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# The effect of vitamin D supplement on the score and quality of sleep in 20–50 year-old people with sleep disorders compared with control group

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## Abstract

**Objectives:** Sleep quality may be directly related with vitamin D serum level. Some studies found that people with lower vitamin D serum level experienced a lower sleep

...these results show people who receive vitamin D supplement experienced better sleep quality. Consequently, this study aimed at determining the effect of vitamin D supplements on sleep score and quality in 20–50 year-old people with sleep disorders.

**Methods:** This double blind, clinical trial was performed in November 2015–February 2016 on 89 people with sleep disorders based on Petersburg's Sleep Index. Patient samples were divided randomly into two groups: intervention and placebo. At the end of the study, the data on 89 subjects (44 in intervention group and 45 people in placebo group) were examined. Intervention group received a 50 000-unit vitamin D supplement, one in a fortnight for 8 weeks. Meanwhile, placebo group received placebo. Before and after intervention, Petersburg's Sleep Quality Questionnaire, International Physical Activity Questionnaire, general information questionnaire, sun exposure, vitamin D serum level and 3-day food record questionnaire were assessed and recorded for all participants. To analyze data, *t*-test, chi square, ANCOVA, U-Mann–Whitney and Wilcoxon statistical tests were used.

**Findings:** Based on the results of the present study, at the end of the study sleep score (PSQI) reduced significantly in vitamin recipients as compared with placebo recipients ( $P < 0.05$ ). This difference was significant even after modifying confounding variables ( $P < 0.05$ ).

**Conclusion:** This study shows that the use of vitamin D supplement improves sleep quality, reduces sleep latency, raises sleep duration and improves subjective sleep quality in people of 20–50 year-old with sleep disorder.

**Q Keywords:** Vitamin D supplement   Serum vitamin D   Sleep disorders

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