Selección de Resúmenes de Menopausia

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The effects of vitamin D supplementation on muscle strength and mobility in postmenopausal women: a systematic review and meta-analysis of randomised controlled trials.

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BACKGROUND: The results obtained from previous trials regarding the effects of vitamin D supplementation on muscle strength and mobility in postmenopausal women have been inconsistent. This systematic review and meta-analysis of randomised controlled trials (RCTs) aimed to investigate the effect of vitamin D supplementation on muscle strength and mobility in postmenopausal women. METHODS: A comprehensive search on EMBASE, PubMed, MEDLINE and SCOPUS was performed to identify relevant articles published up to 28 March 2019. RCTs published in English measuring the effect of all forms and doses of vitamin D supplementation with or without calcium on muscle strength and mobility outcomes in postmenopausal women were included. RESULTS: In total, 29 eligible studies were included in the systematic review. The pooled findings using a random effects model showed that vitamin D supplementation insignificantly increased hand grip strength (HGS) as the measurement of muscle strength (MD = 0.656; 95% confidence interval = -0.037 to 1.350, P = 0.06). However, it did not affect timed-up-and-go (TUG) as the measurement of mobility (MD = 0.118; 95% confidence interval = -0.655 to 0.892, P = 0.76). The subgroup analyses showed that vitamin D supplementation improved HGS with respect to dosages >1000 IU day- 1 (P = 0.016), a treatment duration of 3 months (P < 0.001) and subjects with baseline vitamin D <30 ng mL- 1 (P = 0.033). CONCLUSIONS: The present review demonstrates that vitamin D supplementation resulted in small but nonsignificant improvements in muscle strength compared to control in postmenopausal women. No significant effect was observed in mobility after vitamin D administration.

Osteoporos Sarcopenia. 2019 Sep;5(3):69-77. doi: 10.1016/j.afos.2019.09.005. Epub 2019 Oct 4.

Nonpharmacological interventions for osteoporosis treatment: Systematic review of clinical practice guidelines.

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Objectives: The aim of this study was to perform a systematic review of clinical practice guidelines to identify nonpharmacologic recommendations for osteoporosis treatment. Methods: A systematic review of literature following PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)-statement methodology for clinical practice guidelines was conducted; PROSPERO CRD42019138548. Assessment of selected clinical practice guidelines with the AGREE (Appraisal of Guidelines for Research & Evaluation)-II methodological quality instrument was performed, and those graded over 60 points were selected for recommendations extraction and evidence analysis. Results: Only 6 clinical practice guidelines fulfilled criteria, 69 nonpharmacological recommendations were extracted: 13 from American Association of Clinical Endocrinologists and American College of Endocrinology guideline, 16 from Malaysian Osteoporosis Society guideline, 15 from the Ministry of Health in Mexico guideline, 14 from Royal Australian College of General Practitioners guideline, 7 from Sociedad Española de Investigación Ósea y del Metabolismo Mineral guideline, and 7 from National Osteoporosis Guideline Group guideline. Percentage by theme showed that the highest number of recommendations were 12 (17.1%) for vitamin D, 11 (15.7%) for a combination of calcium and vitamin D, and 11 (15.7%) for exercise. Conclusions: These recommendations address integrating interventions to modify lifestyle, mainly calcium and vitamin D intake, and exercise. Other recommendations include maintaining adequate protein intake, identification and treatment of risk factors for falls, and limiting the consumption of coffee, alcohol and tobacco. Considerations on prescription must be taken.

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Effects of resistance exercise on adipokine factors and body composition in pre- and postmenopausal women.

