**Supplemental Table 1: Vitamin D/Calcium Content Per Food Portion**

|  |  |  |
| --- | --- | --- |
| Fortified Foods | Range | Amount/Portion |
| Fortified Milk | **-** | 4μg/200ml |
| Fortified Yoghurt | 0.75-4μg/100g | 2.5/100g |
| Margarine | 5-7.5μg/100g | 0.75/10g |
| Yoghurt Drink | 1.2-1.7μg/100g | 1.5μg/100g |
| Cheese | 2μg/100g | 0.4μg/20g |
| Non-Dairy Milk | 0.7-0.8μg/100g | 0.75μg/100g |
| Cereals | 3.6-8.4μg/100g | 3.4μg/40g |
| Drinking Powder | 5-18.4μg/100g | 11μg/32g |
| Slimming Shakes | 0.46-0.55μg/100ml | 1.6μg/325ml |
| Oral Nutrition Supplements | 2.1-9.3/100g | 4μg/55g |
| Unfortified Foods |  |  |
| Oily Fish | 1.1-16μg/100g | 7μg/100g |
| Offal | 0.9-3.3μg/100g | 0.5μg/50g |
| Meat | 0.6-1.3μg/100g | 0.9μg/100g |
| Poultry | 0-0.3μg/100g | 0.25μg/100g |
| Eggs | 3.2μg/2 eggs (110g) | 3.5μg/110g |
| Mushrooms | 3μg/100g | 2.4μg/80g |
| Calcium Foods |  |  |
| Milk | 120mg/100ml | 240mg/200ml |
| Yoghurt | 200mg/100g | 250mg/125g |
| Bread | 106-186/100g | 112mg/80g |
| Cheese | 133-739mg/100g | 160mg/30g |
| Breakfast Cereals | 30-329mg/100g | 42mg/40g |
| Dark Leafy Vegetable | 40-216mg/100g | 113mg/80g |
| Nuts/Seeds | 170-670mg/100g | 74mg/20g |
| Non-Dairy Milk | 120mg/100ml | 240mg/200ml |
| Small Boned Fish | 14-373mg/100g | 818mg/85g |
| Tofu/Soya | 350-683mg/100g | 478mg/100g |

