to 3.12) | 2.46 | (2.17 to 2.72) |
| Metabolic water (L/day) | 0.26 | (0.23 to 0.28) | 0.26 | (0.23 to 0.29) | 0.25 | (0.23 to 0.28) |
| Respiratory water (L/day) | 0.11 | (0.11 to 0.13) | 0.12 | (0.11 to 0.13) | 0.11 | (0.11 to 0.12) |
| Transcutaneous water (L/day) | 0.09 | (0.08 to 0.09) | 0.08 | (0.08 to 0.09) | 0.09 | (0.08 to 0.09) |
| Pre-formed water (L/day) | 2.02 | (1.72 to 2.31) | 2.07 | (1.74 to 2.67) | 1.99 | (1.72 to 2.18) |
| **Men, *n*** | 77 | | 43 | | 34 | |
| Water turnover (L/day) | 3.11 | (2.79 to 3.55) | 3.15 | (2.81 to 3.80) | 3.05 | (2.73 to 3.47) |
| Metabolic water (L/day) | 0.32 | (0.29 to 0.36) | 0.34 | (0.29 to 0.37) | 0.30 | (0.28 to 0.33) |
| Respiratory water (L/day) | 0.14 | (0.13 to 0.16) | 0.15 | (0.13 to 0.17) | 0.14 | (0.13 to 0.15) |
| Transcutaneous water (L/day) | 0.10 | (0.09 to 0.10) | 0.10 | (0.09 to 0.10) | 0.10 | (0.09 to 0.10) |
| Pre-formed water (L/day) | 2.52 | (2.22 to 2.97) | 2.58 | (2.23 to 3.15) | 2.50 | (2.21 to 2.94) |

This survey was conducted in spring (May/June 2012). The mean temperature and relative humidity during the survey period are 20.1℃ and 57% in the spring season. BMI was calculated as body weight (kg) divided by height squared (m2).

**Table S2**. Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to age stratified model

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | All | | Developing cohort | | Validation cohort | |
| Median (IQR) | | Median (IQR) | | Median (IQR) | |
| **<75 years, *n*** | 88 | | 44 | | 44 | |
| Water turnover (L/day) | 2.94 | (2.42 to 3.36) | 3.06 | (2.44 to 3.41) | 2.82 | (2.35 to 3.26) |
| Metabolic water (L/day) | 0.30 | (0.25 to 0.34) | 0.31 | (0.26 to 0.36) | 0.28 | (0.24 to 0.33) |
| Respiratory water (L/day) | 0.13 | (0.11 to 0.15) | 0.14 | (0.12 to 0.16) | 0.13 | (0.11 to 0.14) |
| Transcutaneous water (L/day) | 0.09 | (0.09 to 0.10) | 0.09 | (0.09 to 0.10) | 0.09 | (0.09 to 0.10) |
| Pre-formed water (L/day) | 2.40 | (1.94 to 2.88) | 2.51 | (1.92 to 2.90) | 2.34 | (1.94 to 2.67) |
| **≥75 years, *n*** | 53 | | 27 | | 26 | |
| Water turnover (L/day) | 2.73 | (2.35 to 3.16) | 2.81 | (2.35 to 3.45) | 2.61 | (2.24 to 2.85) |
| Metabolic water (L/day) | 0.29 | (0.25 to 0.31) | 0.29 | (0.26 to 0.34) | 0.27 | (0.25 to 0.30) |
| Respiratory water (L/day) | 0.13 | (0.11 to 0.14) | 0.13 | (0.11 to 0.15) | 0.12 | (0.11 to 0.13) |
| Transcutaneous water (L/day) | 0.09 | (0.08 to 0.10) | 0.09 | (0.08 to 0.10) | 0.09 | (0.08 to 0.10) |
| Pre-formed water (L/day) | 2.18 | (1.84 to 2.59) | 2.25 | (1.84 to 2.90) | 2.14 | (1.78 to 2.42) |

This survey was conducted in spring (May/June 2012). The mean temperature and relative humidity during the survey period are 20.1℃ and 57% in the spring season. BMI was calculated as body weight (kg) divided by height squared (m2).

**Table S3**. Comparison of distribution of the water consumption calculated by doubly labelled water method by developing and validation cohorts according to body mass index stratified model

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | All | | Developing cohort | | Validation cohort | |
| Median (IQR) | | Median (IQR) | | Median (IQR) | |
| **BMI < 18.5 kg/m2, *n*** | 13 | | 5 | | 8 | |
| Water turnover (L/day) | 2.34 | (2.00 to 3.06) | 2.43 | (2.10 to 3.33) | 2.23 | (1.98 to 2.94) |
| Metabolic water (L/day) | 0.25 | (0.22 to 0.30) | 0.27 | (0.21 to 0.30) | 0.24 | (0.22 to 0.32) |
| Respiratory water (L/day) | 0.11 | (0.10 to 0.13) | 0.12 | (0.09 to 0.13) | 0.11 | (0.10 to 0.14) |
| Transcutaneous water (L/day) | 0.08 | (0.07 to 0.09) | 0.08 | (0.08 to 0.09) | 0.08 | (0.07 to 0.09) |
| Pre-formed water (L/day) | 1.91 | (1.59 to 2.45) | 1.91 | (1.72 to 2.83) | 1.82 | (1.58 to 2.39) |
| **BMI 18.5-24.9 kg/m2, *n*** | 91 | | 47 | | 44 | |
| Water turnover (L/day) | 2.81 | (2.42 to 3.32) | 2.91 | (2.43 to 3.42) | 2.69 | (2.38 to 3.07) |
| Metabolic water (L/day) | 0.29 | (0.25 to 0.33) | 0.30 | (0.26 to 0.34) | 0.27 | (0.24 to 0.30) |
| Respiratory water (L/day) | 0.13 | (0.11 to 0.15) | 0.14 | (0.11 to 0.15) | 0.12 | (0.11 to 0.14) |
| Transcutaneous water (L/day) | 0.09 | (0.08 to 0.10) | 0.09 | (0.08 to 0.10) | 0.09 | (0.08 to 0.10) |
| Pre-formed water (L/day) | 2.25 | (1.94 to 2.77) | 2.34 | (1.89 to 2.90) | 2.18 | (1.94 to 2.60) |
| **BMI ≥25 kg/m2, *n*** | 37 | | 19 | | 18 | |
| Water turnover (L/day) | 2.97 | (2.59 to 3.49) | 2.97 | (2.57 to 3.96) | 2.92 | (2.58 to 3.39) |
| Metabolic water (L/day) | 0.30 | (0.27 to 0.36) | 0.31 | (0.27 to 0.37) | 0.30 | (0.27 to 0.34) |
| Respiratory water (L/day) | 0.14 | (0.12 to 0.16) | 0.14 | (0.12 to 0.16) | 0.13 | (0.12 to 0.15) |
| Transcutaneous water (L/day) | 0.10 | (0.09 to 0.10) | 0.10 | (0.09 to 0.11) | 0.10 | (0.09 to 0.10) |
| Pre-formed water (L/day) | 2.49 | (2.11 to 2.97) | 2.50 | (2.13 to 3.33) | 2.40 | (2.06 to 2.86) |

This survey was conducted in spring (May/June 2012). The mean temperature and relative humidity during the survey period are 20.1℃ and 57% in the spring season. BMI was calculated as body weight (kg) divided by height squared (m2).