Purpose

To determine if there is a correlation between serum vitamin D levels and muscle recovery in Division II and III Collegiate Basketball Players.

Methods

Approval was obtained from the colleges’ Institutional Review Board.

- 56 (26 male/30 female) varsity basketball players from SCSU and CSB/SJU participated (ages 18-22) in the first week of January after signing an informed consent.

- Participants completed a questionnaire about their supplement use, intake of vitamin D sources, and tanning.

- Blood samples were taken via finger stick to analyze serum 25(OH) D3 concentrations using an ELISA assay.

- Muscle recovery was assessed by:
  - 3 x 20-meter sprints
  - 3 x vertical jumps

- Statistical Analyses were performed using SPSS.

Results

- The mean serum vitamin D level was 68 ± 37 nmol/L (range: 5-166 nmol/L).
- Participants with sufficient vitamin D levels either tanned once a week, consumed fatty fish and fortified milk (5 cups a day), or took a daily vitamin D supplement.
- Higher vitamin D levels did not correlate with faster sprint times or higher vertical jumps (p=0.157).
- Only 7% of the players had optimal (>120 nmol/L) serum vitamin D levels.

Conclusion

- Inadequate levels of Vitamin D were identified in 63% of the participants; however, there was no correlation muscle function.
- The performance tests, while appropriate for basketball players, were perhaps not intense enough to measure changes in muscle recovery.
- Vitamin D supplementation may be the best solution to achieve optimal serum vitamin D levels.

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