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The objective of the present study was to examine effects of resistance exercise for 12 weeks on adipokine factors and body composition in postmenopausal (POM) women to provide basic data for preventing obesity or metabolic syndrome caused by menopause. Subjects of this study were 35 premenopausal (PRM) and POM women with body fat percentages of 30% or more. They were divided into PRM (n=15) and POM (n=20) groups. All subjects participated in resistance exercise training for 12 weeks. All serum samples were submitted for enzyme-linked immunosorbent assay measurements of adipokine factors. Body weight, muscle mass, body mass index, and waist-to-hip ration showed significant differences between the two groups after training. In contrast, body fat percentage did not differ between the groups, although it was significantly lower in the PRM group after exercise. Physical fitness was significant differences between the two groups after training, including grip strength (left and right), sit and reach, sit-ups, and standing long jump. In addition, grip strength (left), sit-up, and side step tests were significantly increased after exercise in the PRM group. There were the significant differences in interleukin-6 and leptin levels between the two groups after training. Interleukin-6, interleukin-15, and adiponectin levels were significantly higher in both groups after training compared to those before training, although leptin levels were significantly lower after exercise in the PRM group. Regular resistance exercise was found to be effective in decreasing body fat in PRM women, and decreased leptin and increased adiponectin were positively significant in both groups.

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Hormone replacement therapy for dry eye disease patients: systematic review and meta-analysis.

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Hormone replacement therapy (HRT) is used by women to get relief from menopausal symptoms, including dry eyes. However, it is not entirely certain that HRT helps relieve dry eye disease (DED). The focus of this study is to systematically review the literature of the relevant studies to understand and determine the correlation between HRT and DED. Literature was systematically reviewed using Distiller SR. Meta-analysis was conducted using STATA 15.0. Standardized mean difference (SMD) and 95% confidence interval (CI) were calculated, and heterogeneity was assessed using statistics. Fixed-effect and random-effects models were computed based on heterogeneity. Subgroups analysis was done by follow-up. Our meta-analysis results indicated significant reduction in dry eye with HRT treatment at 1-month follow-up (SMD = -1.97; CI: -3.83, -0.11), a nonsignificant increase in tear breakup time at 3-month (SMD = -0.91; CI: -3.26, 1.44) and 6-month (SMD = -1.05; CI: -3.91, 1.82) follow-ups. Our meta-analysis results indicated a nonsignificant improvement in DED with HRT treatment at 1-month (SMD = -0.97; CI: -2.35, 0.4), 3-month (SMD = 0.19; CI: -0.91, 1.29), and 6-month (SMD = -0.48; CI: -1.39, 0.43) follow-ups.Overall, nonsignificant improvement in postoperative tear production, as well as tear breakup time, was seen after HRT treatment at follow-ups in dry eye patients. More good-quality randomized control trials are needed to make accurate conclusions.

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Effects of testosterone and 17β-estradiol on osteogenic and adipogenic differentiation capacity of human bone-derived mesenchymal stromal cells of postmenopausal women.

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Progressive bone loss is a predominant symptom of aging and osteoporosis. Therefore, the effects of sex steroids (i.e. testosterone and 17β-estradiol) on the differentiation capacity of human bone-derived mesenchymal stromal cells (hMSCs), as progenitors of osteoblasts and adipocytes, are of particular interest. The objectives of the present study were, thus, to elucidate whether bone-derived hMSCs of postmenopausal women produce aromatase (CYP19A1) and, whether they modulate their differentiation behaviour in response to testosterone and 17β-estradiol (E2), in relation to their steroid receptor expression. Supplementation of testosterone resulted in a considerable formation of E2 under osteogenic and adipogenic culture conditions, whereas E2 synthesis remained minimal in the cells cultured in basal medium. Concomitant with high aromatase expression and 17β-estradiol formation of the cells cultured in osteogenic medium supplemented with testosterone, a distinct promotion of late-stage osteogenesis was found, as shown by

significant matrix mineralization and a notable increase in osteogenic markers. These effects were abrogated by the aromatase inhibitor anastrozole. Under adipogenic conditions, testosterone reduced the occurrence of lipid droplets and led to a decrease in PPARγ and AR expression, independent of anastrozole. Regardless of the culture conditions, ERα was detectable whilst ERβ was not. In conclusion, aromatase activity is limited to differentiated hMSCs and the resulting 17β-estradiol enhances late osteogenic differentiation stages via ERα. Adipogenic differentiation, on the other hand, is reduced by both sex steroids: testosterone via AR and 17β-estradiol.

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Vitamin D for skeletal and non-skeletal health: What we should know.

