

## Obesity- Osteoporosis link: A pilot study, connecting excess body fat and bone health status

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According to World Health Organization (WHO), osteoporosis is second only to cardiovascular disease, as a global healthcare problem. Though various research studies had indicated the dominance of osteoporosis in older age group and post-menopausal, there are scientific signals connecting obesity associated factors -oxidative stress, elevated blood sugar level and metabolic disturbances with poor bone health.

This research study was undertaken with the objective to ascertain excess body fat percentage as one of the common attribute to weak, porous bones and to develop a handbook providing practical solutions for prevention of osteoporosis in-pretext of present lifestyle.

The bone density assessment was carried out for total of 180 subjects (84% female and rest 16 % male; age range- 20-73 yrs), enrolled for weight management programme across 4 different VLCC wellness centers. The T score values, reflected poor bone health status for 41% of subjects under study-28.5% had osteopenia and the rest 12.5% with osteoporosis. These findings confirmed bone health deterioration not only in women subjects but in men as well. Mean age data for these groups- Normal bone health (36 years), Osteopenia (40 years) and Osteoporosis (48 years) entrenched on the age progressive nature of bone deterioration. In-depth view of data, further highlighted low bone mineral density at a relatively younger age-osteopenia & osteoporosis at 20 & 22 years respectively. The Body composition analysis (Bio-electrical Impedance) revealed a higher fat percentage (mean value-41.4%) against osteopenia and osteoporosis group in comparison to 38.9% in normal bone health group. Also, the prevalence of medical conditions as PCOS, hypothyroidism and CVD was 39% in osteopenia and osteoporosis group whilst 22% in normal bone health. The research findings, negated the myth that excess fat is protective for bones instead it substantiated the link that excess body fat creates unhealthy metabolic pathways, that disrupts bone matrix.

### Biography

Veena Aggarwal is an eminent scientist and researcher, and has bestowed her life in the advancement of nutrition science. An ex-consultant of Nutrition Foundation of India and USAID, she is known for her passionate alignment with the cause of health & wellness for all. She is also a member of Technical and Accreditation Committee of National Accreditation Board for Hospitals and Healthcare providers (NABH, Quality Council of India). She is a pioneer in the field of wellness and has been working for more than a decade in field of obesity management. As the Head to R&D, Technical & Training, VLCC Healthcare, she has evolved weight management as a scientific discipline and holistic care model. She has been instrumental in leading various research projects and written numerous manuals, health guides and knowledge papers. She has concluded efficacy study for many research trials for non-invasive body contouring technologies. Her present research study on DNA based diets for scientific weight loss shall help in providing information on the relationship of genetics for diet effectiveness.

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