**Supplemental Table 2: Vitamin D Categories and Serum 25(OH)D by Season**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Total | | | Winter | | | Summer | | |
|  |  | **n** | **<30** | **30-49** | **≥50** | **n** | **GM Mean (SD)** | **p-value** | **n** | **GM Mean (SD)** | **p-value** |
| Sex | **Female** | 230 | 24% | 28% | 48% | 135 | 47.9 (37.4) | 0.211 | 95 | 48.7 (34.2) | 0.266 |
|  | **Male** | 153 | 23% | 31% | 46% | 84 | 43.1 (30.2) |  | 69 | 53.5 (33.1) |  |
| Age | **<50 yrs** | 145 | 26% | 24% | 50% | 81 | 45.4 (37.8) | 0.743 | 64 | 52.7 (38.7) | 0.366 |
|  | **≥50 yrs** | 238 | 23% | 32% | 45% | 138 | 46.3 (33.3) |  | 100 | 49.4 (30.0) |  |
| Age Category | **18-39** | 72 | 32% | 25% | 43% | 40 | 38.5 (39.9) | 0.065 | 32 | 50.1 (37.5) | 0.874 |
| (years) | **40-49** | 69 | 20% | 22% | 58% | 37 | 52.7 (34.4) |  | 32 | 55.5 (40.2) |  |
|  | **50-59** | 66 | 23% | 36% | 41% | 43 | 44.1 (33.3) |  | 23 | 54.1 (27.3) |  |
|  | **60-69** | 87 | 17% | 31% | 52% | 51 | 53.9 (35.0) |  | 36 | 46.9 (29.8) |  |
|  | **70-79** | 60 | 30% | 27% | 43% | 34 | 41.4 (34.4) |  | 26 | 48.3 (34.0) |  |
|  | **>80** | 29 | 24% | 29% | 47% | 14 | 45.2 (25.3) |  | 15 | 50.7 (29.5) |  |
| Condition Affecting Vit D | **Yes** | 79 | 28% | 29% | 43% | 37 | 41.4 (26.3) | 0.334 | 42 | 52.6 (40.2) | 0.769 |
|  | **No** | 304 | 23% | 29% | 48% | 182 | 47.0 (36.4) |  | 122 | 50.0 (31.3) |  |
| Ethnicity | **White** | 344 | 20% | 29% | 50% | 199 | 48.1 (34.9) | <0.001 | 145 | 54.8 (33.5) | <0.001 |
|  | **Non-White** | 39 | 54% | 28% | 18% | 20 | 29.5 (31.0) |  | 19 | 27.9 (20.7) |  |
| BMI | **Underweight** | 26 | 19% | 15% | 65% | 12 | 53.0 (37.6) | 0.478 | 14 | 69.1 (34.6) | 0.019 |
| (n=380) | **Normal Weight** | 135 | 23% | 26% | 51% | 83 | 47.8 (43.4) |  | 52 | 57.2 (38.2) |  |
|  | **Overweight/Obese** | 219 | 24% | 33% | 43% | 122 | 44.6 (27.1) |  | 97 | 46.0 (29.5) |  |
| 3rd Level Education | **Yes** | 256 | 20% | 29% | 52% | 150 | 47.5 (35.1) | 0.571 | 106 | 57.2 (33.8) | 0.002 |
| (n=379) | **No** | 123 | 31% | 31% | 38% | 67 | 43.8 (34.9) |  | 56 | 41.3 (31.1) |  |
| Smoking | **Yes** | 41 | 39% | 27% | 34% | 23 | 35.1 (28.3) | 0.021 | 18 | 47.3 (37.9) | 0.909 |
| (n=379) | **No** | 338 | 21% | 30% | 49% | 194 | 47.9 (35.4) |  | 144 | 51.6 (33.3) |  |
| Alcohol Consumer | **Yes** | 311 | 19% | 29% | 52% | 185 | 48.3 (35.5) | 0.004 | 126 | 56.0 (31.8) | 0.001 |
|  | **No** | 72 | 43% | 31% | 26% | 34 | 35.2 (28.6) |  | 38 | 36.4 (36.7) |  |
| Supplement User | **Yes** | 192 | 12% | 24% | 64% | 107 | 57.7 (38.3) | <0.001 | 85 | 62.9 (35.3) | <0.001 |
|  | **No** | 191 | 36% | 35% | 30% | 112 | 37.0 (27.0) |  | 79 | 40.1 (27.0) |  |
| Sunscreen User | **Yes** | 271 | 18% | 31% | 51% | 157 | 48.5 (36.8) | 0.137 | 114 | 58.4 (34.1) | <0.001 |
| (n=380) | **No** | 109 | 36% | 25% | 39% | 60 | 41.1 (28.8) |  | 49 | 37.4 (26.4) |  |
| Sun Seeker | **Yes** | 282 | 20% | 30% | 50% | 172 | 48.4 (36.1) | 0.067 | 110 | 54.2 (33.3) | 0.171 |
| (n=380) | **No** | 98 | 33% | 27% | 41% | 45 | 39.2 (29.3) |  | 53 | 45.2 (34.1) |  |
| Body Exposure | **Low** | 73 | 32% | 34% | 34% | 34 | 42.1 (32.1) | 0.256 | 39 | 42.6 (33.9) | 0.051 |
| (n=380) | **High** | 307 | 21% | 28% | 50% | 183 | 47.1 (35.5) |  | 124 | 54.1 (33.3) |  |
| Time Spent in Peak Sunshine | **0** | 74 | 31% | 27% | 42% | 41 | 44.2 (36.3) | 0.755 | 33 | 45.6 (31.2) | 0.196 |
| (mins) | **<30** | 64 | 25% | 30% | 45% | 37 | 48.4 (38.4) |  | 27 | 45.9 (36.4) |  |
|  | **>30** | 245 | 21% | 30% | 49% | 141 | 45.9 (33.8) |  | 104 | 53.8 (33.6) |  |
|  | **Total** | 383 | 24% | 29% | 47% | 219 | 46.0 (34.9) |  | 164 | 50.7 (33.7) | 0.044 |

Vitamin D categories reported as % <30 nmol/L, % 30-49 nmol/L and % ≥50 nmol/L. GM Mean; Geometric Mean, Vit D; Vitamin D. Winter was defined as October-March, Summer: April to November. P-values were determined by Mann-Whitney or Kruskal Wallis test for continuous variables, Chi squared was used for categorical, significant at p<0.05.

**Supplemental Figure 1: Dietary Compliance with Vitamin D and Calcium RDA’s**

Analysis by Chi-square, \*significant at p<0.001. Supp users; Supplement users, Non-supp; non-supplement users. Vit D; Vitamin D, Ca; Calcium, RDA; Recommended Dietary Allowance. Vitamin D RDA; 10 μg/day, Calcium RDA; 1000 mg/day in those aged 18-24 and 950 mg/day when aged >25 years

**Supplemental Figure 2: Reason for Vitamin D Testing**

**Supplemental Figure 3: Awareness of Vitamin D Recommendations**

**Supplemental Figure 4: Perceptions of Health Conditions Associated with Vitamin D**