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## **Behaviors affecting bone health among adolescent females and vitamin D level**

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**Background:** Prevention of osteoporosis begins in childhood and adolescence as 90 to 95% of an adult's bone mineral being achieved by the end of adolescence. Several risk factors influence bone health including low consumption of dairy products, physical inactivity, low level of sun exposure, smoking, excessive consumption of soft drinks and caffeine and vitamin D deficiency. Targeting modifiable behaviors have an important effect for the attainment of adequate peak bone mass and future fracture risk. The objectives of this study are to estimate the prevalence of the behaviors affecting bone health and vitamin D status and to identify the factors associated with Vitamin D deficiency amongst Saudi adolescent females.

**Methodology:** A cross-sectional analytic study conducted in the secondary schools in Jeddah City on a randomly selected 412 adolescent females. A predesigned questionnaire was used for data collection, Anthropometric measurement were measured and blood sample was also collected to measure vitamin D and iPTH. Chi square and ANOVA were used to identify the association between vitamin D status and the independent variables.

**Results:** The mean (SD) of age was 17.2 (1.2). Reported consumption of two or more serving of dairy products per day was 11.2%. About 70% drink soft drink regularly, 13.9% perform the recommended exercise per week and 10% expose to sun. The prevalence of vitamin D deficiency was 67.5%. There were no significant association between sociodemographic characteristics, dairy products, coffee, tea intake, anthropometric measurements and calcium and vitamin D supplementation and vitamin D status. Only iPTH was significantly associated with vitamin D status. The mean iPTH was significantly higher among adolescents with vitamin D deficiency.

**Conclusion:** This study indicates that Saudi female adolescents at significant risk of developing osteoporosis based on the prevalence of risky behaviors include low consumption of dairy products, high consumption of soft drink, low exercise level, low sun exposure and high prevalence of vitamin D deficiency and insufficiency.

### **Biography**

Rajaa Al-Raddadi has an MD degree then completed her Board certification in Community Medicine in 2004 from Postgraduate center for family and Community Medicine, Diploma in clinical research from institute of clinical research, UK and Master in Medical Education from King Saud bin Abdulaziz University, Jeddah. She is a staff member at Postgraduate center for family and community Medicine, Vice president for the Saudi Epidemiology Association and board member in evidence based health care society. She is a member in the scientific committee for community medicine at Saudi Commission for Health specialty. She has published 30 papers in several journals and has been serving as a reviewer in six journals. She participated in the development of five Saudi clinical practice guidelines.

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