Mushrooms: Vitamin D Supplementation for the Masses

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Introduction

It is estimated that around 1 billion people worldwide suffer from vitamin D deficiency or insufficiency. During the winter months, sun exposure results in little to no cutaneous vitamin D production for people living in the northern latitudes. There are relatively few naturally occurring sources of vitamin D. It is known that exposing Mushrooms to sunlight or UVB radiation converts the naturally occurring vitamin D precursors into vitamin D2, making them an excellent source of vitamin D2.

Methods

• Subjects randomized to ingest capsules containing placebo, 2000IU vitamin D2, 2000IU vitamin D3, and 2000IU vitamin D2 from mushroom powder
• 25(OH)D levels measured once a week by liquid chromatography tandem mass spectropy (LCMS)
• 1,25(OH)2D measured at baseline, six weeks, and 12 weeks

Specific Aims

• To determine if vitamin D2 from mushroom extract is as effective as supplemental vitamin D2 and D3 in increasing and maintaining:
  • 25(OH)D - The primary marker for vitamin D status
  • 1,25(OH)2D - The active form of vitamin D

Results

Figure A

Mean serum 25(OH)D levels over time in placebo, supplemental vitamin D2, supplemental D3, and mushroom D2 groups. Baseline and Final concentrations were significantly different in all experimental groups.

Figure B

Mean serum 1,25(OH)2D levels over time in supplemental vitamin D2 and mushroom vitamin D2.

Conclusions

Vitamin D2 mushroom powder may be as effective as supplemental vitamin D2 in increasing and maintaining vitamin D and 1,25(OH)2D status.