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Vitamin D plays an essential role in regulating calcium and phosphate metabolism and maintaining a healthy mineralized skeleton. Humans obtain vitamin D from sunlight exposure, dietary foods and supplements. There are two forms of vitamin D: vitamin D3 and vitamin D2. Vitamin D3 is synthesized endogenously in the skin and found naturally in oily fish and cod liver oil. Vitamin D2 is synthesized from ergosterol and found in yeast and mushrooms. Once vitamin D enters the circulation it is converted by 25-hydroxylase in the liver to 25-hydroxyvitamin D [25(OH)D], which is further converted by the 25-hydroxyvitamin D-1α-hydroxylase in the kidneys to the active form, 1,25-dihydroxyvitamin D [1,25(OH)2D]. 1,25(OH)2D binds to its nuclear vitamin D receptor to exert its physiologic functions. These functions include: promotion of intestinal calcium and phosphate absorption, renal tubular calcium reabsorption, and calcium mobilization from bone. The Endocrine Society's Clinical Practice Guideline defines vitamin D deficiency, insufficiency, and sufficiency as serum concentrations of 25(OH)D of <20 ng/mL, 21-29 ng/mL, and 30-100 ng/mL, respectively. Vitamin D deficiency is a major global public health problem in all age groups. It is estimated that 1 billion people worldwide have vitamin D deficiency or insufficiency. This pandemic of vitamin D deficiency and insufficiency is attributed to a modern lifestyle and environmental factors that restrict sunlight exposure, which is essential for endogenous synthesis of vitamin D in the skin. Vitamin D deficiency is the most common cause of rickets and osteomalacia, and can exacerbate osteoporosis. It is also associated with chronic musculoskeletal pain, muscle weakness, and an increased risk of falling. In addition, several observational studies observed the association between robust levels of serum 25(OH)D in the range of 40-60 ng/mL with decreased mortality and risk of development of several types of chronic diseases. Therefore, vitamin D-deficient patients should be treated with vitamin D2 or vitamin D3 supplementation to achieve an optimal level of serum 25(OH)D. Screening of vitamin D deficiency by measuring serum 25(OH)D is recommended in individuals at risk such as patients with diseases affecting vitamin D metabolism and absorption, osteoporosis, and older adults with a history of falls or nontraumatic fracture. It is important to know if a laboratory assay measures total 25(OH)D or only 25(OH)D3. Using assays that measure only 25(OH)D3 could underestimate total levels of 25(OH)D and may mislead physicians who treat patients with vitamin D2 supplementation.

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Ages at menarche and menopause, and mortality among postmenopausal women.

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OBJECTIVES: Although both age at menarche and age at menopause may independently affect the risk of cardiovascular diseases and all-cause mortality, their joint association with mortality is less clear. The objectives of this study were to address the relationship between ages at menarche and at menopause with mortality among postmenopausal women. STUDY DESIGN: The study included 75,359 U.S. postmenopausal women aged 50-78 years from the Prostate, Lung, Colorectal, and Ovarian (PLCO) cohort. Information on ages at menarche and menopause was self-reported and collected at baseline, by questionnaire. MAIN OUTCOME MEASURES: All-cause, cardiovascular and cancer mortality. RESULTS: After a median follow-up of 13 years, we identified 7826 deaths among 75,359 women in the PLCO cohort. Compared with women with an age at menarche of 12-13 years and an age at menopause of 45-54 years, the adjusted hazard ratios (95% confidence interval) for all-cause mortality for women with early menarche (≤11 years) and menopause (≤44 years) and those with late menarche (≥14 years) and menopause (≥55 years) were 1.20 (1.09, 1.32) and 0.82 (0.71, 0.96), respectively. This association remained significant in a sensitivity analysis that excluded women who did not undergo natural menopause. The indexes for the additive effect of the combined association showed no excess risk due to an interaction. CONCLUSIONS: Early menarche and early menopause seemed to have an exactly additive effect on all-cause mortality. The findings suggest that it is important to

evaluate ages at both menarche and menopause rather than to consider either variable on its own in assessing the risk of mortality.