Impact of a Nutritional intervention with Vitamin K2 on bone turnover markers in healthy Indian premenopausal women (25-45 yrs; inclusive): Study design and nutritional bone health biomarkers strategy

Abstract

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Background and aims: The prevalence of osteoporosis increases markedly with age, despite advances in diagnosis benefit of any lifestyle and nutritional supplement is difficult to measure. Premenopausal women can still optimize their peak bone mass. Such is responsive to lifestyle factors where proper intake of Calcium, vitamin D, and vitamin K2 as menaquinone-7 (MK-7), but also other macro- and micronutrients offer today potential benefits to optimize bone health. Bone turnover makers are today an accepted means to determine the efficacy of nutritional intervention before any physical change in bone structure. The study presented here displays a novel targeted nutritional strategy and efficacy biomarker testing strategy to depict early changes in bone metabolism in pre-menopausal Indian women, creating new epidemiology data, not available at present, in this population. **Design:** Doubleblind, single-centre, randomized-controlled trial to see changes in 25-45 yrs old premenopausal Indian women at 6 months between test group getting beverage powder fortified nutrients with vitamin K2 vs control group getting non-fortified iso-caloric beverage powder on bone turnover markers (s-CTX-1) ratio of carboxylated to under carboxylated osteaocalcin (cOC/ucOC).Additionally, changes s-CTX-1 and cOC/ucOCat 3 months, u-CTX-1, NTX-1, P1NP, BSAP and s-PTH at 3 and 6 months are also assessed. **Results:** This in an Ongoing study. **Conclusion:** To our knowledge so far no studies have been conducted in Indian pre-menopausal women to assess changes in bone health metabolism in response to Vitamin K2 and other nutrient supplementation. The study will help to identify appropriate health measures to improve bone health in Indian population.

Biography: 1. **Pankaj Verma** is medically qualified person achieved degree M.B.B.S. from university of Rajasthan, India and MSc (Med. Science) Human Nutrition with specialization in Clinical Nutrition from University of Glasgow. Working for GlaxoSmithKline CH as Principal Scientist in Clinical Research, have published more than 10 papers in international journals of reputation. 2 **Reena Srivastava** is regional clinical operations lead and has experience of leading clinical operations for more than 20 trials, 3. **Dr. P. Umarji** is highly experienced clinician and faculty of medicine with experience of over 25 years with prestigious BJ Medical College, Pune.

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