

# Are the immunological consequences of achieving vitamin D sufficiency through supplementation versus UV irradiation comparable?



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## METHODS

- Healthy vitamin D insufficient (<50nmol/L 25(OH)D3) participants were recruited into the IMMUNI-D study (Figure 1)
- randomly assigned UVR treatments (10 SED), oral vitamin D supplementation (4,000IU Daily) or control (28 days total)
- The study was run during British winter months when ambient UVR levels are low.

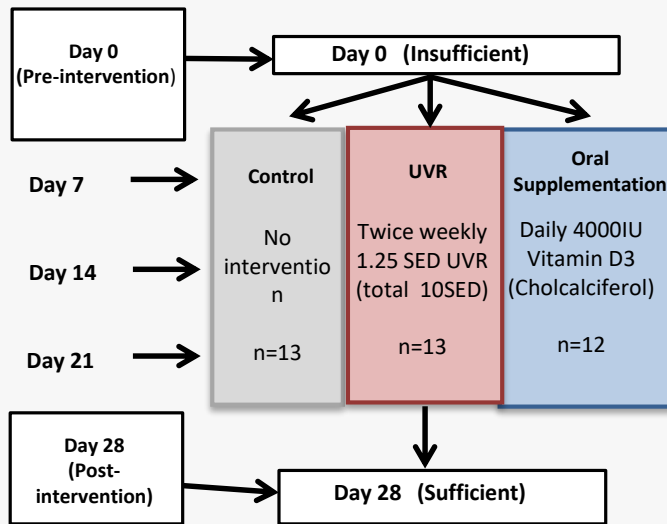


Figure 1: Schematic of study design

## RESULTS

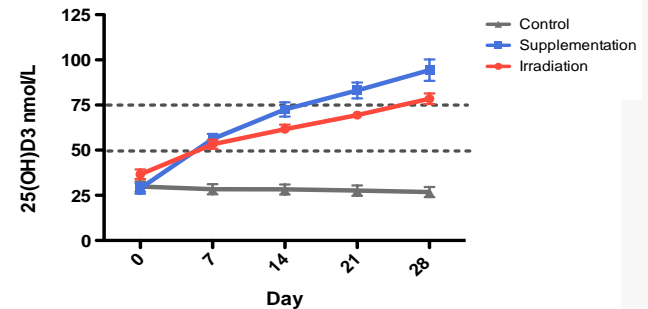


Figure 2: Variation in 25(OH)<sub>2</sub>D3 between control and both supplementation and irradiation is significant (p=0.0094 and p=0.0022 respectively). No significant difference between Irradiation and supplementation groups p=0.61.

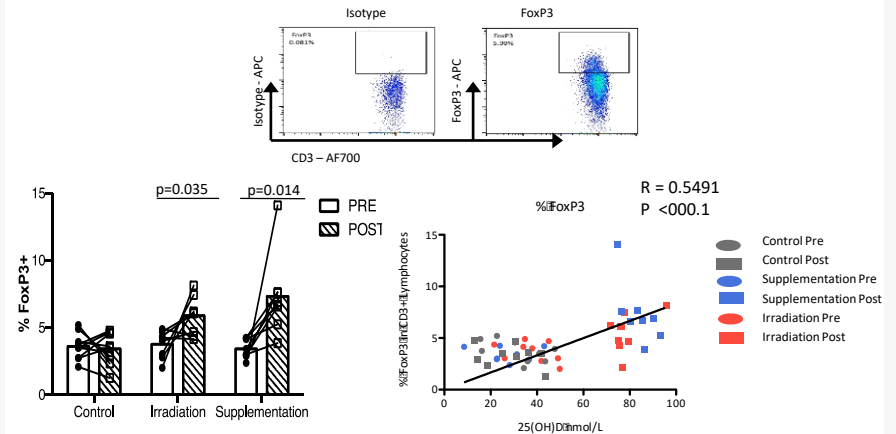


Figure 3: Frequency of FoxP3+ CD4+ T cells increased with both SSR UVR treatment and oral supplementation.

- UVR treatments and vitamin D supplementation comparably increased frequency of FoxP3+ T cells in peripheral blood.
- Percentage of FoxP3+ CD4+ T lymphocytes positively correlates with serum 25(OH)D3 levels.