The relationship between serum vitamin D level, coronary artery diseases and the associated risk factors in female carpet weavers

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Abstract

Background: Regarding some evidences, the mortality of coronary artery diseases may be related to vitamin D (VD) deficiency. This kind of deficiency is more common among female carpet weavers.

Objective: To determine the relationship between serum vitamin D level, coronary artery diseases (CAD) and the associated risk factors in female carpet weavers.

Methods: This case-control study was conducted on 460 postmenopausal carpet-weavers and non-carpet-weavers in the villages of Isfahan with similar socio-economic conditions. The participants initially underwent the clinical examinations and electrocardiography and if necessary, ecocardiography and exercise tests. Blood pressure, blood lipids and both serum and dietary vitamin D levels were measured and a questionnaire was completed for every participant. The presence of CAD was determined based on the Rose questionnaire and/or Minnesota electrocardiography coding system.

Findings: The frequency of CAD and the mean values of other factors were insignificant between two groups (p>0.05). There was no statistical association between the serum vitamin D level and some of the CAD risk factors among carpet and non-carpet weavers and persons with or without CAD (p>0.05). There was only a direct relationship between abdominal obesity and serum vitamin D level (OR=0.69, p=0.03).

Conclusion: Regarding our data, no relationship was found between CAD and serum vitamin D. However, more investigations including the determination of serum and dietary calcium, serum phosphorus and PTH are needed. Also a research, analyzing the vitamin D receptor (VDR) gene polymorphisms is proposed.

Keywords: Cardiovascular disease, Vitamin D, Women, Menopause