

The effect of duration of using injectable contraceptives on bone mineral density.

Abstract

Injectable contraceptives are one of the most effective and convenient form of birth control means as more than 30 million women are using it throughout the world. There are two main choices of progesterone only injectable methods include depot-medroxyprogesterone acetate (DMPA) used 90-day intervals and norethisterone enantate (NET-EN) used at 60-day intervals which only less than 1 million women use this type and it is used as Unidepo in Malaysia since 1976. It contains a synthetic hormonal progesterone, like the natural female progesterone and its annual pregnancy rates is less than one per 100 users. Although birth control injections have a number of advantages, but like all other medications, have some potential side effects. One of the most worrying complications is bone density reduction. Bone loss and in turn osteoporosis as a systemic multi factorial skeletal disease is a growing public health concern especially in elderly people particularly in postmenopausal women that is reaching an epidemic proportion because the elderly population is the most rapidly growing segment of any population although it occurs in both sexes and all race/ethnicities and age groups. Several studies have reported lower bone mass in long-term injectable users, however, few studies have investigated the effect of hormonal contraceptives on BMD in premenopausal long-term users of injectables in their 40s, and there is very limited investigations related to the effect of NET-EN on BMD and no data on recovery of BMD on cessation of NET-EN use have been reported so far. The purpose of this study was to investigate the effect of duration of using Unidepo on Bone Mineral Density in postmenopausal women. This is a quasi-experimental study in menopause clinics in Kuala Lumpur where 133 postmenopausal women were interviewed for information on Injectable contraceptive use history and risk factors for decreased bone mineral density and ultrasound measurements of the left calcaneus were taken. Also, Height and weight were measured and BMI was calculated. All ethical aspects were considered. A two step hierarchical regression analysis was employed to examine effect of duration of Unidepo using on bone mineral density. Results revealed that use duration of Unidepo significantly was associated with BUA (broad band ultrasound attenuation) over and beyond of some socio demographic and reproductive factors, BMI, family history of osteoporosis, physical activity and calcium intake ($\Delta F(1, 109) = 18.69, p < 0.001$). This study suggest that bone density reduction in long term users is not completely reversible as when the duration of use increased the bone mineral density is decreased.

Keyword: Bone mineral density; Injectable contraceptives.