**Students’ ”D”ILEMMA: An assessment of knowledge, attitudes and practice toward Vitamin D among university students**

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**Additional file 1**

**Knowledge determents**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Answer (Correct: ✓, incorrect: ✘)** |  | **Frequency (%)** |
| **Sources of vitamin D** | **Sun** | ✓ | 376(75.65) |
| **(multiple answers)** | **Sea food** | ✓ | 48(9.66) |
|  | **Meat** | ✓ | 13(2.62) |
|  | **Dairy products** | **✘** | 23(4.63) |
|  | **Eggs** | ✓ | 14(2.82) |
|  | **Fortified cereals** | ✓ | 3(0.60) |
|  | **Olive oil** | **✘** | 3(0.60) |
|  | **Mushroom** | ✓ | 2(0.40) |
|  | **Vegetables** | **✘** | 5(1.01) |
|  | **Unsure** | **✘** | 10(2.01) |
| **Causes of vitamin D deficiency** | **Insufficient sun exposure** | ✓ | 408(82.1) |
| **(multiple answers)** | **Nutritional insufficiency**  | ✓ | 197(39.6) |
|  | **Dressing style** | ✓ | 140(28.2) |
|  | **Aging** | ✓ | 128(25.8) |
|  | **Pregnancy** | ✓ | 61(12.3) |
|  | **Obesity** | ✓ | 53(10.7) |
|  | **The sunscreen usage** | **✘** | 100(20.1) |
|  | **Genetic variability**  | ✓ | 121(24.3) |
|  | **Gender differences**  | **✘** | 61(12.3) |
|  | **Physical inactivity**  | ✓ | 140(28.2) |
|  | **Soft drinks** | ✓ | 64(12.9) |
|  | **Smoking** | ✓ | 72(14.5) |
|  | **Extra water drinking** | **✘** | 13(2.2) |
|  | **Unsure** | **✘** | 11(2.2) |
| **Benefits of vitamin D** | **Essential for bones integrity** | ✓ | 405(81.5) |
| **(multiple answers)** | **Prevention of osteoporosis** | ✓ | 355(71.4) |
|  | **Prevention of rickets** | ✓ | 272(54.7) |
|  | **Prevention of osteomalacia** | ✓ | 0(0) |
|  | **Essential for the muscles integrity**  | ✓ | 161(32.4) |
|  | **Protect against chronic diseases**  | ✓ | 192(38.6) |
|  | **Protect against weakness and fatigue** | ✓ | 261(52.5) |
|  | **Unsure** | **✘** | 24(4.8) |
| **Do you think that the nutritional sources of vitamin D are enough?** | **Yes** | **✘** | 253(47.3) |
|  | **No** | ✓ | 262(52.7) |
| **Vitamin D is important for calcium absorption** | **Yes** | ✓ | 255(51.3) |
|  | **No** | **✘** | 242(48.7) |
| **Vitamin D consumption is important only when we have limited sun exposure** | **Yes** | **✘** | 390(78.6) |
|  | **No** | ✓ | 106(21.4) |
| **Dark-skinned people are more prone to vitamin D deficiency** | **Yes** | ✓ | 180(36.3) |
|  | **No** | **✘** | 316(63.7) |
| **Vitamin D rich food are costly** | **Yes** | **✘** | 394(79.4) |
|  | **No** | ✓ | 102(20.5) |
| **Flour in Jordan is fortified** | **Yes** | ✓ | 403(81.1) |
|  | **No** | **✘** | 94(18.9) |
| **Knowledge about best time to expose to sun** | **Knowledgeable\***  | ✓ | 121(24.4) |
|  | **Not knowledgeable\*\*** | **✘** | 375(75.6) |

\*Knowledgeable: if the student chose one or more correct answer without choosing any incorrect, \*\* Not knowledgeable: if the student chose any incorrect answer